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The Hong Kong Council of Social Service



SCHOOL OF PUBLIC HEALTH
THE UNIVERSITY OF HONG KONG
香港大學公共衛生學院

FAMILY: A Jockey Club Initiative for a Harmonious Society

愛+人：賽馬會和諧社會計劃

Report Series
Community-based projects



Happy Family Kitchen Movement Project

FAMILY Health, Happiness and Harmony - 3Hs

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PREFACE (1)

Joining our community partners to build a harmonious society

Demographic shifts, economic upheavals and changing societal norms and values are steadily creating new processes and relationships within families, as is immigration across borders. As a result, family structure in society is becoming more complex and diverse, creating many areas of discord in family life.

To address these evolving challenges, The Hong Kong Jockey Club Charities Trust earmarked funding of HK\$250 million in 2007 to launch a citywide project titled “FAMILY: A Jockey Club Initiative for a Harmonious Society” (the FAMILY Project), in collaboration with the School of Public Health of The University of Hong Kong. Approaching the issue from a public health perspective, the project is aimed at devising suitable preventive measures and strengthening the message of FAMILY Health, Happiness and Harmony (“the FAMILY 3Hs”) for better holistic family health.

Over the past ten years, a wide range of community partners have come together to implement more than 20 community-based intervention programmes under the FAMILY Project. At the same time, diversified, interactive capacity training workshops have been organised for social service practitioners to help them promote the FAMILY 3Hs and holistic FAMILY health more effectively. Altogether, the FAMILY Project has directly benefited over 350,000 members of the public.

In addition, we have published a series of practice manuals and project reports to share the valuable data and experiences collected for the FAMILY Project from household surveys and community-based programmes. These serve as useful resources for policy makers and social service providers to help foster a more harmonious community.

In collaboration with the Hong Kong Council of Social Service (HKCSS), the Happy Family Kitchen Movement was successfully implemented across 18 districts in 2015. Over 116 NGOs, schools, community groups and government departments participated in the project, which was aimed at promoting positive communication skills among family members through dining, cooking and exercising. Through this report, we hope to demonstrate that simple interventions can be effective in promoting positive family communication and family well-being.

On behalf of The Hong Kong Jockey Club Charities Trust, I would like to express my deepest gratitude to the FAMILY Project Team of the School of Public Health of The University of Hong Kong, as well as HKCSS and all collaborating parties involved in the project. It is our partners’ incredible support that has made the project such a success, and is helping to spread the FAMILY 3Hs and FAMILY holistic health messages to everyone in the community.



Mr. Leong CHEUNG

Executive Director, Charities and Community, The Hong Kong Jockey Club

PREFACE (2)

According to a Swiss bank survey in 2016, the average working hours of Hong Kong employees were the longest in the world, showing that Hong Kong people are under great pressure at work and daily life. As a result, it is likely that most people find it a challenge to make good use of family time to maintain physical and mental health.

In September 2010, the Hong Kong Council of Social Service collaborated with the School of Public Health of The University of Hong Kong (HKU-SPH) to launch the Happy Family Kitchen Project with financial support from The Hong Kong Jockey Club Charities Trust. Through a series of family activities and community education programmes, the project promoted healthy diet and Zero-time Exercise, and applied the theory of positive psychology, in order to promote positive family life in the district. The first phase of this project was carried out in Yuen Long District and was enthusiastically received. The second phase was held with great success in Tsuen Wan and Kwai Tsing Districts in 2012. The third phase was a further improved and extended project to the whole territory in 2015, with continuous support from The Hong Kong Jockey Club Charities Trust.

The project could not have been conducted successfully without the very strong support of different partners. The Social Welfare Department contributed significantly to district-based mobilization, in particular the Happy Family Month campaign in May 2016 where 11 large-scale community events were organised in the territory to promote positive family life. More than 100 social service units, 16 kindergartens, primary and secondary schools were actively engaged in the project, and thus over 10,000 families benefited from the project.

This research report demonstrates the joint effort of all project partners, especially the project team of The University of Hong Kong. With a rigorous built-in evaluation study, the project outcomes were assessed vigorously and solid evidence of effectiveness was generated, which is crucial for future service development.

I would like to thank The Hong Kong Jockey Club Charities Trust, HKU-SPH, Social Welfare Department, and all participating social service units and schools and numerous social service workers and volunteers for their passion for and support to this project. Without their involvement, we could not have achieved so much in promoting family well-being in Hong Kong.



Mr. CHUA Hoi Wai

Chief Executive

The Hong Kong Council of Social Service

PREFACE (3)

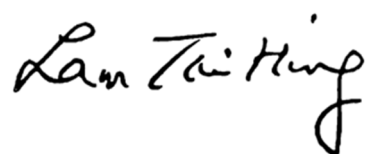
We are most grateful to The Hong Kong Jockey Club Charities Trust which initiated and donated HK\$250 million to fund and launch a citywide mega-project entitled “FAMILY: A Jockey Club Initiative for a Harmonious Society”, in collaboration with the School of Public Health of The University of Hong Kong (HKU-SPH). Since 2008, the FAMILY Project has been successfully completed many community-based and public education projects to develop cost-effective preventive measures to promote FAMILY Health, Happiness and Harmony (3Hs).

In view of growing health challenges locally and globally to increase physical activity in the population, the current phase of FAMILY Project focused on FAMILY Holistic Health. We have designed a simple approach, namely “Zero-time Exercise” which are simple movements and stretching that can be done anytime, anywhere, and by anybody, that do not require extra time (hence zero time), money or equipment. It is a foot-in-the-door approach to start with a small amount of exercise while sitting, standing or waiting.

Happy Family Kitchen (HFK) Project, led by The Hong Kong Council of Social Service (HKCSS), in collaboration with HKU-SPH FAMILY Project Team, is one of the major or mega-intervention projects under FAMILY Project Team. The HFK projects used a public health and community based model for project design, planning, implementation and evaluation on the one hand, and gathered the power, experiences and networks of many social welfare organisations, local groups, schools and government departments to benefit the families through the best social work practice including various health promotion activities on the other hand.

Building on the positive outcomes and experiences are the strong collaborative networks achieved from the HFK projects in the previous years, the Happy Family Kitchen Movement Project (HFKM) has been completed with enormous success and its benefits have been extended from service workers and volunteers to the participants and their families all over Hong Kong. I wish that this report can be shared with the community partners and other stakeholders, and the messages and strategies of promoting healthy lifestyle and positive family relationship can be spread across the territory.

On behalf of the HKU-SPH FAMILY Project Team, I express my sincerest gratitude to HKCSS, and all collaborating parties for their professionalism, commitment and hard work. We are particularly grateful to the numerous social services workers, teachers and volunteers who had gone through the Train-the-Trainer and Ambassador Programme and contributed a lot to the project.



Professor LAM Tai Hing

Principal Investigator, FAMILY: A Jockey Club Initiative for a Harmonious Society

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FAMILY: A JOCKEY CLUB INITIATIVE FOR A HARMONIOUS SOCIETY

Background

To help build a more harmonious society, The Hong Kong Jockey Club Charities Trust invited the School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong to collaboratively launch a project entitled FAMILY: A Jockey Club Initiative for a Harmonious Society ("FAMILY Project") with funding of HK\$250 million. The project aims to identify the sources of family problems, to devise, implement and evaluate preventive measures, and to promote FAMILY Health, Happiness and Harmony (3Hs) through a territory-wide household survey, intervention projects and public education.

The project

The project comprises three components:

1. Social barometer

a) Territory-wide Household Survey

The FAMILY Cohort, a population-based cohort study focusing on the family as a unit, was carried out from 2007 to 2014. It aimed to identify the source of domestic problems and derive preventive responses that are complementary, wide-reaching, pervasive and cost-effective. Survey findings can provide useful information to relevant organisations for the planning of future programmes and initiatives.



b) Hong Kong Family and Health Information Trends Survey (HK-FHInTS)

During 2009 to 2017, the FAMILY Project Team has conducted one Hong Kong population cross-sectional telephone survey almost every year to assess changes in family and health information seeking behaviours among the general public and the impact of the Project's programmes in promoting FAMILY 3Hs. Six surveys were completed in 2009, 2010, 2012, 2013, 2016 and 2017 respectively, with extensive media coverage which have helped raise public awareness of FAMILY 3Hs messages.

2. Intervention and community-based programmes

The FAMILY Project Team has been working closely with government departments and numerous social service and related organisations to develop and implement interventions to strengthen family relationships across generations throughout Hong Kong. These include intervention projects to enhance family and parent-child relationships; school-based projects to spread FAMILY 3Hs to hundreds of schools; and community-based projects with Social Welfare Department, Department of Health and various NGOs to promote FAMILY 3Hs to entire district and the community. The study methods and results of these projects have been shared with the government, NGOs and community service workers and the general public.

The seven intervention projects were:

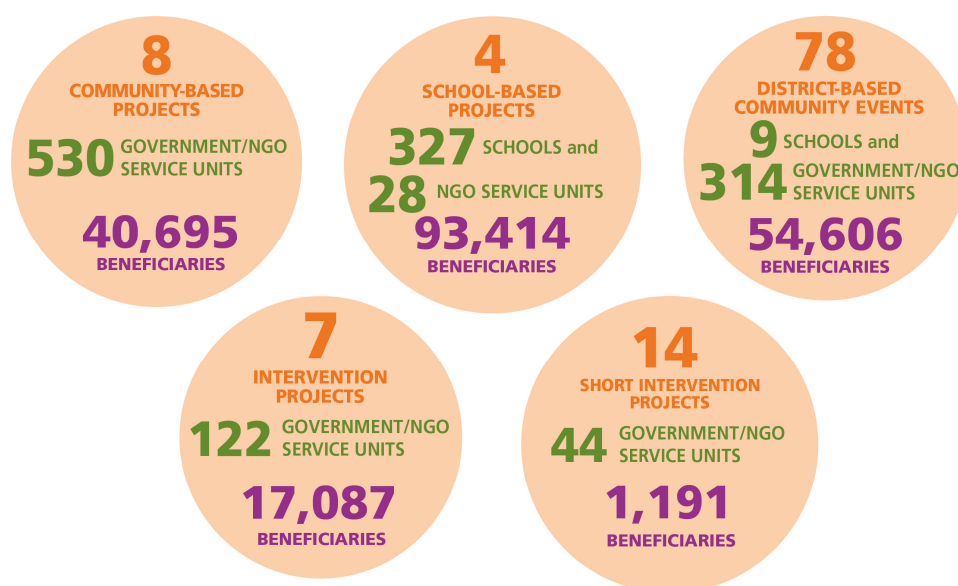
- H.O.P.E. (Hope Oriented Parents Education for Families in Hong Kong) Project
- Harmony @ Home Project
- Effective Parenting Programme
- Happy Transition to Primary One
- Share the Care, Share the Joy
- Boosting Positive Energy Programme
- Be Healthy, So Easy: FAMILY Education Project

The four school-based intervention programmes were:

- FAMILY Goes Green
- 3Hs Family Drama Project
- 3Hs Family Drama Project II: Family Interactive Drama with Exercise and Fun
- More Appreciation and Less Criticism Project

The eight community-based engagement projects were:

- Happy Family Kitchen I & II Projects
- Learning Families Project
- Enhancing Family Well-being Project
- Happy Family Kitchen Movement Project
- Community Health Campaign: Fitter Families Project
- Holistic Health Family Project
- Family Holistic Health Community Promotion Project



All of the project interventions were designed using a public health framework, so they were brief, preventive, cost-effective, and targeted a large number of people at the same time. The community-science partnership between academia, government departments and NGOs also ensured that the projects were developed by practitioners who understood the needs of the Hong Kong people, delivered by key community stakeholders, and conducted with scientific rigour to generate evidence for future social health programmes and policies.

3. Health communication and public education

Apart from engaging different community stakeholders in various intervention projects, the key messages of the FAMILY Project were spread far and wide into the community to promote positive family values and harmonious relationships. FAMILY 3Hs and FAMILY Holistic Health messages have been disseminated to the general public through various channels to raise public awareness and create a positive environment for family participation. These have been complemented by community-based projects and

community-wide events to promote FAMILY 3Hs all around Hong Kong.

Train-the-Trainer and Ambassador Programmes

From April 2015 to January 2017, a number of Train-the-Trainer and Ambassador workshops have been organised to train community leaders, teachers, social service workers and volunteers as Health Ambassadors, or health role models so that they can enjoy the benefits, then promote the benefits to others. Trained Health Ambassadors have helped with the implementation of community-based programmes, led simple physical activities to targeted audiences and promoted knowledge of healthy living to participants and the community.



Health promotion events

The FAMILY Project Team has actively co-organised and participated in various community events with social service units and community organisations, with the aim of promoting FAMILY 3Hs messages by means of exhibitions, game booths and talks, etc.



Updated in November 2017

EXECUTIVE SUMMARY

Families residing in Hong Kong are often faced with long working hours and stressful urban lifestyles which can interfere with family communication and interactions that are essential to the well-being of family members. Therefore, as one of the main components of the FAMILY Project, the Happy Family Kitchen (HFK) projects were conducted to promote FAMILY Health, Happiness and Harmony (3Hs) through advocating positive family communication. From September 2010 to November 2011, the Happy Family Kitchen I Project (HFK I) was launched in Yuen Long District with the participation of 23 social service units. The Happy Family Kitchen II Project (HFK II) was an improved version of HFK I, extended to 31 social service units and schools in Tsuen Wan and Kwai Tsing Districts from February 2012 to August 2013. The Hong Kong Council of Social Service (HKCSS) and the School of Public Health of The University of Hong Kong (HKU-SPH) collaborated in the training, design, implementation, and evaluation of HFK I and II which showed that the community-based programmes were well received by families, and resulted in significantly improved FAMILY 3Hs and positive family behaviours.

The Happy Family Kitchen Movement Project (HFKM) was developed based on the strong foundation of the HFK projects in the previous years. In addition to inadequate family communication, many people in Hong Kong also have inadequate physical activity and unhealthy eating habits. HFKM was implemented at a territory-wide level, with a focus on FAMILY Holistic Health. The FAMILY Holistic Health intervention model emphasised the interaction and integration of physical health and psychosocial health, based on a positive psychology framework, using physical activity and healthy diet as the platform to promote fitter and happier families.

Brief, simple and cost-effective community-based programmes were developed and implemented in collaboration with experienced non-governmental organisation (NGO) partners and community stakeholders. The project had potential for great sustainability and wide dissemination since the programmes were easy to administer and the costs were low. The programmes were family-focused, interactive and designed to encourage positive and sustainable healthy behaviour among family members. The use of a positive psychology framework can help families build positive attitudes with strong motivation for family members to improve their holistic health. Families were encouraged to do more physical activity or consume less sugar. The idea was promoted with the involvement of family members so that Hong Kong families can improve their lifestyle and make a positive impact on their health. HFKM had five major highlights over HFK I and HFK II: (1) enriched practice model; (2) wider stakeholder engagement; (3) enhanced Train-the-Trainer Programme (TTT); (4) larger coverage and scope; (5) Zero-time Exercise (ZTE) (see below).

HKCSS and the FAMILY Project Team worked closely in design, implementation and evaluation of the HFKM. A total of 54 social service units and schools (from 28 NGOs, 1 government department, and 7 schools) organised 58 community-based family intervention programmes for 3,419 individuals from 1,420 families in Hong Kong. Two series of TTT (a total of 30 hours) were organised to equip social service workers and teachers with knowledge and skills for designing and implementing the community-based family intervention programmes. In a cluster randomised controlled trial, the social service units with their community participants were randomly allocated into 3 groups: Group physical activity (Group PA) - a core

session of at least 2 hours, followed by a booster session of at least 1 hour 1 month later, and a follow-up session 3 months after the core session (n=918); Group healthy diet (Group HD) - a core session of at least 2 hours, followed by a booster session of at least 1 hour 1 month later, and a follow-up session 3 months after the core session (n=1,226); and control group (Group C) - a tea gathering, followed by another tea gathering 1 month later, and a follow-up session 3 months after the first tea gathering (n=1,275). The intervention programmes emphasised one of three positive psychology themes (i.e., joy, gratitude, and savouring) to promote physical activity (i.e., ZTEX: simple exercises that require no extra time and can be done while sitting, standing and walking) or healthy diet (i.e., low sugar consumption). Assessments were conducted at the following time points: pre-intervention (T1), immediately post-intervention (T2), 1 month post-intervention (T3), and 3 months pre- (T4) and post-follow-up session (T5). The principle of intention-to-treat analysis was adopted through imputing missing observations from lost to follow-up or decline to complete follow-up questionnaires using the baseline values (i.e., assuming no changes). An effect size (Cohen's d) of 0.20 was considered as a small effect, 0.50 as a medium effect, and 0.80 or above as a large effect. The Happy Family Cookbook 3 and Professional Tool Kit 3 were published to disseminate the experience and evidence to social service workers in Hong Kong.

Quantitative results showed that compared to Group C, Group PA was more effective in improving mental quality of life and increasing doing ZTEX and ZTEX with family members while Group HD was more effective in improving FAMILY 3Hs, and mental quality of life, and increasing joy behaviours, low sugar consumption, and low sugar consumption with family members. For intention to practise the target behaviours, compared to Group C, Group PA had higher intention to practise ZTEX and ZTEX with family members while Group HD had higher intention to practise joy behaviours, low sugar consumption, and low sugar consumption with family members. Furthermore, Group PA subjectively perceived a higher level of change in family health and happiness, gratitude behaviours, and ZTEX while Group HD subjectively perceived a higher level of change in self-reported FAMILY 3Hs, gratitude behaviours, savouring behaviours, and low sugar consumption. Results from the physical fitness assessments showed that compared to Group C, Groups PA and HD performed better on the single leg stance test and Group PA performed better on the seated cycling test. Qualitative results provided further support for the effectiveness and generated more insights into the underlying motivations, thoughts, and feelings about the changes in lifestyle amongst family members. The majority of the participants were very positive stating that the programme was a good platform to build family relationship, expand social network, and promote a healthy lifestyle. Suggestions and recommendations were provided.

In sum, HFKM provided strong evidence on the feasibility and effectiveness of this large-scale community-based collaborative project. Positive feedback and scientific outcome measures confirmed the successful implementation of the project. The community-based family intervention derived from a positive psychology approach, with emphasis on physical activity and healthy diet, could be a simple and low cost approach for promoting physical and psychosocial health. Future improvements in the implementation of community-based collaborative approach and sustainability of the project effects are warranted.

CHAPTER 1 INTRODUCTION

1.1 Happy Family Kitchen I and II Projects

The Happy Family Kitchen Project (HFK, 「快樂家庭廚房」計劃) was one of the main components of the FAMILY Project (「愛 + 人」計劃), and had the aim to promote FAMILY Health, Happiness and Harmony (3Hs) through advocating positive family communication. Launched in September 2010, the Happy Family Kitchen I Project (HFK I, 「快樂家庭廚房 I」計劃) was completed successfully by The Hong Kong Council of Social Service (HKCSS) and the School of Public Health of The University of Hong Kong (HKU-SPH) in collaboration with 18 non-governmental organisations (NGOs) and the Social Welfare Department (SWD) (23 social service units in total) in Yuen Long District, with the following achievements:

- Over 1,000 families joined 23 community-based family intervention programmes under the project theme of positive family communication in Yuen Long District;
- A total of 50 professional social service workers were equipped with knowledge and skills in integrating positive psychology and programme design through Train-the-Trainer and Ambassador Programmes (TTTA);
- Rigorous evaluation was conducted to assess the project process and outcomes;
- Practice wisdom was consolidated and shared with the social service sector through a sharing forum, and a practice manual was published based on the knowledge and experience gained from the project;
- Over 10,000 copies of Happy Family Cookbook were distributed to the public with positive feedback received; and
- A series of media publicity events (e.g. news features, magazine, RoadShow, YouTube etc.) disseminated the key messages of positive family communication to the community.

Launched in February 2012, Happy Family Kitchen II Project (HFK II, 「快樂家庭廚房 II」計劃) was an improved version of HFK I that was extended to 15 NGOs, SWD, and 8 schools (31 social service units in total) in Tsuen Wan and Kwai Tsing Districts. HFK II has made the following achievements:

- Over 1,000 families joined 31 community-based family intervention programmes under the project theme of positive family communication in Tsuen Wan and Kwai Tsing Districts;
- A total of 67 social service workers and teachers were equipped with knowledge and skills in integrating positive psychology and programme design through TTTA;
- Rigorous evaluation was conducted to assess the project process and outcomes;
- Practice wisdom was consolidated and shared with the social service sector through a sharing forum and a Professional Tool Kit 2 published based on the knowledge and

experience gained from the project;

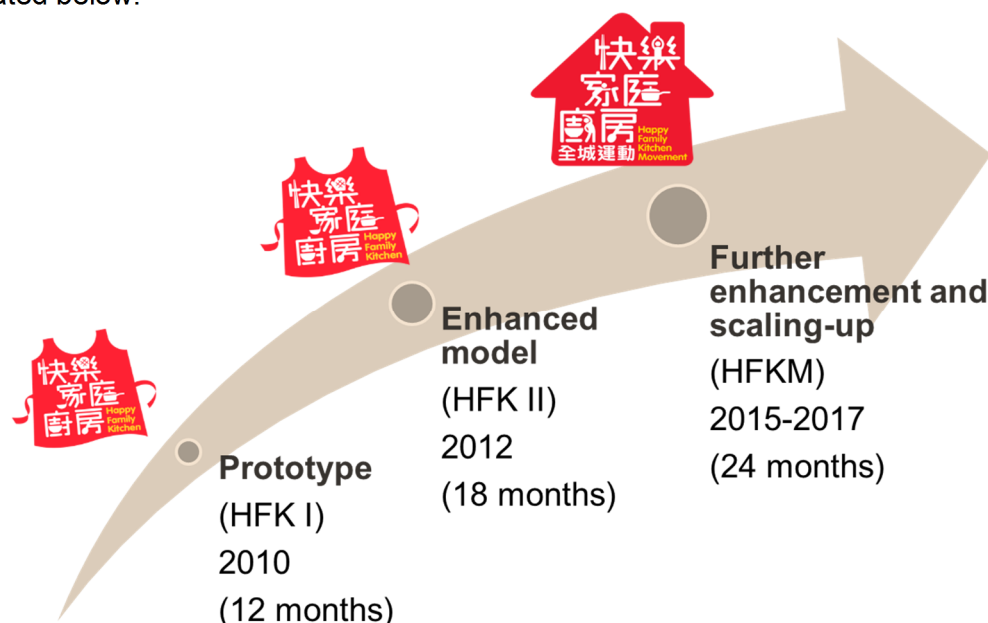
- 15,000 copies of the Happy Family Cookbook 2 were distributed to the public with positive feedback received; and
- A variety of media featured the HFK II, including television, newspapers, magazines and online publications.

Substantial impact was observed in both HFK I and II on individuals, families, community partners and the population:

- a. Participating families - over 2,000 families in Yuen Long, Tsuen Wan and Kwai Tsing Districts participated in the community programmes and learned ways to enhance family communication through cooking and dinning together;
- b. Social service practice - the practice model adopting a positive psychology framework was successfully implemented with empirical evidence on programme effectiveness. The practice wisdom of applying such model had been documented in two practice manuals widely disseminated to guide future programmes. The evidence-based and evidence-generating practice approaches were promoted by supporting NGOs, and the social service and education sectors to integrate the theoretical framework (i.e. positive psychology) and programme evaluation into practice;
- c. Community partnership - district-based collaboration networks among NGOs, SWD and schools were established for joint effort in promoting FAMILY 3Hs in the community. The family-centered approach was adopted as the mission and foundation of the collaboration among social service units of different settings; and
- d. Territory-wide public education - the key messages on encouraging positive family communication were disseminated to 3 territories through a series of publicity events. The impact of the project was beyond the districts of implementation.

The Happy Family Kitchen Movement Project (HFKM) was a large-scale community-based family intervention project which aimed to integrate the best social service practice with public health science. Although the HFK I and II had achieved several successful outcomes, emphasis on FAMILY Holistic Health, which integrates all aspects of family health, were yet to be incorporated into the intervention model and research design. HFKM had five major distinguishing characteristics: (1) an enriched practice model; (2) wider stakeholder engagement; (3) an enhanced TTTA; (4) larger coverage and scope; and (5) Zero-time Exercise (ZTEx).

The linkage between the previous projects (HFK I and II) and the current one (HFKM) is illustrated below:



1.2 Happy Family Kitchen Movement Project

In 2011, the United Nations (UN) [1] addressed the need for the prevention and control of four non-communicable diseases (NCDs: cancers, cardiovascular diseases, chronic respiratory diseases, and diabetes mellitus) worldwide. The UN, in its Political Declaration, recognised the critical importance of reducing the level of exposure to four common modifiable risk factors for NCDs, namely, tobacco use, unhealthy diet, physical inactivity, and the harmful use of alcohol. In Hong Kong, NCDs are responsible for more than 85% of all deaths and most of them are preventable. The FAMILY Project Cohort Study (2013) [2] also found that 88.6% of Hong Kong people had inadequate vegetable and fruit intake, 70.6% had inadequate physical activity, 26.4% were overweight and 5.4% were obese. Hong Kong, as the most westernised and developed city of China, should take a leading role in promoting and implementing the UN Political Declaration.

Families worldwide are undergoing rapid changes which reflect macro, social and economic trends. Demographic shifts, economic upheavals, changing societal norms and values, both immigration across national borders and migration within nations are creating new and altered structures, processes, and relationships within families. The increasingly complex and diverse family structure is leading to a major concern for the well-being of families in Hong Kong, including their health, happiness and harmony. Family life and health education are in need of strengthening in Hong Kong families. The results from the baseline findings of FAMILY Project Cohort Study (2013) [2] revealed that only 43.1% of the respondents considered themselves to be 'happy' while 19.1% of the participants were classified as 'unhappy' on the subjective happiness scale [3, 4]. Nearly one-third (30.7%) of the respondents reported that they had experienced at least one stressful life event in the previous year due to heavy workload

(10.8%), serious health problems of a family member (6.8%), financial problems (6.2%), poor health (5.1%), or death of a family member (4.7%). Furthermore, more than half of the respondents (52.5%) reported that they had conflict with family members [2]. In response to these family concerns, the HFKM, with a focus on “FAMILY Holistic Health”, was conducted at the territory-wide level to promote family well-being in Hong Kong.

1.2.1 Theoretical framework

Family health has many definitions. On the functional level, the terms family health, family functioning, and healthy family are often used interchangeably [5]. Family health has been described as a complex system which includes interactions, relationships and processes with the potential to enhance both well-being and the entire household's health, and routines in the family may affect family health [6-8]. Despite the different perspectives in the definitions, family health should be holistically defined, encompass both wellness and illness variables and focus on the interactive, developmental, functional, psychosocial, and health processes of family experience [9]. Therefore, family health may be described as a dynamic process that maintains or changes the relative state of well-being, including elements of family systems, such as biological, psychological, spiritual, and sociocultural aspects [10, 11]. The HFKM focused on “FAMILY Holistic Health”, emphasizing a comprehensive and wide aim and including physical, mental and social health and well-being.

Over the past six years, the FAMILY Project has been developing and implementing community-based projects to promote FAMILY 3Hs. HFK I was launched in September 2010 in Yuen Long District, with the mission to promote FAMILY 3Hs by building positive family communication. As a component of the FAMILY Project (「愛 + 人」計劃), the HFK had demonstrated an effective practice model, through collaboration among various project partners [12, 13]. The HFK II was an improved version, extended and introduced to Tsuen Wan & Kwai Tsing Districts in April 2012. HKU-SPH collaborated in the training, design and implementation, and conducted project evaluations for HFK I and II. The projects were well received by the family members in Yuen Long, Tsuen Wan and Kwai Tsing Districts, with significantly improved family well-being and positive family behaviours [14-17].

Starting from July 2014, the FAMILY Project developed new strategies to approach FAMILY Holistic Health by applying the Triangle of Health principles. The Triangle of Health is a healthy lifestyle with the components of 3-E (Enjoyable, Easy and Effective) 0-1 Exercises (Zero-, Negative- and Minimal-time [1 minute]), 3-M and 3-L HD (More vegetables, More fruits and More fibre; Less sugar, Less salt and Less fat), and 3-P living attitudes (Positive Psychology: Positive emotion, Positive family communication and Positive family relationship) so as to change the usual habits and achieve sustained behavioural changes in FAMILY Holistic Health. The HFKM was developed based on the strong foundation of the HFK projects in the previous years. In view of local and global health challenges, the new phase of FAMILY Project put more emphasis on health. Following the theme of FAMILY 3Hs, the new work focus was to promote FAMILY Holistic Health with emphasis on the interaction and integration of physical and psychosocial health.

In Hong Kong, most “health projects” only focus on individual physical health and usually separate physical from mental or psychosocial health. Our new focus not only emphasised individual health but also whole family and holistic health. We strived to help family members

influence each other to have better holistic health. The focus on the family was an innovative concept, and aimed to have long-term and highly sustainable impacts at the community level. With the involvement of family members, Hong Kong families were able to develop and change their lifestyles and make a positive impact on their health. We used a family-focused approach and adopted a holistic perspective to design a sustainable FAMILY Holistic Health intervention model in the community to meet the global health challenges identified by the UN (2011) [1].

The innovative FAMILY Holistic Health intervention model emphasised the interaction and integration of physical health and psychosocial health, based on positive psychology [18-20], using physical activity and healthy diet as the platform to promote fitter and happier families. This integration ultimately enhanced the FAMILY 3Hs. Thus, the ultimate objective of the community-based project was “FAMILY Holistic Health” for FAMILY 3Hs and our research aim can be summarised as: Positive Psychology Promoting Physical Activity and Pleasure for Fitter and Finer Families (5Ps for 3Fs).

The HFKM interventions were brief and easy to implement, aiming at promoting physical activity and healthy diet for people of all ages with the ultimate goal of consequently enhancing family interaction, communication and well-being. The positive psychology framework was used to help families build positive attitudes and motivated family members to improve their physical and psychosocial health. Families were encouraged and empowered to do more physical activity or consume less sugar, through an enjoyable process with quick and measurable outcomes, which could be sustainable and widely disseminated.

In practice, the FAMILY Project Team worked closely with various social service units and related organisations to develop and implement interventions to strengthen family relationships across generations. We integrated positive psychology, public health theories and cost-effective methods to plan innovative, brief and preventive interventions targeting families, in collaboration with experienced NGO partners and community stakeholders. The academic-community partnership ensured that the projects were developed by practitioners who understood the needs of Hong Kong people, delivered with stakeholders in the community, and evaluated with scientific rigour. Hence, a larger number of people (participating with family members together) could be benefited from the programmes.

1.2.2 Project objectives

The aims and objectives of HFKM were as follows:

- a. To promote FAMILY 3Hs in the community by developing and implementing a positive psychology and PA intervention and a positive psychology and HD intervention;
- b. To evaluate the practice model of “FAMILY Holistic Health”, in which elements of PA and HD were incorporated;
- c. To improve and strengthen the community-based service model and promote sustainable application in Hong Kong by engaging a large network of project partners;
- d. To enhance the TTTA by widening the target groups of trainees to include not only the social service sectors but also professionals from different sectors and community groups; and

-
- e. To increase the scope of beneficiaries by implementing the HFKM at a territory-wide level in Hong Kong.

1.2.3 Project hypotheses

Compared with Group C, the community-based positive psychology family intervention, based on the “FAMILY Holistic Health” model, was hypothesised to promote:

- a. FAMILY 3Hs;
- b. Physical health;
- c. Psychosocial health; and
- d. Positive family behaviours, physical activities and healthy diet.

CHAPTER 2 OVERALL PROJECT DESIGN AND METHODS

2.1 Project design and methods

This project was approved by the institutional review board of the University of Hong Kong/Hospital Authority Hong Kong West Cluster and registered under ClinicalTrials.gov (NCT02563613). The key deliverables of the HFKM are highlighted as follows:

District-based collaboration platform

A total of 54 participating social service organisations, government department and schools in all 18 districts in Hong Kong (Islands, Kwai Tsing, North, Sai Kung, Sha Tin, Tai Po, Tsuen Wan, Tuen Mun, Yuen Long, Kowloon City, Kwun Tong, Sham Shui Po, Wong Tai Sin, Yau Tsim Mong, Central & Western, Eastern, Southern, and Wan Chai) were recruited to form a collaboration platform for the project. Collaboration was achieved at various levels. A steering committee and several work groups, including representatives of the participating organisations and schools, were formed. FAMILY Project Team and HKCSS steered the overall direction, implementation, and evaluation of the interventions throughout the project, including planning and vetting the proposals and delivery of the intervention programmes, construction and administration of the questionnaires at different time points, and participation in process and outcome evaluation, and production of Happy Family Cookbook 3 as well as Professional Tool Kit 3.

Train-the-Trainer Programme

Two batches of Train-the-Trainer Programme (TTT) were organised during May 2015 to October 2016 for social service workers. The training programme, consisting of a 2.5-day training workshop for a total of 15 training hours was conducted by a multidisciplinary team, including professional academics, a clinical psychologist and a social worker and comprehensively covered the contents of the 3 themes of positive psychology (i.e., joy, gratitude and savouring), physical activity/healthy diet, the programme design, and programme evaluation. Social service workers and teachers who were trained were expected to help with the implementation of the community programmes after completing the training workshop. A training kit was distributed to each trainee as a practical guide for planning the community programmes.

Train-the-Ambassador Programme

Two batches of Train-the-Ambassador programme (TTA) were organised during September 2016 to January 2017 for volunteers and social service workers who did not join the community programmes. The TTA was conducted by the same disciplinary training team of TTT and the content was similar to TTT but was condensed into 6 hours.

Public education event

To enhance the community stakeholders' and public awareness of this project, public education events in the form of a launching ceremony for the HFKM in June 2015 at Tseung Kwan O, and Happy Family Month events in May 2016 at various districts in Hong Kong were organised with the theme of positive psychology, physical activity and healthy diet. Attendees of the launching ceremony were invited to respond to a short questionnaire on the evaluation of the event, FAMILY 3Hs, 3H-related behaviours, and demographic information. Attendees of the Happy Family Month were invited to do physical fitness assessments and a brief health report was generated based on their information. The recruitment method used in the public education events was convenience sampling since there was no control over the attendees.

Community-based family intervention programmes

After the completion of the TTTA, the trainees and their participating organisations and schools designed, organised and conducted their own community-based family intervention programmes during July 2015 to October 2016, by focusing on one of three positive psychology themes that they had chosen (i.e., joy, gratitude and savouring). All the programmes were aimed at promoting FAMILY 3Hs, physical and psychosocial health, family relationship, and positive family behaviours and healthy lifestyle (physical activity or healthy diet), regardless of the chosen theme. Participants were randomly assigned to either the Group PA, Group HD, or the waitlist Group C. The PA and HD groups received a core session of a minimum of 2 hours, followed by a booster session of no less than 1 hour 1 month later, and a follow-up session 3 months after the core session. Group C received a tea gathering session with no duration constraint at the beginning and 1 month later, followed by a follow-up session of 1.5 hours (average) 3 months after the first tea gathering. To ensure adherence to the guiding principles and maximal consistency and quality of the community programmes, participating organisations and schools submitted programme proposals to the project steering committee, received comments and made improvements accordingly, and then were awarded the funding to implement the proposals. Standardised process evaluation was conducted through onsite observation of each session to assess fidelity, and dose delivered and received. The same questionnaires on the evaluation of the programme effectiveness were collected at various time points throughout the duration of all the programmes. Physical fitness assessments were conducted at various time points to monitor physical changes over time. Qualitative data were collected through focus groups and individual in-depth interviews for more in-depth understanding of the attitudes, thoughts and suggestions on the practice model of HFKM and the motivation for FAMILY Holistic Health.

Professional Tool Kit 3

Insights on promoting FAMILY Holistic Health, including physical health and psychosocial health, were consolidated from the practice wisdom of the participating organisations and schools through frontline experiences of implementing the community-based family intervention programmes. A new and innovative version of the Professional Tool Kit consisting of practice and evaluation guides for different service settings was published with the contributions of HKCSS and FAMILY Project Team and other participating organisations and schools. The tool kit served as a key reference and was disseminated at a territory-wide level in Hong Kong.

Happy Family Cookbook 3

With the positive impact of Happy Family Cookbook 1 and 2, a new edition of the cookbook – Happy Family Cookbook 3 was published and distributed in the whole territory. The new edition was enhanced with more attractive contents of physical activity, healthy diet and tips for positive communication.

Practice Wisdom Forum

To consolidate the achievements and impact of the project, a Practice Wisdom Forum was organised in which the participating organisations and schools, including HKCSS, FAMILY Project Team, and other community stakeholders were invited to share their insights on fostering positive family environment.

Residents, service users and students were also invited to the Practice Wisdom Forum to share positive family experiences and take part in related activities.

Project evaluation

Table 2.1 is the evaluation framework designed to assess the project impact at different time points.

Table 2.1 Project evaluation framework

Event	Detail	Evaluation method
Train-the-Trainer and Ambassador Programmes [TTT (Batch 1): May 2015-July 2015 (Batch 2) February 2016-April 2016; TTA (Batch 1): June 2015-October 2015 (Batch 2) September 2016-January 2017]	HKCSS and FAMILY Project Team collaborated to design the training programme. A clinical psychologist, from United Christian Nethersole Community Healthy Service, was invited to give talks on the positive psychology elements. A registered nurse, also the research officer at FAMILY Project Team, gave talks on ZTEx and HD. The FAMILY Project Team also presented the overall project aims, conceptual framework, evaluation framework, programme planning, and research and evaluation methods.	Quantitative: • Pre-training physical fitness assessments, assessment of balance, endurance, flexibility, strength, cardiopulmonary function, and body composition; • Pre- (T1) and immediate post-training (T2) questionnaires; • 2 weeks post-training (T3) questionnaires; • 6 weeks pre-training physical fitness assessments; • 6 weeks pre- (T4) and post-training (T5) questionnaires; • 12 weeks post-training (T6) questionnaires; and

Event	Detail	Evaluation method
		1 year post-training (T7) questionnaires Targets: - Social service workers and teachers from participating organisations and schools completed T1 through T7 questionnaires; - Social service workers, volunteers and teachers of non-participating organisations, and volunteers of participating organisations completed only T1 to T6 questionnaires; and - All participants in the training programmes completed physical fitness assessments
Focus group of trainees	Trainees were invited to attend focus groups to share their views and experiences in implementing the programmes and their perceived effectiveness of the project.	Qualitative: A focus group guide was developed to collect qualitative data from the trainees
Community-based family interventions (Batch 1: July 2015-February 2016; Batch 2: April 2016-October 2016)	Participating organisations and schools recruited eligible families. The conceptual framework and length of the programme were standardised, with the same outcome measures for each group. The activities of the programme were designed based on the characteristics and needs of the participating families. The participating units and schools were randomised into 3 groups. Groups PA and HD were intervention groups targeting physical	Quantitative: - Pre-intervention/tea-gathering physical fitness assessments, assessment of balance and endurance; - Pre- (T1) and immediate post-intervention/tea-gathering (T2) questionnaires; 1 month post-intervention (T3) physical fitness assessments and questionnaires; 3 months pre- and follow-up session physical fitness assessments; and 3 months pre- (T4) and 3

Event	Detail	Evaluation method
	activity and healthy diet respectively. The intervention consisted of a 2-hour core session (i.e. intervention), a 1-hour booster session (i.e. 1 month post-intervention) and a follow-up session (i.e. 3 months post-intervention). Group C was a waitlist control group, and consisted of two tea-gathering sessions and a 2-hour follow-up session. Fidelity checks and process evaluations were conducted to assure the quality of the interventions.	months post-follow-up session (T5) questionnaires Targets: - All eligible participants aged 12 years old or above, and participated with 1 or more family members were invited to complete physical fitness assessments and T1 to T5 questionnaires Qualitative: - Five interview questions were developed to collect qualitative data from the participating families immediately after each session Targets: - At least two participants were invited to complete the interviews Quantitative and qualitative: - Programme proposal; - Behavioural checklist; - Resources input form; - Participants' attendance form; - Programme rundown; and - Process evaluation form Targets: - Social service workers and teachers from participating organisations and schools completed the programme proposal, behavioural checklist, resources input form, participants' attendance

Event	Detail	Evaluation method
		form and programme rundown; and Independent representatives from FAMILY Project Team, and HKCSS and other participating organisations and schools conducted process evaluation
Focus group of intervention participants (March-September 2016)	Intervention participants were invited to attend focus groups after the completion of all programmes and follow-up, to share their experiences and opinions about the project.	Qualitative: A focus group guide was developed to collect qualitative data from the intervention participants
Public education events (Launching: 28 June, 2015; Happy Family Month: May 2016)	Launching ceremony of HFKM and 11 Happy Family Month district events were held for the public to promote the HFKM and FAMILY Holistic Health.	Quantitative: - One-page questionnaires Targets: - Participants in the launching event and passers-by near the venue were invited to complete the questionnaire
In-depth interviews (January 2017)	Individual interviews with community stakeholders were conducted.	Qualitative: A semi-structured interview guide was developed to collect comments and suggestions on the programme implementation and FAMILY Holistic Health
Happy Family Cookbook 3 (May 2016)	A new version of Happy Family Cookbook was developed to motivate the general public to take simple steps to improve FAMILY Holistic Health.	Quantitative: - Happy Family Cookbook 3 evaluation questionnaires Targets: - Recipients of the cookbook completed a one-page questionnaire attached to the cookbook

Event	Detail	Evaluation method
		or an online version for evaluation
Professional Tool Kit 3 (January 2017)	The specially designed Professional Tool Kit 3 was developed for the social service sector and community stakeholders for knowledge transfer.	Quantitative: - Professional Tool Kit 3 evaluation questionnaires Targets: - Recipients completed a brief questionnaire attached to the tool kit to evaluate its effectiveness and collect readers' comments
Practice Wisdom Forum (December 2016)	A Practice Wisdom Forum was organised for the social service workers, teachers and residents, service users and students to share and consolidate their experience with the HFKM.	Quantitative: An evaluation questionnaire was completed by the forum participants after the event

2.2 Target population

The target population of the TTTA, post-intervention social service worker focus and volunteers' groups, and in-depth interviews included social service workers, teachers and volunteers working in social service organisations, the social welfare department, and schools in Hong Kong. The service recipients of the community-based family intervention programmes were residents, service users and students in all 18 Districts in Hong Kong (Islands, Kwai Tsing, North, Sai Kung, Sha Tin, Tai Po, Tsuen Wan, Tuen Mun, Yuen Long, Kowloon City, Kwun Tong, Sham Shui Po, Wong Tai Sin, Yau Tsim Mong, Central & Western, Eastern, Southern, and Wan Chai). The target population of the public education events was the general public. The Practice Wisdom Forum consisted of not only social service workers, teachers and professionals, but also residents, service users and students. The Happy Family Cookbook 3 was distributed to the general public through public education events, social

service organisations, social welfare departments, and District Council members. The Professional Tool Kit 3 was distributed to social service workers, teachers and professionals (Table 2.2).

Table 2.2 Expected and actual numbers of target populations in each project component

Event	Expected numbers of target population	Number of participants
Train-the-Trainer and Ambassador Programme	100-120 service workers and 300-340 Health Ambassadors	180 service workers and Health Ambassadors
Community-based family interventions	1,500-2,000 families (3,000-4,000 individuals)	1420 families (3,419 individuals)
Post-intervention focus groups	11 participant focus groups and 13 social service worker focus groups	11 participant focus groups and 4 social service worker focus group
Public education events	2,000-2,500 attendees	774 attendees
In-depth interviews	4-6 community leaders	4 community leaders
Happy Family Cookbook 3	About 15,000 families	15,000 copies were received by the public
Professional Tool Kit 3	About 500 social service workers, teachers and professionals	500 copies were received by the public

CHAPTER 3 LAUNCHING CEREMONY

3.1 Introduction

The launching ceremony was held at the Metro City Plaza 2, Tseung Kwan O on June 28, 2015 to promote the HFKM. Mr. Matthew Cheung Kin Chung, Secretary for Labour and Welfare; Mr. Stephen Ip Shu Kwan, Steward of The Hong Kong Jockey Club; Mr. Chua Hoi Wai, Chief Executive of HKCSS; and Professor Lam Tai Hing, FAMILY Project Principal Investigator from FAMILY Project Team were the officiating guests. A celebrity, Mr. Luk Ho Ming, also joined the event.

3.2 Objectives

- To deliver the message of spending quality time with family members through positive communication, ZTE_x and healthy diet; and
- To promote FAMILY Holistic Health to the public.

3.3 Procedures of the launching ceremony

The launching ceremony started with welcoming remarks delivered by Mr. Stephen Ip Shu Kwan, and Mr. Chua Hoi Wai and a speech given by Mr. Matthew Cheung Kin Chung. Representatives of the participating social service organisations, SWD officials, District Councils, and Parent and Teacher Association received souvenirs and had group photos with the officiating guests. Mr. Cheung, Mr. Ip, Mr. Luk, and Prof. Lam shared their experiences with the attendees in maintaining FAMILY Holistic Health. Over 200 families participated in the event. The message of promoting FAMILY Holistic Health through positive family communication was conveyed not only in the event venue, but also to the public through media coverage.

The event also featured an array of educational activities, including thematic experiential game booths and exhibition panels about the FAMILY Project and the HFKM project. The experiential game booths provided the attendees with the opportunity to practice joy, gratitude, savouring, physical activity, and healthy diet with their family members. In particular, the joy game booth involved family members in completing a task together and discovering joy during the family interaction. The gratitude game booth involved the expression of thankfulness and appreciation towards family members. The savouring game booth engaged the attendees in cherishing and enjoying the present moment and everyday life experiences. The physical activity game booth involved ZTE_x and encouragements from family members. The healthy diet game booth emphasised the importance of low sugar consumption. Furthermore, the physical health status of in-venue attendees was assessed using vertical jump and seated cycling. The specially designed exhibition panels were used to highlight the project's rationale. In order to evaluate the attendees' satisfaction towards the launching ceremony and investigate the community residents' FAMILY Holistic Health status, a brief one-page questionnaire was administered through convenient sampling inside the venue and among passers-by around the venue.

3.4 Results of the questionnaire assessment

A total of 64 valid questionnaires were collected, 41 (64.1%) of which were from attendees in the venue and 23 (35.9%) of which were from passers-by. Their demographic characteristics are summarised in Table 3.1. For respondents inside the venue, 56.1% were female, 23.1% were aged 40-49 years, 35.9% had at secondary education, 76.9% were married, and 57.9% were employed. For respondents outside the venue, 69.6% were male, 34.8% were aged 12-17 years, 65.2% had secondary education, 72.7% were not married, and 63.6% were students.

Table 3.1 Demographic characteristics of launching ceremony attendees and passers-by

Characteristic	Attendees (n=41)	Passers-by (n=23)
	n (%)	n (%)
Sex		
Male	18 (43.9)	16 (69.6)
Female	23 (56.1)	7 (30.4)
Age group (years)^a		
≤11	4 (10.3)	3 (13.0)
12-17	1 (2.6)	8 (34.8)
20-29	2 (5.1)	4 (17.4)
30-39	8 (20.5)	1 (4.3)
40-49	9 (23.1)	2 (8.7)
50-59	4 (10.3)	1 (4.3)
60-64	5 (12.8)	2 (8.7)
≥65	6 (15.4)	2 (8.7)
Marital status^b		
Not married	5 (12.8)	16 (72.7)
Married	30 (76.9)	5 (22.7)
Widowed	2 (5.1)	0 (0.0)
Divorced/Separated	2 (5.1)	1 (4.5)
Education^c		
Below primary level	5 (12.8)	2 (8.7)

Characteristic	Attendees (n=41)	Passers-by (n=23)
	n (%)	n (%)
Primary level	5 (12.8)	4 (17.4)
Secondary level	14 (35.9)	15 (65.2)
College level	4 (10.3)	1 (4.3)
Tertiary or above level	11 (28.2)	1 (4.3)
Employment status^d		
Student	4 (10.5)	14 (63.6)
Employed	22 (57.9)	5 (22.7)
Seeking job	1 (2.6)	0 (0.0)
Housewife	5 (13.2)	0 (0.0)
Retired	6 (15.8)	3 (13.6)

^a Attendees: n(missing)=2; ^b Attendees: n(missing)=2, Passers: n(missing)=1;

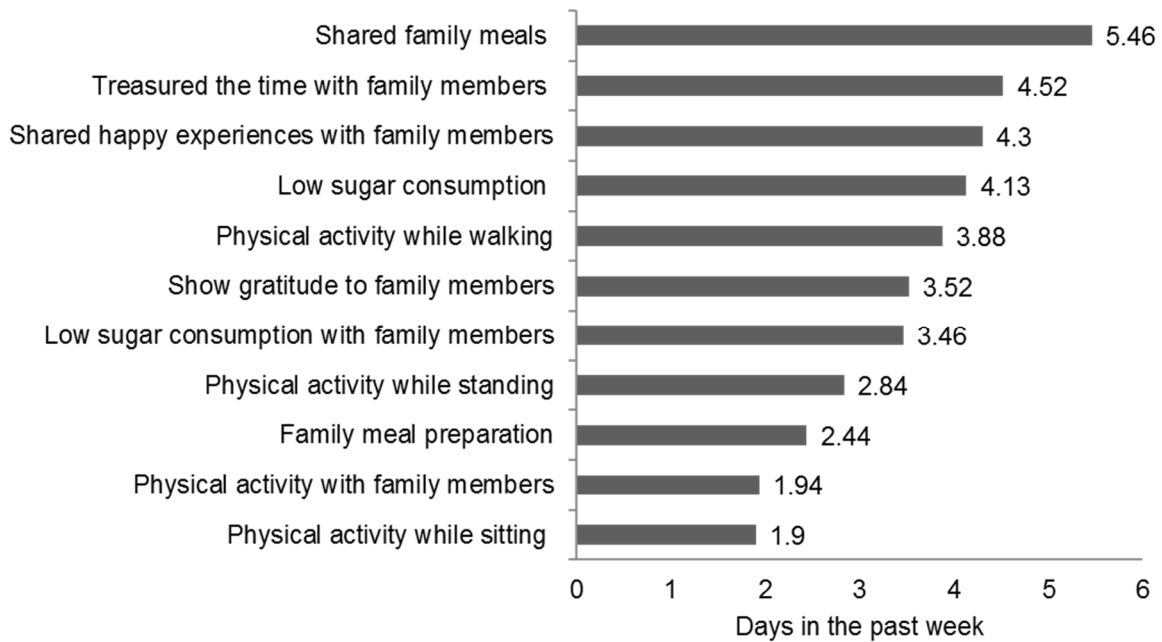
^c Attendees: n(missing)=2; ^d Attendees: n(missing)=3, Passers: n(missing)=1.

On a scale of 0 to 10, respondents inside the venue gave a mean score of 9.02 (SD=1.19) to describe their satisfaction towards the launching ceremony, 8.63 (SD=1.53) for usefulness of the event, and 8.37 (SD=1.93) for interest in participating in the HFKM in the future. The majority of them (97.6%) indicated that they would recommend the HFKM to other people. As expected, many of the respondents (70.7%) reported that they had never heard of ZTE_x before attending this event.

The self-reported FAMILY 3Hs of attendees and passers-by was assessed. On a scale of 0 to 10, they scored an average of 7.41 (SD=2.10) on self-reported personal health, 8.02 (SD=2.00) on self-reported personal happiness, 8.05 (SD=1.90) on self-reported FAMILY health, 8.16 (SD=1.95) on self-reported FAMILY happiness, and 8.19 (SD=1.90) on self-reported FAMILY harmony.

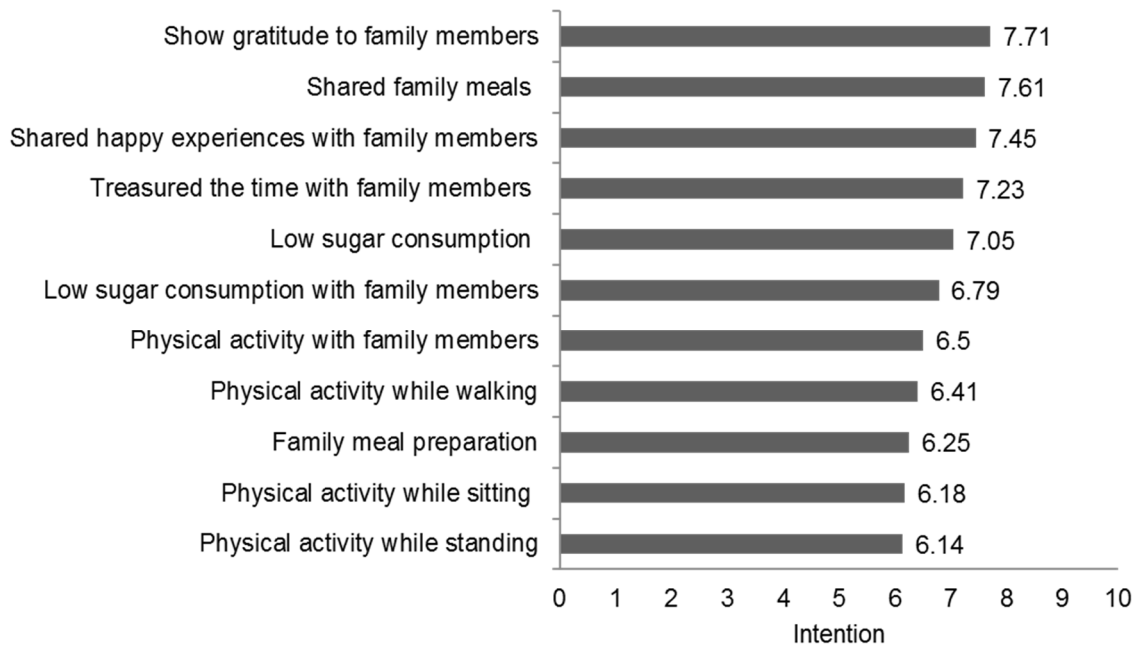
Positive family behaviours and healthy lifestyle during the past week were investigated. As shown in Figure 3.1, during the past week, the respondents reported that they showed gratitude to family members on an average of 3.52 days (SD=2.70), shared happy experiences with family members on an average of 4.30 days (SD=2.51), treasured the time with family members on an average of 4.52 days (SD=2.71), shared family meals on an average of 5.46 days (SD=2.04), prepared family meals on an average of 2.44 days (SD=2.47), consumed low levels of sugar on an average of 4.13 days (SD=2.69), consumed low levels of sugar with family members on an average of 3.46 days (SD=2.68), did physical activity while sitting on an average of 1.90 days (SD=2.31), did physical activity while standing on an average of 2.84 days (SD=2.59), did physical activity while walking on an average of 3.38 days (SD=2.81), and did physical activity with family members on an average of 1.94 days (SD=2.36).

Figure 3.1 Positive family behaviours and healthy lifestyle during the past week



Intention to perform positive family behaviours and healthy lifestyle in the future was also investigated. As shown in Figure 3.2, on a scale of 0 to 10 for intention, respondents scored an average of 7.71 (SD=2.76) to show more gratitude to family members, 7.45 (SD=3.09) to share more happy experiences with family members, 7.23 (SD=3.38) on intention to more frequently treasure family time, 7.61 (SD=2.93) to have more family meals, 6.25 (SD=3.20) to prepare more meals with family members, 7.05 (SD=2.85) to have more low sugar consumption, 6.79 (SD=3.01) to have more low sugar consumption with family members, 6.18 (SD=3.15) to do more physical activity while sitting, 6.14 (SD=3.13) to do more physical activity while standing, 6.41 (SD=3.23) to do more physical activity while walking, and 6.50 (SD=3.29) to do more physical activity with family members.

Figure 3.2 Intention to perform positive family and healthy lifestyle behaviours in the future



The physical health status of in-venue attendees was assessed using vertical jump and seated cycling. Vertical jump is an objective measure of muscle strength while seated cycling is an objective measure of muscle endurance. A total of 35 respondents were assessed by vertical jump and 33 respondents were assessed by seated cycling. Overall, the respondents scored an average of 12.44 inches (SD=3.60) for vertical jump and an average of 80.82 seconds (SD=38.53) for seated cycling. Males (n=17) scored an average of 14.09 inches (SD=3.72) for vertical jump and an average of 77.56 seconds (SD=40.41) for seated cycling. Females (n=18) scored an average of 10.88 inches (SD=2.77) for vertical jump and an average of 83.88 seconds (SD=37.65) for seated cycling.

3.5 Discussion and conclusion

The launching ceremony, as a kick-off of HFKM, successfully raised awareness of the importance of FAMILY Holistic Health in the community. Some key findings were as follows:

- Compared with passers-by, attendees were more likely to be female, middle aged, married, and working. It was expected that the community-based family intervention would attract participants who had similar demographic background;
- Respondents were generally satisfied with the event, found the information useful, and were interested in participating in the HFKM;
- Respondents generally perceived themselves as healthy and happy and their family as healthy, happy and harmonious. Nevertheless, they expected to benefit from the community-based family intervention since there was still room for improvement;
- While the respondents reported positive communication with their family members and frequent family meals together, their healthy lifestyle behaviours were not satisfactory.

In particular, they reported infrequent engagement in low sugar consumption and physical activity;

- There was a moderate level of intention to perform positive family behaviours and healthy lifestyle. Therefore, it was important to develop and implement community programmes that aimed not only to improve their intention but also to facilitate actions towards a healthier, happier and more harmonious family; and
- The objective measures of physical health status revealed that respondents found these assessments interesting and did try hard to perform better, which served as a baseline measure and motivator to do more exercise to improve performance.

In sum, the launching ceremony provided an opportunity to spread the key message to the community on the importance of FAMILY Holistic Health. The needs of the community residents were better understood from this event. More effort should be made to encourage positive family behaviours and healthy lifestyle in future community-based family intervention programmes.

CHAPTER 4 TRAIN-THE-TRAINER AND AMBASSADOR PROGRAMME

4.1 Introduction

Preventive interventions in public health have to be cost-effective. So they must be practical and brief, and can spread broadly and widely across the population by trained personnel in order to reach a large number of people in the community [21]. The train-the-trainer educational approach has been used, with experts training key personnel (such as lay volunteers) to deliver the service [22] and build capacity in communities [23]. Studies have shown that when lay volunteers were provided with training and supervision, their participation in community-based intervention programmes had significant effects on the outcomes [24, 25]. This approach was used to reduce the demand on time, resources and manpower from financially strapped and understaffed professional services in communities, resulting in efficient and effective utilisation of available human and community resources.

In view of growing health challenges both locally and globally, Phase 2 of the FAMILY Project Team had a special focus on FAMILY Holistic Health, an integration of physical and psychological health. The “TTTA” of HFKM was jointly developed by the organising committee, which included representatives of the FAMILY Project of FAMILY Project Team and HKCSS. Two types of workshops, “TTT” and “TTA” were conducted and vigorously evaluated.

Types of Programmes

- ***Train-the-Trainer Programme (TTT)***: It included four 3-day (15 hours) training workshops for social service workers for designing and implementing community-based family intervention programmes as well as health-related activities.
- ***Train-the-Ambassador Programme (TTA)***: It included twelve 2- to 3-day (6 hours to 12 hours) training workshops to prepare volunteers to be Health Ambassadors to deliver the health messages and be role models with healthy living habits to their friends, family members and the participants of the community-based family intervention and health-related activities.

4.2 TTT for social service workers

The training was designed to be brief so that a large number of social service workers (registered social workers and programme workers) could be trained to develop and implement the community programmes within a short project duration.

4.2.1 Objectives

- To provide trainees with the knowledge and skills of positive psychology, health, physical activity and dietary information, and evidence-based evidence-generating research methods;

-
- To enhance the trainees' knowledge, self-efficacy, and attitude in relation to engaging in healthy living habits (including positive family communication, physical activity, and healthy dietary practices) and their personal well-being and FAMILY 3Hs.
 - To enhance competence and capabilities of trainees in designing and conducting community-based intervention programmes for families;
 - To encourage trainees to share the health information with family members and influence their health behaviours;
 - To examine the effectiveness of a positive psychology and physical activity intervention and a positive psychology and healthy diet intervention; and
 - To collect trainees' feedback and comments on the programmes for improving future training.

4.2.2 Design

Staff from the institutions that expressed an interest in participating in HFKM (a maximum of two persons from each service unit) attended the TTT. All trainees fulfilled the following inclusion criteria: (a) ethnic Chinese, 18 years of age or older; and (b) able to read Chinese and speak Cantonese.

The staff (trainees in the TTT) would serve as the interventionists (trainers in the community programmes), who were responsible for the design and implementation of the community-based family intervention programmes.

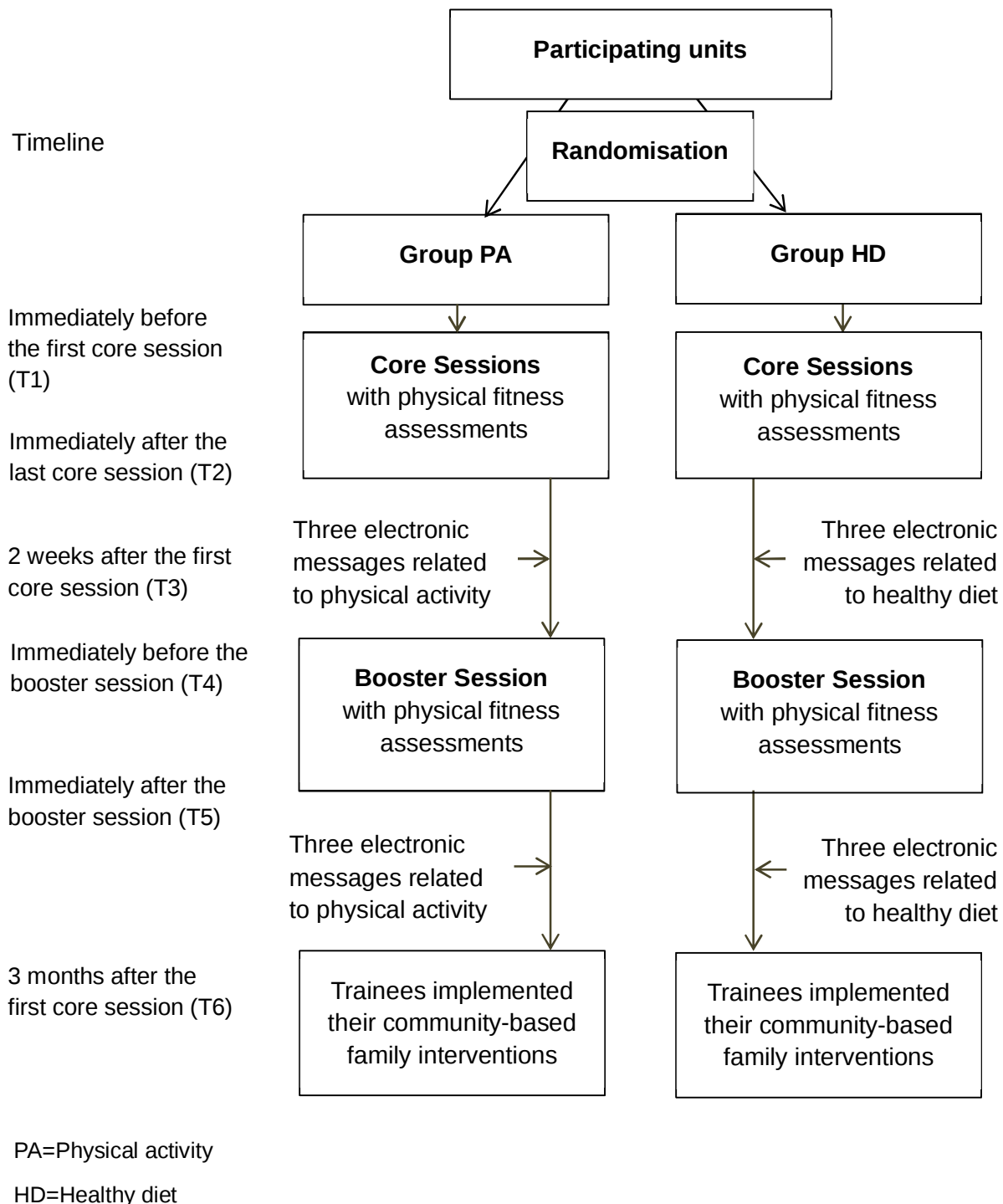
The cluster randomised controlled trial (cRCT) randomly allocated the institution where the trainees worked into either the Group PA or the Group HD, which was the same as the community-based family interventions described in section 5.3.1.

The TTT was jointly developed by the organising committee of HFKM, which included representatives of the FAMILY Project of FAMILY Project Team and HKCSS. Group PA receiving the physical activity intervention in relation to positive psychology, the Logic Model and physical activity with a special focus on ZTE_x (an innovative exercise approach). Group HD received healthy diet intervention in relation to positive psychology, the Logic Model and healthy diet with a special focus on reducing sugar consumption in dietary practices.

Two batches of the training programme were conducted on 28 May, 4 and 11 June 2015 (Batch 1) as well as 23 February, 5 and 29 April 2016 (Batch 2) at the training centre of HKCSS in Wan Chai. Each batch consisted of two training workshops including a Group PA and a Group HD. A total of four TTT workshops for the HFKM were conducted by a multidisciplinary research team [a clinical psychologist, registered social workers, a public health professional (a professor), and a nurse (research officer)].

Figure 4.1 shows the design of cRCT. Trainees received 2.5-day (15 hours) TTTs. Each TTT consisted of two 3-hour core sessions at baseline (Session I and Session II), another 2 core sessions at 1 week later (Session III and Session IV), and a 3-hour booster session at 6 weeks later. Physical fitness assessments were conducted immediately before the first core session at baseline and immediately before the booster session at 6 weeks later. We also provided 6 bi-weekly health-related electronic messages for knowledge, self-efficacy, and motivation enhancement and as reminders for 3 months.

Figure 4.1 The cRCT design



4.2.3 The interventions

4.2.3.1 The four core sessions

Session I was a positive psychology session. First, the representative from the organising committee gave a brief introduction of the overall project aims and the conceptual framework of the HFKM. Then the clinical psychologist introduced the three positive psychology themes including 'Joy' [26], 'Gratitude' [27] and 'Savouring' [28], and how to utilise these positive psychology constructs to improve family communication.

Session II was a physical activity session in Group PA and a healthy diet session in Group HD. This was a theory-based session guided by the Health Action Process Approach (HAPA) [29]. At the beginning of this session, physical fitness assessments were conducted with the aims of arousing trainees' attention on their health and interest in the intervention that followed. A nurse and staff of FAMILY Project Team (we) explained and discussed the clinical relevance of age- and gender-specific physical fitness reference values with the trainees [30-35], and encouraged them to compare their own results with normative data. We invited them to talk about their health belief and existing exercise habits. Then, we introduced ZTE_x (in Group PA) or reducing sugar consumption (in Group HD) and shared our personal experiences and benefits of engaging in ZTE_x (in Group PA) or reducing sugar consumption (in Group HD). To induce cognitive dissonance between the trainees' cognition, pledge and behaviour [36], we got them pledge openly and loudly together that they would engage in the healthy living practices (ZTE_x in Group PA or reducing sugar consumption in Group HD). We encouraged trainees to share their new learning, engage, and praise their family members in healthy living practices (ZTE_x in Group PA or reducing sugar consumption in Group HD). We asked them to involve their family members in their action plan. We then explained that they would experience cognitive dissonance if they do not do as they had pledged. Strategies were used to mobilise behaviour on increasing motivation and setting goals for action.

Session III was a practical and game session. This session was conducted by a clinical psychologist and a nurse. Family games were suggested for trainees and they were invited to take part in the games as if they were the community participants. Through this experiential learning, trainees would have a better understanding on the needs of their community participants, which helped the design and implementation of their community-based family intervention programmes.

Session IV was a programme implementation session conducted by the representatives from HKCSS and FAMILY Project Team, who were social workers with experiences on conducting staff and volunteer trainings. A brief introduction of the Logic Model for programme development and implementation was given. We also explained the application and proposal writing, which were necessary to obtain funding from the funding agency for the individual programmes. We conducted an in-class-practice and worked together with trainees to guide them applying the Logic Model to design their community programmes

4.2.3.2 The booster session

The booster session was a 3-hour session at 6 weeks after the first session. First, trainees were invited to share their experiences and barriers they had encountered in engaging in healthy living practices (ZTE_x in Group PA and healthy diet in Group HD). We highlighted any positive changes they reported, reassured the trainees that positive changes were likely to come with engaging in healthy living practices (ZTE_x in Group PA and healthy diet in Group HD). Second, we provided feedback on the proposals of family interventions (designed by the trainees) from the participating social service organisations.

The fidelity of the intervention was assessed by two independent observers (research assistants from FAMILY Project Team). They used the checklist with the same items of the outline of the training. The fidelity assessment aimed to ensure the quality of training. All listed objectives in the checklists for the core and booster sessions were achieved and completed within the pre-set time frame in all training sessions.

In communicating the content, diversified learning methods were used. The trainees not only received some didactic instruction, but also were engaged in games, role plays, and group discussions. The emphasis was on experiential learning. We used different methods to actively engage the trainees to act as the expected participants of their proposed family interventions, including games and role play. We merged positive psychology themes into group activities and gave trainees' hands-on experience that they might engage and communicate the messages in large groups.

4.2.4 Evaluation of the TTT

4.2.4.1 Outcomes

Primary outcome

- Knowledge, self-efficacy, outcome expectancies and intention in relation to applying the learning to implement family intervention programmes.

Secondary outcomes

- Physical activity and ZTE_x;
- Physical fitness performance;
- Sugar consumption practices;
- Family communication;
- Engaging in healthy living habits with family members;
- Personal well-being and FAMILY 3Hs;
- Feedbacks on the training programme; and
- Results of trainees' implemented community programmes.

4.2.4.2 Measurements

Both qualitative and quantitative methods were used. Self-administered questionnaires were used to assess all the self-reported outcomes at six time points: at baseline (T1), immediately after the core sessions (T2), 2 weeks (T3), 6 weeks (T4), immediately after the booster session (T5) and 3 months after the first session (T6). Physical fitness assessments were performed

at baseline and 6 weeks follow-up (T4). Four semi-structured focus group interviews with the trainees were conducted after completion of the HFKM, at about one year after the first session.

Trainees indicated the extent of their agreement on four statements in relation to their knowledge, self-efficacy, outcome expectancies and intention of the learning (in relation to positive psychology, the Logic Model, physical activity and healthy diet into their family intervention programmes (for example, “I am confident that I am able to apply the general constructs of ZTEx/low sugar consumption practices/ positive psychology/the Logic Model in the family intervention programmes”). Each item was assessed by using a scale ranging from “0=strongly disagree” to “6=strongly agree”.

Self-reported physical activity was assessed by questions adopted and modified from the International Physical Activities Questionnaire-Chinese version (IPAQ-C) [37, 38]. Self-reported sugar consumption dietary practices were assessed by questions adopted and modified from BEVQ-15 [39].

The practice of positive communication with family members, as well as engaging in ZTEx and low sugar consumption practices with family members were assessed by outcome-based questions, using a scale ranging from a “1=never” to “5=daily” for each item.

We asked the trainees to indicate their personal and family well-being by five questions: “Do you think you are healthy?”; “Do you think you are happy?”; “Do you think your family is healthy?”; “Do you think your family is happy?”; “Do you think your family is harmonious?”. Each item was assessed by a scale ranging from a “0=very unhealthy/unhappy/disharmonious” to “10=very healthy/happy/harmonious”

Physical fitness assessments with standardised protocols were used to assess the physical fitness performance, including hand grip strength measured by a dynamometer [40, 41], lower limbs strength assessed by the 30-second chair stand test [42, 43] (the number of chair stands from a sitting to a standing position in 30 seconds), balance assessed by single leg stance test [44] (the number of seconds that the individual could effectively balance on one leg; up to the maximum of 120 seconds), and chair sit-and-reach test (the distance reached by the fingertips of both hands when bending forward) [45].

All qualitative interviews were audio-taped and transcribed verbatim in Cantonese. Two project team members, one of whom attended the interviews and coded the transcripts.

4.2.4.3 Statistical analysis

Quantitative data were analysed using SPSS 24.0. The demographic characteristics of the participants were described using frequencies and percentages, and the baseline scores of outcome variables were described using means and standard deviations. To examine whether the cluster randomisation resulted in comparability among the groups, Pearson’s chi-square tests and in-dependent t-tests were conducted to compare the demographic characteristics and baseline scores between the groups. To examine the effectiveness of the training programme, linear mixed models were conducted. This analytical procedure was adopted to assess whether there were differences in the outcome changes between two groups. The principle of intention-to-treat analysis was adopted through imputing missing observations from lost to follow-up or decline to complete follow-up questionnaires using the baseline values (i.e., assuming no changes). Sensitivity analysis was performed by using “complete case

analysis”, on trainees with complete assessments at baseline, 1 month, and 3 months follow-up. An effect size (Cohen’s d) of 0.2 was considered as a small effect, 0.5 as a medium effect, and 0.8 or above as a large effect [46]. All significance tests were 2-sided with a 5% level of significance. Fidelity checks were conducted for every session of the workshops, which ensured the quality of the intervention and the implementation of the key elements in the intervention.

Transcripts were analysed by thematic content analysis, following the guidelines recommended by Morse and Field [47] and NVivo 11.0. Field notes were reviewed with the transcript to organise and summarise data. Mixed Method Triangulation design was used to interrelate and interpret the qualitative and quantitative data to validate the results [48].

4.2.5 Quantitative results

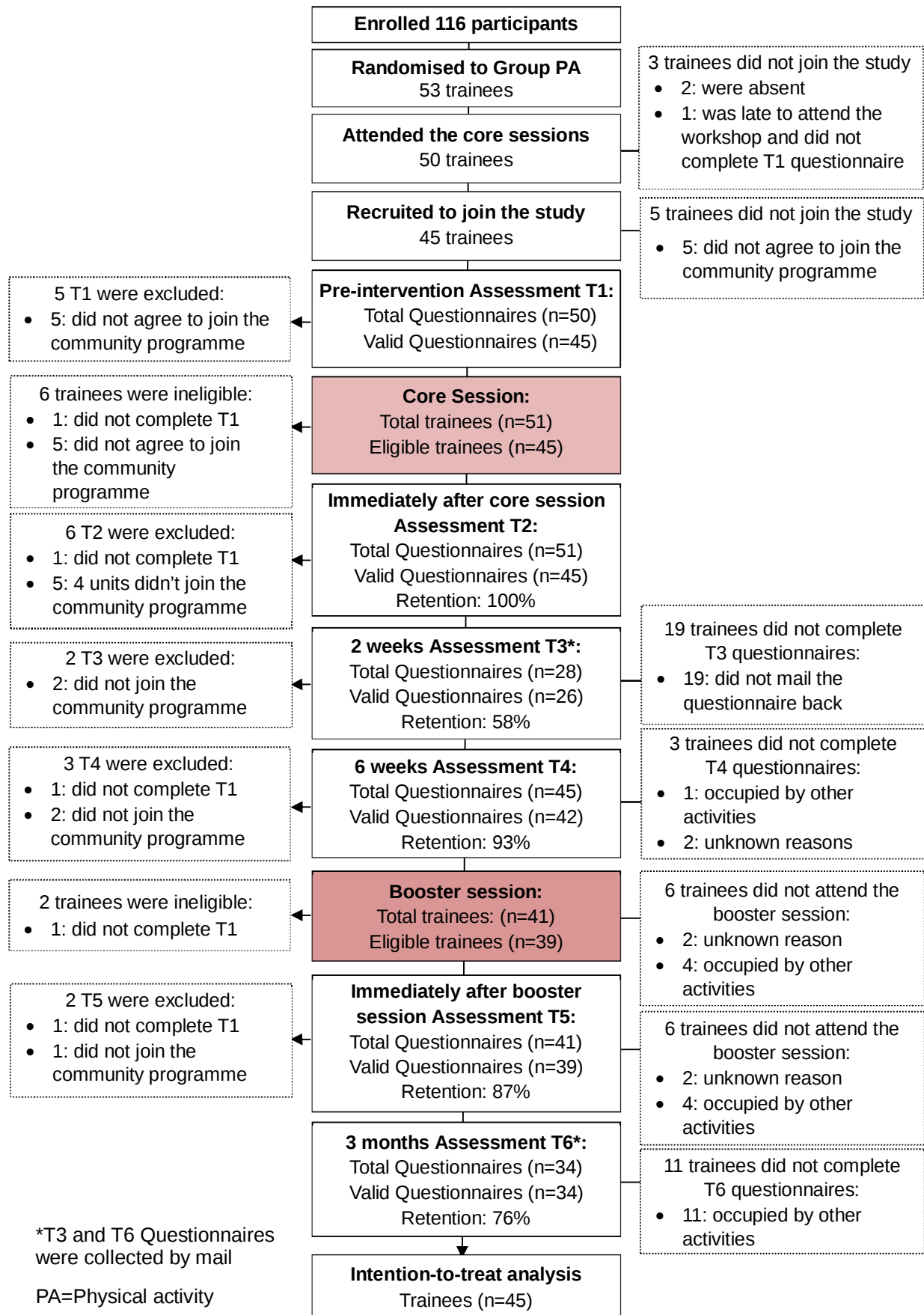
4.2.5.1 The recruitment

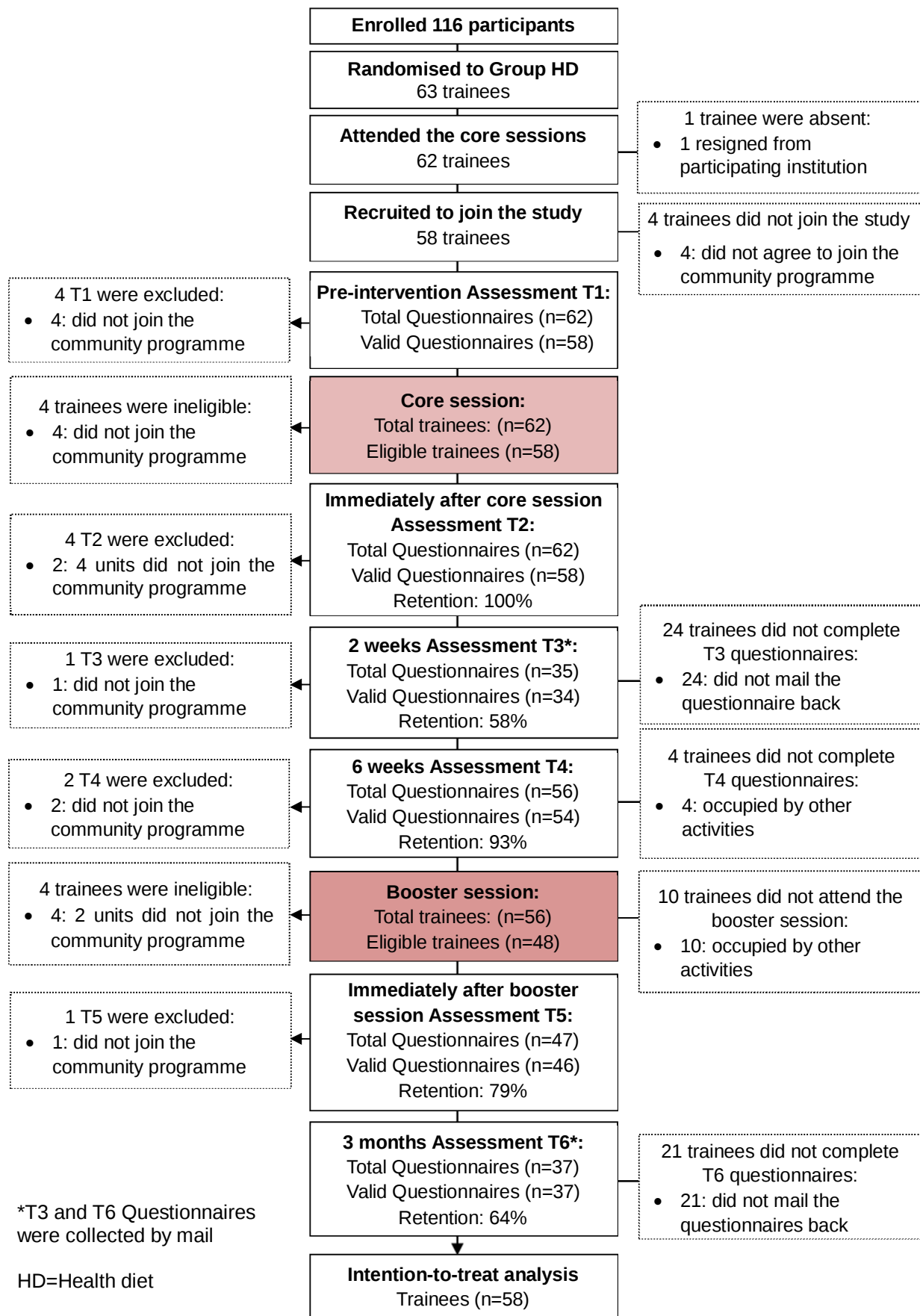
A total of 4 workshops were conducted during June 2015 to April 2016. Table 4.1 shows the enrolment, attendance and recruitment. 116 individuals enrolled in the programmes and were randomised in 2 groups, 3 individuals were unable to attend and 10 refused to join the study. 103 individuals were recruited to join the study. Figure 4.2 shows the Consolidated Standards of Reporting Trials (CONSORT) flow chart.

Table 4.1 Enrolment, attendance and recruitment of intervention programmes

Programme code	Number of people enrolled	Number of people attended	Number of people recruited (agreed to join the study)
1	30	30	29
2	27	27	27
3	23	21	16
4	36	35	31
Total	116	113	103

Figure 4.2 CONSORT flow chart





4.2.5.2 Baseline characteristics

The trainees were randomised into either Group PA (n=45) or Group HD (n=58). As shown in Table 4.2, most trainees in each group were female (82% in Group PA and 83% in Group HD). There was no significance difference in the demographic characteristics between two groups, except a marginally significantly higher proportion of trainees with diabetes mellitus in Group PA than Group HD.

Table 4.2 Characteristics of trainees in two groups (n=103)

Characteristic	Group PA (n=45)	Group HD (n=58)	<i>p</i> -value ^a
	n (%)	n (%)	
Sex			
Male	8 (18)	10 (17)	0.94
Female	37 (82)	48 (83)	
Age group (years)			
18-29	16 (36)	22 (38)	0.17
30-39	19 (42)	13 (22)	
40-49	8 (18)	17 (29)	
50-59	2 (4)	6 (11)	
Service targets of trainees' working institutions			
Family	26 (58)	38 (66)	0.24
Children	19 (42)	22 (22)	0.83
Teenagers	15 (33)	16 (28)	0.65
Elderly	3 (7)	5 (9)	0.73
People with physical disable	4 (9)	3 (5)	0.70
People with mental illness	4 (9)	2 (3)	0.40
New immigrants	3 (7)	5 (9)	0.73
Ethnic minority	3 (7)	4 (7)	1.00
Medical history			
Hypertension	3 (7)	3 (5)	1.00
Cardiovascular disease	1 (2)	2 (4)	1.00
Diabetes mellitus	3 (7)	0 (0)	0.08 [†]

Characteristic	Group PA (n=45)	Group HD (n=58)	<i>p</i> -value ^a
	n (%)	n (%)	
Arthritis	3 (7)	4 (7)	1.00

^a *p*-value for the difference between two groups

[†] *p*<0.10

As shown in Table 4.3, there were no significant difference in knowledge on training content, sugar consumption practices and personal and family well-being between the two groups. Moderate physical activity and doing ZTE_x with family members were marginally significantly greater in Group PA than Group HD (*p*=0.06). In addition, praising family members and sharing happy experience with family members were significantly greater in Group PA than Group HD (*p*=0.008 and *p*=0.033, respectively). Savouring the good time with family members was marginally significantly greater in Group PA than Group HD (*p*=0.064). Age, sex and baseline values were included as covariates in the subsequent analysis.

Table 4.3 Baseline scores of outcome variables in two groups (n=103)

	Group PA (n=45)	Group HD (n=58)	<i>p</i> -value
	Mean (SD)	Mean (SD)	
Knowledge in relation to			
Positive psychology (1-6)	4.93 (0.73)	5.04 (0.60)	0.44
ZTE _x (1-6)	3.74 (1.47)	3.69 (1.69)	0.90
Low sugar consumption (1-6)	4.62 (0.91)	4.50 (0.95)	0.90
The Logic Model (1-6)	3.38 (1.26)	3.35 (1.37)	0.93
Physical activity and ZTE _x			
Moderate physical activity (0-7 days)	2.75 (2.44)	2.07 (2.33)	0.06 [†]
Vigorous physical activity (0-7 days)	1.59 (2.02)	1.07 (1.68)	0.32
Exercise while sitting (0-7 days)	2.45 (2.30)	2.57 (2.52)	0.31
Exercise while standing (0-7 days)	2.65 (2.31)	2.61 (2.95)	0.44
Exercise while walking (0-7 days)	2.34 (2.42)	1.90 (2.45)	0.31

	Group PA (n=45)	Group HD (n=58)	p-value
	Mean (SD)	Mean (SD)	
Doing ZTEx with family members (1-5)	1.53 (0.84)	1.26 (0.55)	0.06
Sugar consumption practices			
Adopting low sugar consumption practices (1-5)	3.45 (1.01)	2.98 (1.07)	0.12
Adopting low sugar consumption practices with family members (1-5)	2.60 (1.03)	2.31 (1.14)	0.19
Family communication			
Praising family members (1-5)	3.29 (0.79)	2.84 (0.86)	0.01**
Expressing gratitude to family members (1-5)	3.33 (0.85)	3.09 (0.94)	0.15
Sharing happy experience with family members (1-5)	3.60 (0.72)	3.22 (1.04)	0.03*
Savouring the good time with family members (1-5)	3.33 (0.74)	3.09 (0.94)	0.06 [†]
Self-reported personal well-being			
Self-reported personal health (0-10)	5.78 (2.07)	5.92 (1.86)	0.24
Self-reported personal happiness (0-10)	6.80 (1.88)	6.67 (1.85)	0.82
Self-reported FAMILY health (0-10)	7.02 (1.73)	6.95 (1.70)	0.12
Self-reported FAMILY happiness (0-10)	7.14 (2.08)	7.11 (1.74)	0.36
Self-reported FAMILY harmony (0-10)	7.26 (1.97)	7.45 (1.73)	0.94

^a p-value for the difference between two groups

[†] $p < 0.10$; * $p < 0.05$; ** $p < 0.01$

4.2.5.3 Changes in outcomes by time and group

4.2.5.3.1 Knowledge, self-efficacy, and attitudes in relation to the training content

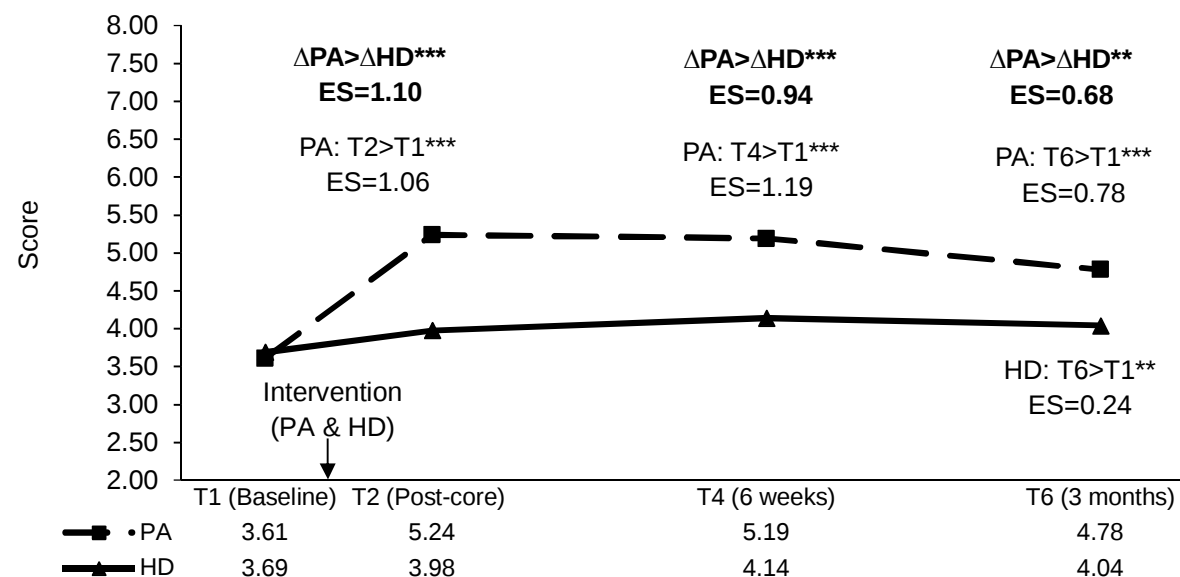
(A) Zero-time Exercise

Knowledge of the general concept of ZTE_x

Figure 4.3 shows significant increase in knowledge of the general concept of ZTE_x immediately after core sessions, at 6 weeks and 3 months in Group PA with medium to large effect size (ES=1.06, $p<0.001$; ES=1.19, $p<0.001$; and ES=0.78, $p<0.001$, respectively). The knowledge of the general concept of ZTE_x in Group HD significantly increased only at 3 months with small effect size (ES=0.24, $p=0.003$).

The increases in knowledge of the general concept of the ZTE_x immediately after core sessions, at 6 weeks and 3 months were significantly greater in Group PA than Group HD (ES=1.10, $p<0.001$; ES=0.94, $p<0.001$; and ES=0.68, $p=0.002$, respectively), indicating the effectiveness of the PA intervention.

Figure 4.3 Knowledge of the general concept of ZTE_x (1-6)



** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

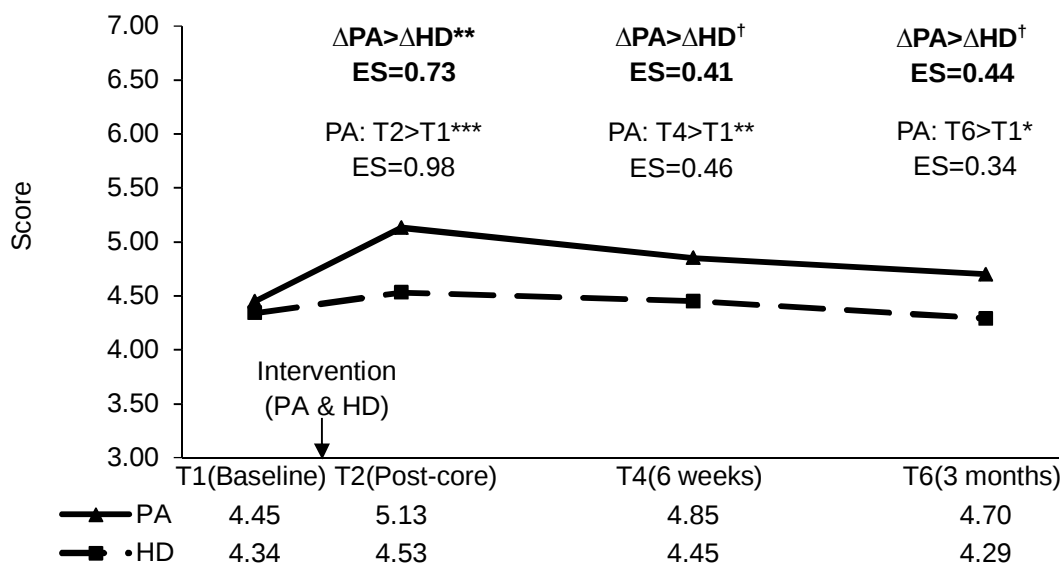
6-point Likert scale: "1=strongly disagree" to "6=strongly agree"

Self-efficacy in relation to using ZTE_x constructs to design interventions

Figure 4.4 shows significant increase in self-efficacy of using ZTE_x constructs to design interventions immediately after core sessions, at 6 weeks and 3 months in Group PA (ES=0.98, $p<0.001$; ES=0.46, $p=0.006$; and ES=0.34, $p=0.040$, respectively). Group HD showed no significant increase during the study period.

The increase in self-efficacy of using ZTE_x constructs to design interventions immediately after the core sessions was significantly greater in Group PA than Group HD with medium effect size (ES=0.73, $p=0.004$); and the increases at 6 weeks and 3 months were marginally significantly greater in Group PA than Group HD (ES=0.41, $p=0.087$ and ES=0.44, $p=0.040$, respectively). These indicating the short-term effectiveness of PA intervention with small effect size.

Figure 4.4 Self-efficacy of using ZTE_x constructs to design interventions (1-6)



$^{\dagger} p<0.10$; * $p<0.05$; ** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

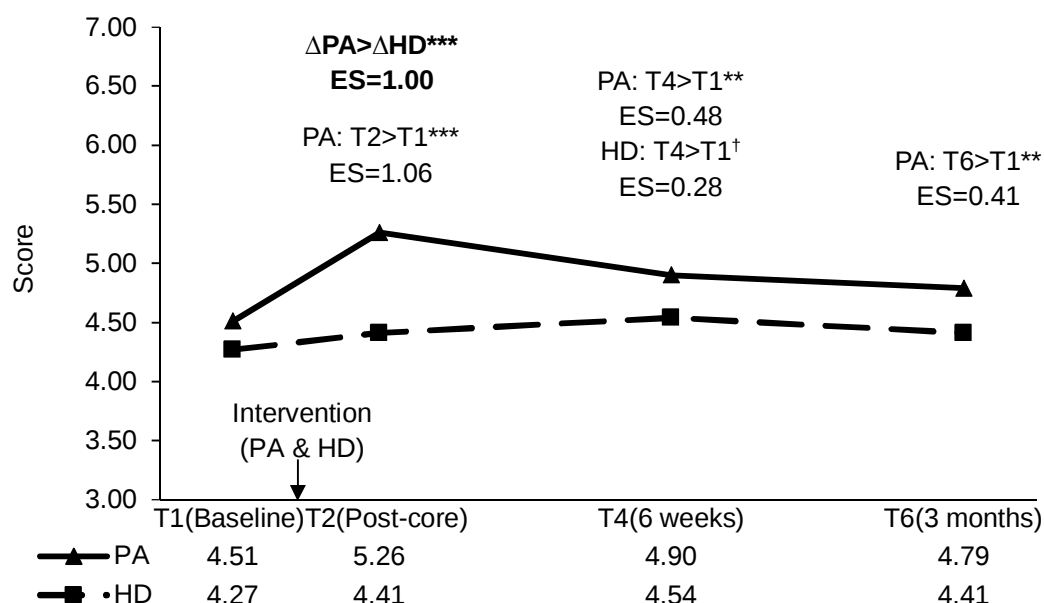
6-point Likert scale: "1=strongly disagree" to "6=strongly agree"

Outcome expectancies towards the practice of ZTEEx in interventions

Figure 4.5 shows significant increase in outcome expectancies towards the practice of ZTEEx in interventions immediately after the core sessions, at 6 weeks and 3 months in Group PA with small to large effect size (ES=1.06, $p<0.001$; ES=0.48, $p=0.005$; and ES=0.41, $p=0.040$, respectively). The outcome expectancies in Group HD marginally significantly increased only at 6 weeks with small effect size (ES=0.28, $p=0.096$).

The increase in outcome expectancies was significantly greater in Group PA than Group HD only immediately after the core sessions, indicating the short-term effectiveness of PA intervention with large effect size (ES=1.00, $p<0.001$).

Figure 4.5 Outcome expectancies towards the practice of ZTEEx in interventions (1-6)



[†] $p<0.10$, ^{**} $p<0.01$, ^{***} $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

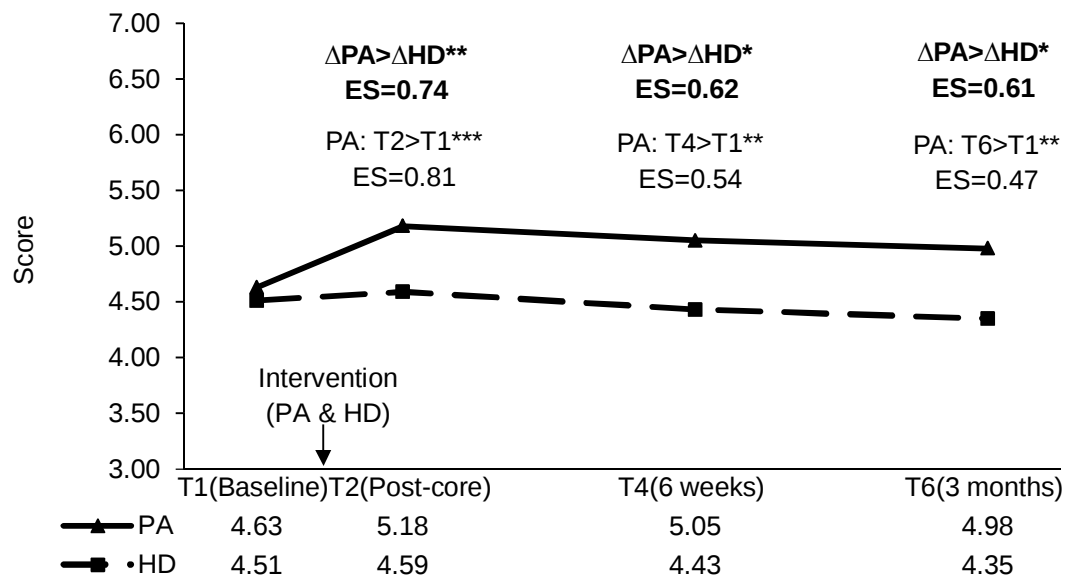
6-point Likert scale: "1=strongly disagree" to "6=strongly agree"

Intention to apply ZTE_x in interventions

Figure 4.6 shows significant increase in intention to apply ZTE_x in interventions immediately after the core sessions, at 6 weeks and 3 months in Group PA with small to large effect size (ES=0.81, $p<0.001$; ES=0.54, $p=0.001$; and ES=0.47, $p=0.005$, respectively). Group HD showed no significant increase during the study period.

The increases in intention immediately after the core sessions, at 6 weeks and 3 months were significantly greater in Group PA than Group HD, indicating the effectiveness of PA intervention with medium effect size (ES=0.74, $p=0.003$; ES=0.62, $p=0.010$; and ES=0.61, $p=0.011$, respectively).

Figure 4.6 Intention to apply ZTE_x to design interventions (1-6)



* $p<0.05$; ** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

6-point Likert scale: "1=strongly disagree" to "6=strongly agree"

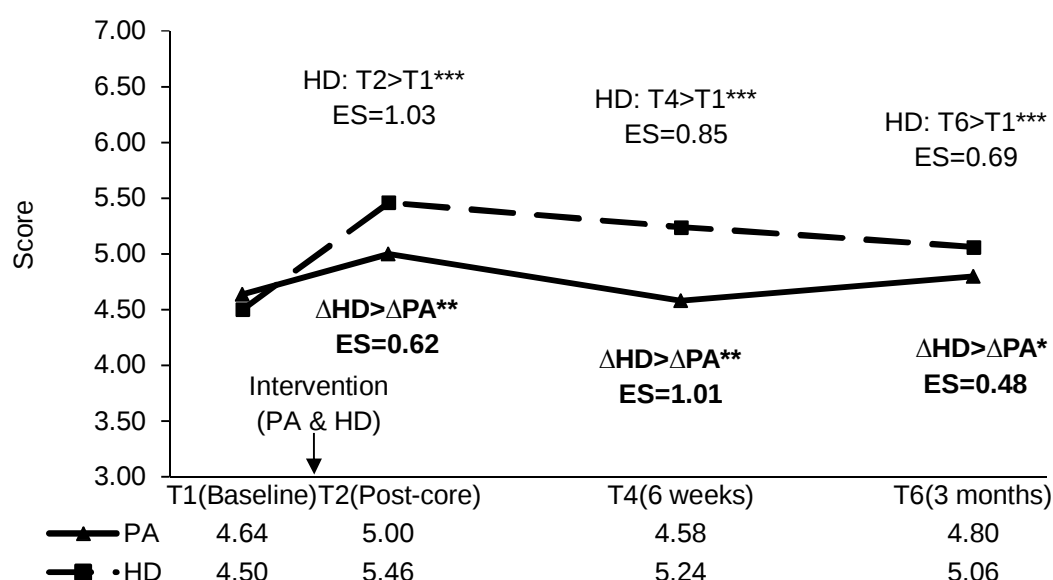
(B) Low sugar consumption dietary practices

Knowledge of the general concept of low sugar consumption dietary practices

Figure 4.7 shows significant increase in knowledge of the general concept of low sugar consumption dietary practices immediately after core sessions, at 6 weeks and 3 months in Group HD (ES=1.03, $p<0.001$; ES=0.85, $p<0.001$; and ES=0.69, $p<0.001$, respectively). Group PA showed no significant increase.

The increases in knowledge of the general concept of low sugar consumption practices immediately after core sessions, at 6 weeks and 3 months were significantly greater in the Group HD than Group PA (ES=0.62, $p=0.007$; ES=1.01, $p<0.001$; and ES=0.48, $p=0.035$, respectively), indicating the effectiveness of the HD intervention with small to large effect size.

Figure 4.7 Knowledge of the general concept of low sugar consumption dietary practices (1-6)



* $p<0.05$; ** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

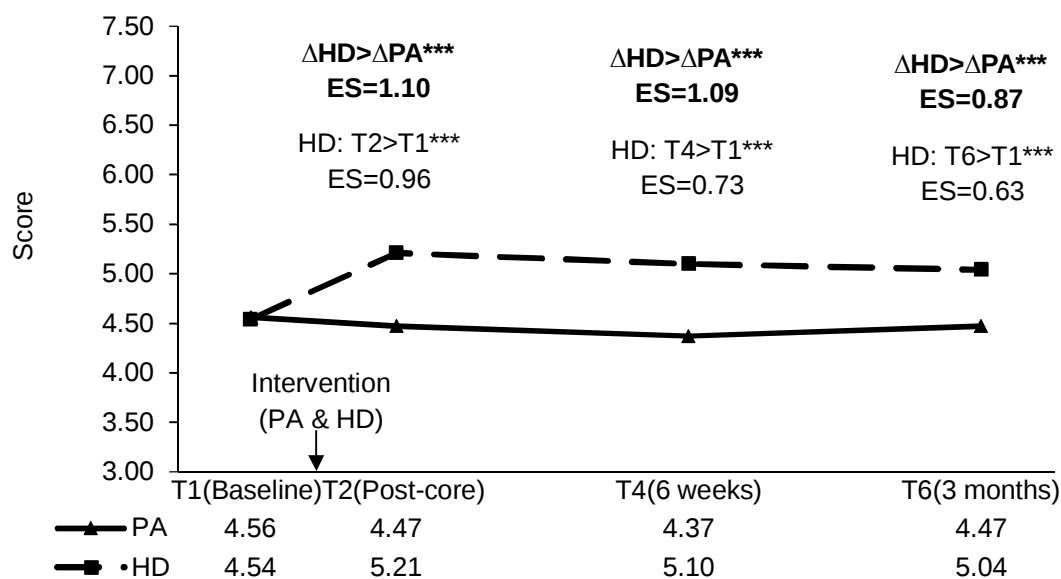
6-point Likert scale: "1=strongly disagree" to "6=strongly agree"

Self-efficacy in relation to using low sugar consumption constructs to design interventions

Figure 4.8 shows significant increase in self-efficacy in relation to using low sugar consumption constructs to design interventions immediately after core sessions, at 6 weeks and 3 months in Group HD (ES=0.96, $p<0.001$; ES=0.73, $p<0.001$; and ES=0.63, $p<0.001$, respectively). Group PA showed no significant increase.

The increases in self-efficacy in relation to using low sugar consumption constructs to design interventions immediately after core sessions, at 6 weeks and 3 months were significantly greater in Group HD than Group PA, indicating the effectiveness of HD intervention with large effect size (ES=1.10, $p=0.005$; ES=1.09, $p<0.001$; and ES=0.87, $p=0.003$, respectively).

Figure 4.8 Self-efficacy in relation to using low sugar consumption constructs to design interventions (1-6)



*** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

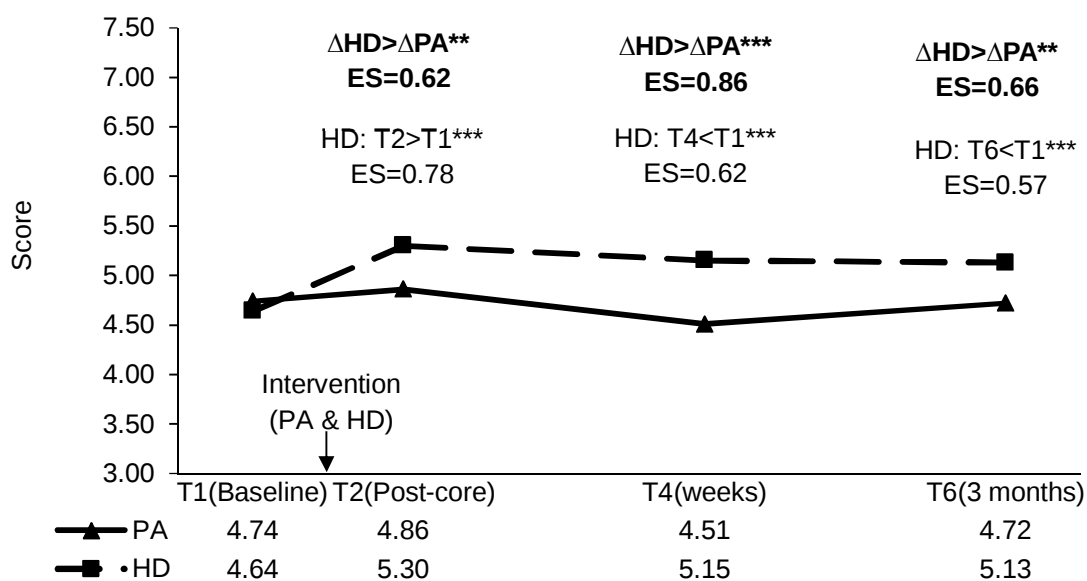
6-point Likert scale: "1=strongly disagree" to "6=strongly agree"

Outcome expectancies towards the practice of low sugar consumption constructs in interventions

Figure 4.9 shows significant increase in outcome expectancies towards the practice of low sugar consumption constructs in interventions immediately after core sessions, at 6 weeks and 3 months in Group HD (ES=0.78, $p<0.001$; ES=0.62, $p<0.001$; and ES=0.57, $p<0.001$, respectively). By contrast, there were no significant increase in Group PA during the 3 months study period.

The increases in outcome expectancies towards the practice of low sugar consumption constructs in interventions immediately after core sessions, at 6 weeks and 3 months were significantly greater in Group HD than Group PA, indicating the effectiveness of HD intervention with medium to large effect size (ES=0.62, $p=0.005$; ES=0.86, $p<0.001$; and ES=0.66, $p=0.003$, respectively).

Figure 4.9 Outcome expectancies towards the practice of low sugar consumption constructs in interventions (1-6)



** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

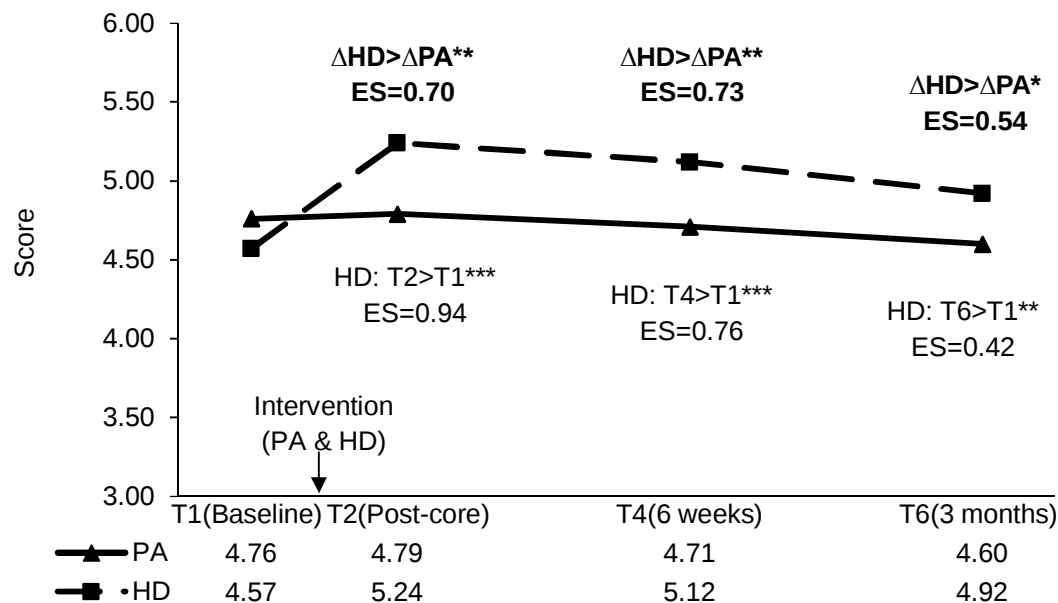
6-point Likert scale: "1=strongly disagree" to "6=strongly agree"

Intention to apply low sugar consumption constructs in interventions

Figure 4.10 shows significant increase in intention to apply low sugar consumption constructs in interventions immediately after core sessions at 6 weeks and 3 months in Group HD (ES=0.94, $p<0.001$; ES=0.76, $p<0.001$; and ES=0.42, $p=0.004$, respectively). Group PA showed no significant improvement.

The increases in intention to apply low sugar consumption constructs in interventions immediately after core sessions, at 6 weeks and 3 months were significantly greater in Group HD than Group PA, indicating the effectiveness of HD intervention with medium effect size. (ES=0.70, $p=0.001$; ES=0.73, $p=0.001$; and ES=0.54, $p=0.014$, respectively).

Figure 4.10 Intention to apply low sugar consumption constructs in interventions (1-6)



* $p<0.05$; ** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

6-point Likert scale: "1=strongly disagree" to "6=strongly agree"

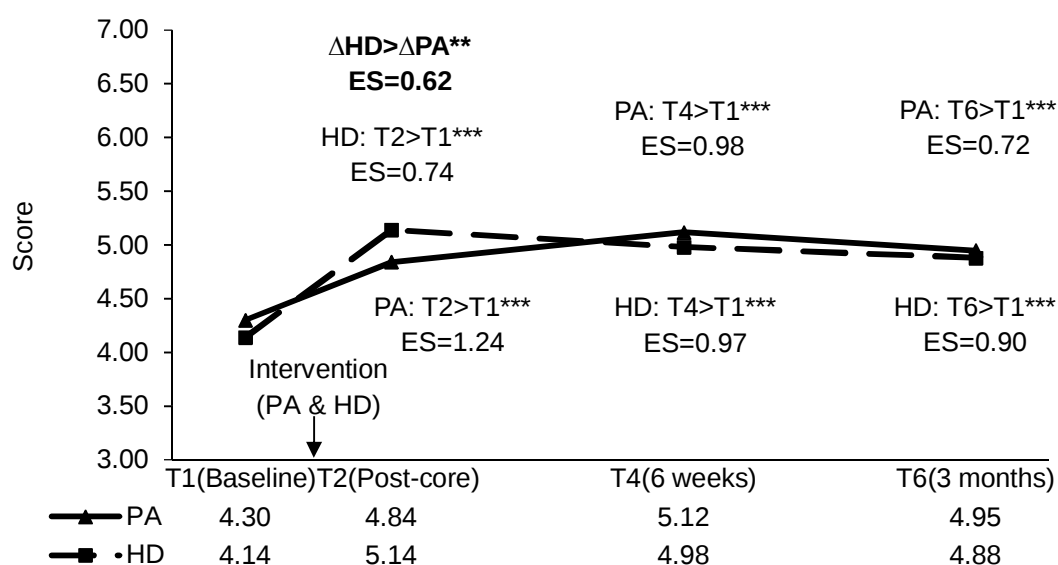
(C) Positive psychology

Knowledge of the general concept of positive psychology

Figure 4.11 shows significant increase in knowledge of the general concept of positive psychology immediately after core sessions, at 6 weeks and 3 months in Group PA (ES=1.24, $p<0.001$; ES=0.98, $p<0.001$; and ES=0.72, $p<0.001$, respectively) and Group HD (ES=0.74, $p<0.001$; ES=0.97, $p<0.001$; and ES=0.90, $p<0.001$, respectively).

The increase in knowledge of the general concept of positive psychology only at immediately after core sessions was significantly greater in Group HD than Group PA, indicating the short-term effectiveness of HD intervention with medium effect size (ES=0.62, $p=0.004$).

Figure 4.11 Knowledge of the general concept of positive psychology (1-6)



** $p<0.01$; *** $p<0.001$

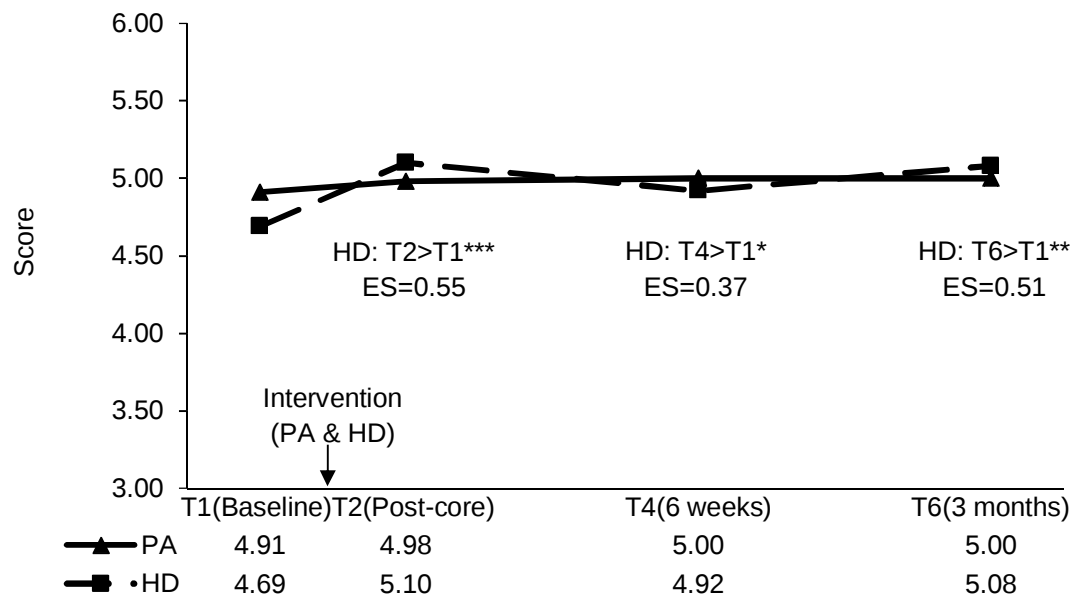
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

6-point Likert scale: "1=strongly disagree" to "6=strongly agree"

Self-efficacy in relation to using positive psychology constructs to design interventions

Figure 4.12 shows significant increase in self-efficacy of using positive psychology constructs to design interventions after the core sessions, at 6 weeks and 3 months in Group HD with small to medium effect size ($ES=0.55$, $p<0.001$; $ES=0.37$, $p=0.017$; and $ES=0.51$, $p=0.001$, respectively). Group PA showed no significant increase. The 2 groups showed no significant difference in the changes. Note that both groups had the same positive psychology intervention.

Figure 4.12 Self-efficacy in relation to using positive psychology constructs to design interventions (1-6)



* $p<0.05$; ** $p<0.01$; *** $p<0.001$

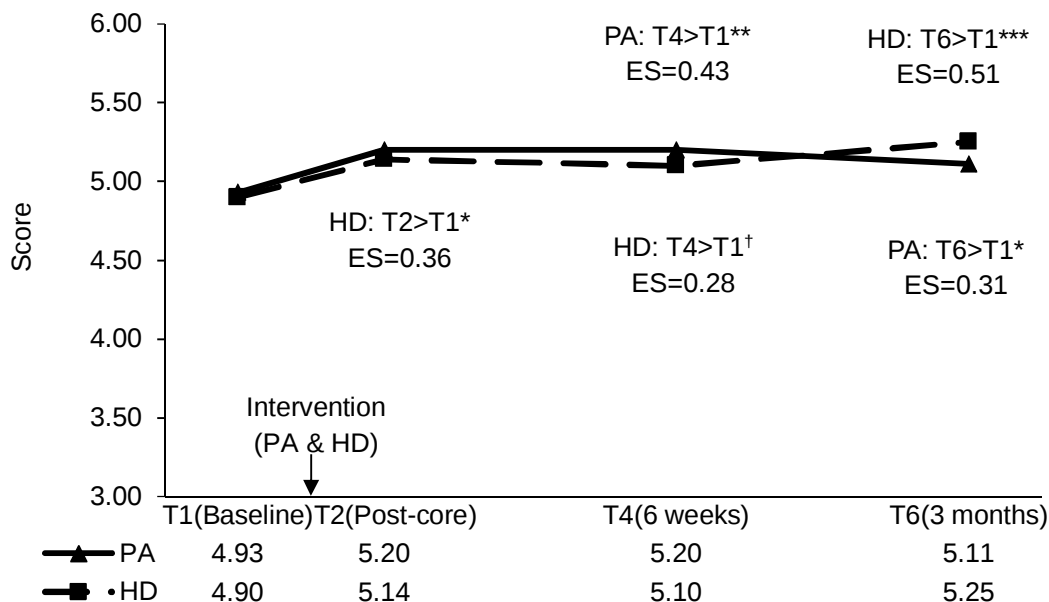
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

6-point Likert scale: "1=strongly disagree" to "6=strongly agree"

Outcome expectancies towards the practice of positive psychology constructs in interventions

Figure 4.13 shows significant increase in outcome expectancies towards the practice of positive psychology constructs in interventions only immediately after the core sessions and at 3 months in Group HD with small to medium effect size ($ES=0.36$, $p=0.017$ and $ES=0.51$, $p=0.001$, respectively). The outcome expectancies in Group PA significantly increased only at 6 weeks and 3 months with small effect size ($ES=0.43$, $p=0.006$ and $ES=0.31$, $p=0.044$, respectively). The 2 groups showed no significant difference in the changes. Note that both groups had the same positive psychology intervention.

Figure 4.13 Outcome expectancies towards the practice of positive psychology constructs in interventions (1-6)



† $p<0.10$; * $p<0.05$; ** $p<0.01$; *** $p<0.001$

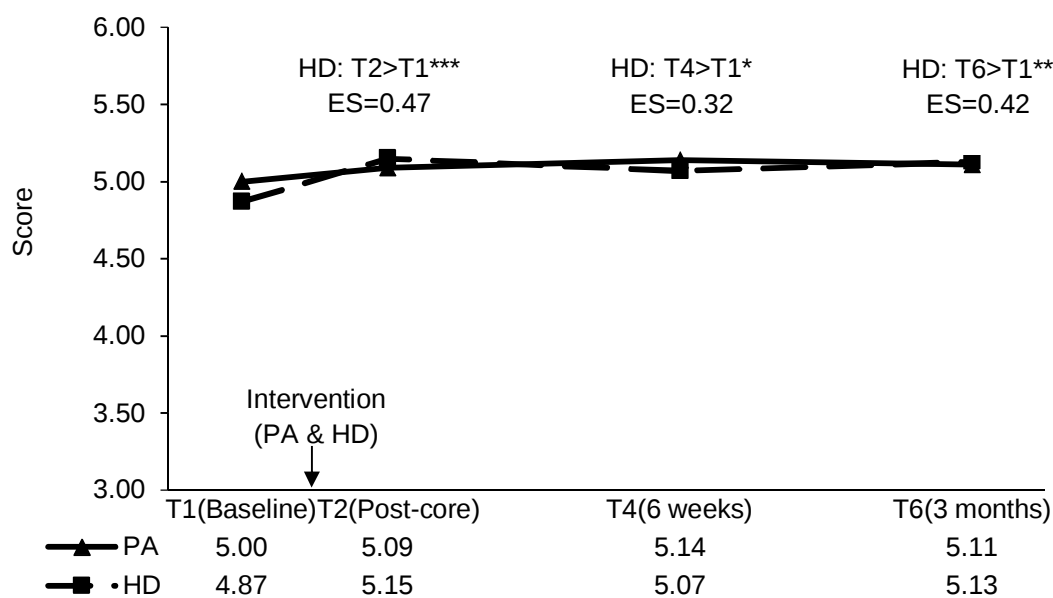
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

6-point Likert scale: "1=strongly disagree" to "6=strongly agree"

Intention to apply positive psychology constructs in interventions

Figure 4.14 shows significant increase in intention to apply positive psychology constructs in interventions immediately after the core sessions, at 6 weeks and 3 months in Group HD with small effect size ($ES=0.47$, $p<0.001$; $ES=0.32$, $p=0.020$; and $ES=0.42$, $p=0.003$, respectively). Group HD showed no significant increase. The 2 groups showed no significant difference in the changes. Note that both groups had the same positive psychology intervention.

Figure 4.14 Intention to apply positive psychology constructs in interventions (1-6)



* $p<0.05$; ** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

6-point Likert scale: "1=strongly disagree" to "6=strongly agree"

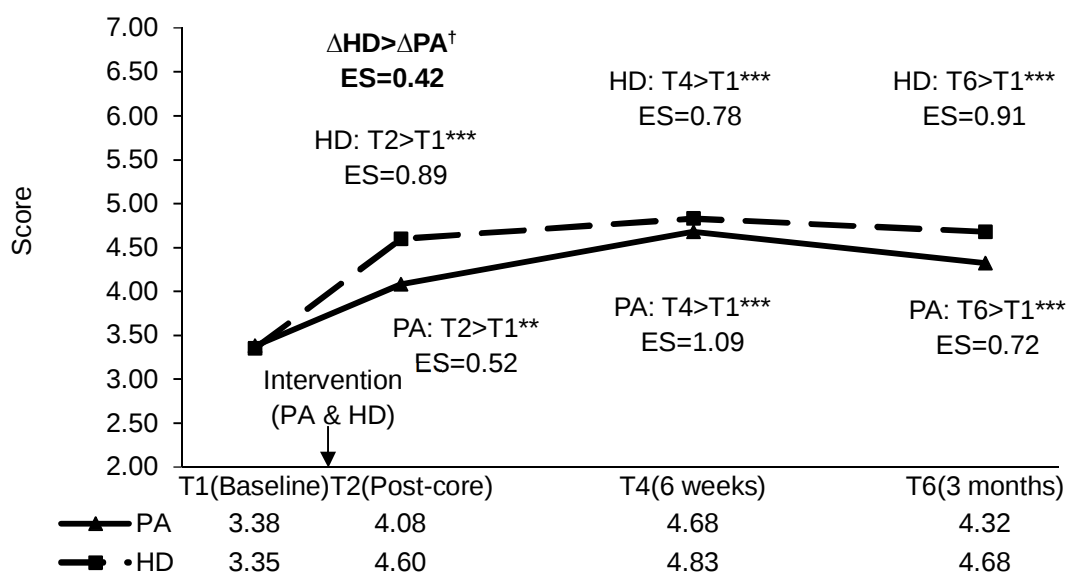
(D) The Logic Model

Knowledge of the general concept of the Logic Model

Figure 4.15 shows significant increase in knowledge of the general concept of the Logic Model immediately after the core sessions, at 6 weeks and 3 months in Group PA (ES=0.52, $p=0.003$; ES=1.09, $p<0.001$; and ES=0.72, $p<0.001$, respectively) and Group HD with medium to large effect size (ES=0.89, $p<0.001$; ES=0.78, $p<0.001$; and ES=0.91, $p<0.001$, respectively).

The increase in knowledge was marginally significantly greater only immediately after the core session in Group HD, with small effect size (ES=0.42, $p=0.091$) compared with Group PA. Noted that both groups had the same Logic Model intervention.

Figure 4.15 Knowledge of the general concept of the Logic Model (1-6)



$^\dagger p<0.10$; ** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

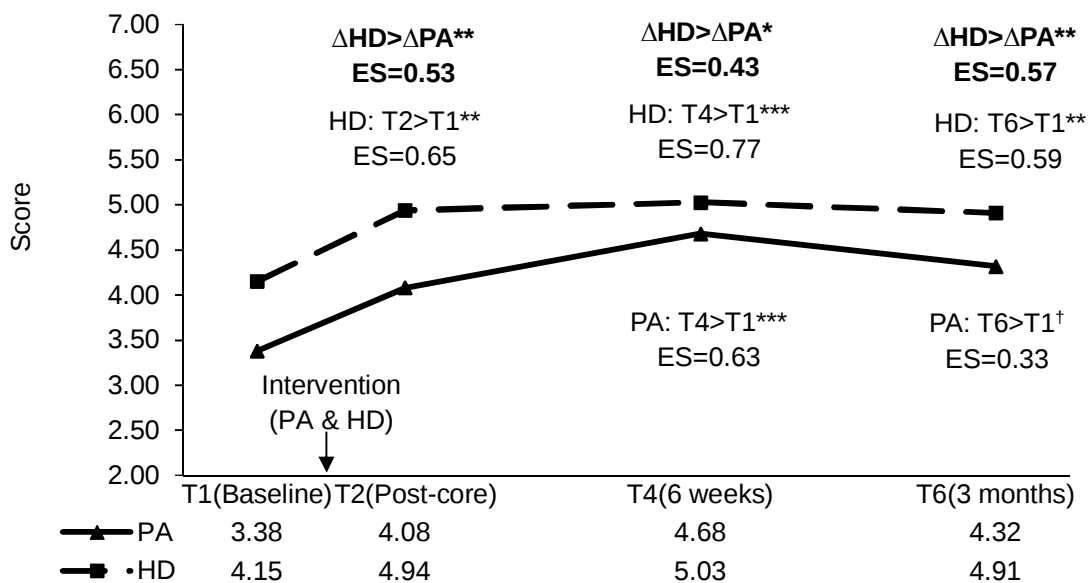
6-point Likert scale: "1=strongly disagree" to "6=strongly agree"

Self-efficacy in relation to using the Logic Model to design interventions

Figure 4.16 shows significant increase in self-efficacy in relation to using the Logic Model to design interventions immediately after core sessions, at 6 weeks and 3 months in Group HD with medium effect size ($ES=0.65$, $p=0.001$; $ES=0.77$, $p<0.001$; and $ES=0.59$, $p=0.002$, respectively). The self-efficacy in relation to using the Logic Model to design interventions in Group PA group significantly increased at 6 weeks ($ES=0.63$, $p<0.001$) and marginally significantly increased at 3 months ($ES=0.33$, $p=0.058$), with small to medium effect size.

The increases in self-efficacy of using the Logic Model to design interventions immediately after core sessions, at 6 weeks and 3 months were significantly greater in Group HD than Group PA ($ES=0.53$, $p=0.005$; $ES=0.43$, $p=0.022$; and $ES=0.57$, $p=0.002$, respectively). Noted that both groups had the same Logic Model intervention.

Figure 4.16 Self-efficacy in relation to using the Logic Model to design interventions (1-6)



$^{\dagger} p<0.10$; $^{*} p<0.05$; $^{**} p<0.01$; $^{***} p<0.001$

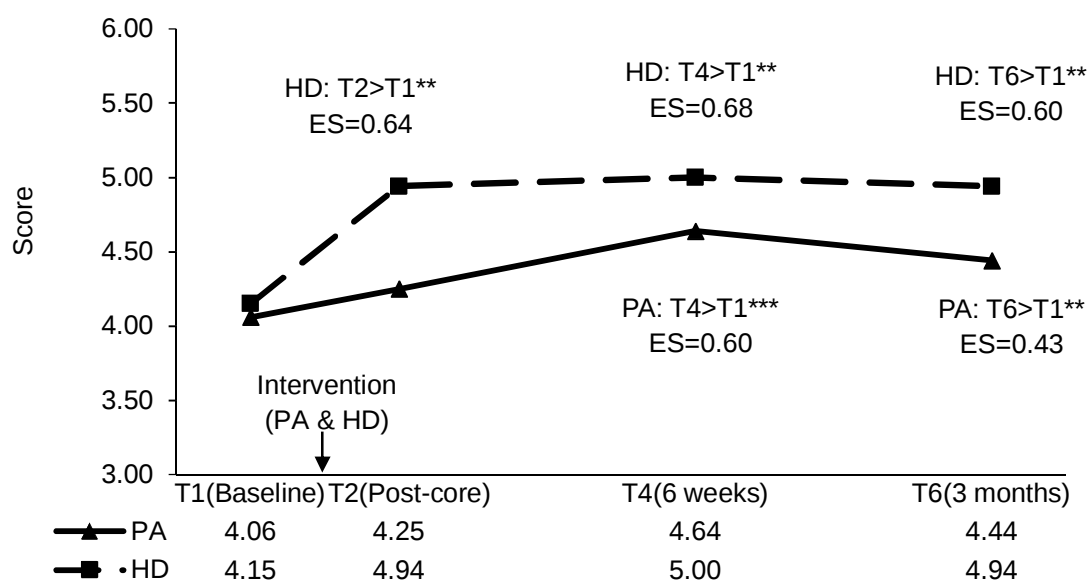
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

6-point Likert scale: "1=strongly disagree" to "6=strongly agree"

Outcome expectancies in relation to using the Logic Model in interventions

Figure 4.17 shows significant increase in outcome expectancies in relation to using the Logic Model in interventions in Group HD immediately after the core sessions at 6 weeks and 3 months ($ES=0.64$, $p=0.002$; $ES=0.68$, $p=0.001$; and $ES=0.60$, $p=0.002$, respectively) and in Group PA only at 6 weeks and 3 months ($ES=0.60$, $p=0.001$ and $ES=0.43$, $p=0.014$, respectively). The effect size ranged from small to medium. The 2 groups showed no significant difference in the changes. Noted that both groups had the same Logic Model intervention.

Figure 4.17 Outcome expectancies in relation to using the Logic Model in interventions (1-6)



$** p < 0.01$; $*** p < 0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

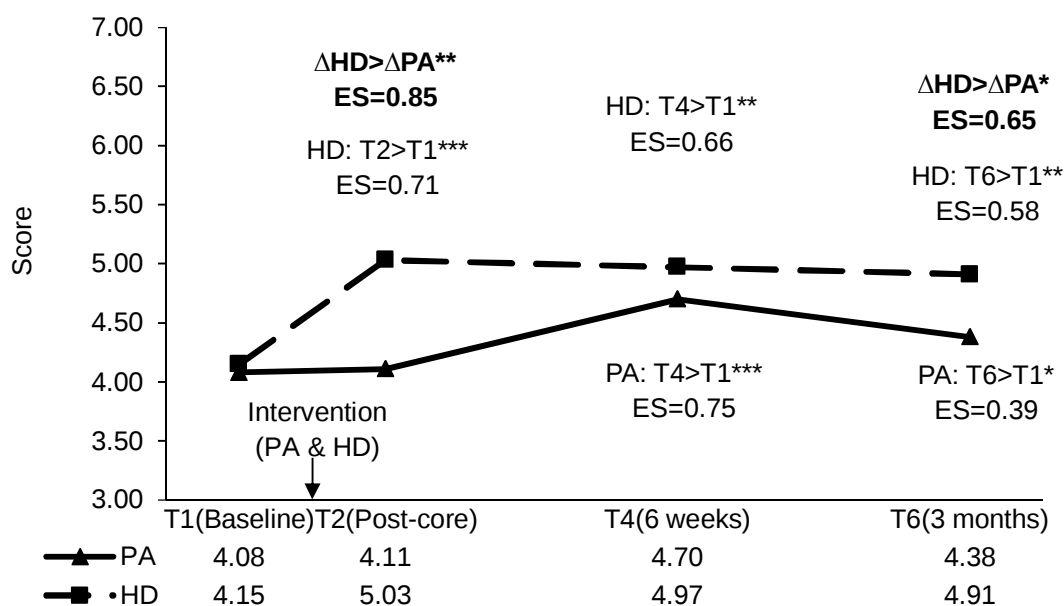
6-point Likert scale: "1=strongly disagree" to "6=strongly agree"

Intention to apply the Logic Model in interventions

Figure 4.18 shows significant increase in intention to apply the Logic Model in interventions immediately after the core sessions, at 6 weeks and 3 months in Group HD (ES=0.71, $p<0.001$; ES=0.66, $p=0.001$; and ES=0.58, $p=0.002$, respectively), and in Group PA at 6 weeks and 3 months (ES=0.75, $p<0.001$ and ES=0.39, $p=0.026$, respectively). The effect size ranged from small to medium.

The increases in intention immediately after the core sessions and at 3 months were significantly greater in Group HD than Group PA with small to medium effect size, indicating stronger effect in Group HD (ES=0.85, $p=0.001$ and ES=0.65, $p=0.011$, respectively). Noted that both groups had the same Logic Model intervention.

Figure 4.18 Intention to apply the Logic Model in interventions (1-6)



* $p<0.05$; ** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

6-point Likert scale: "1=strongly disagree" to "6=strongly agree"

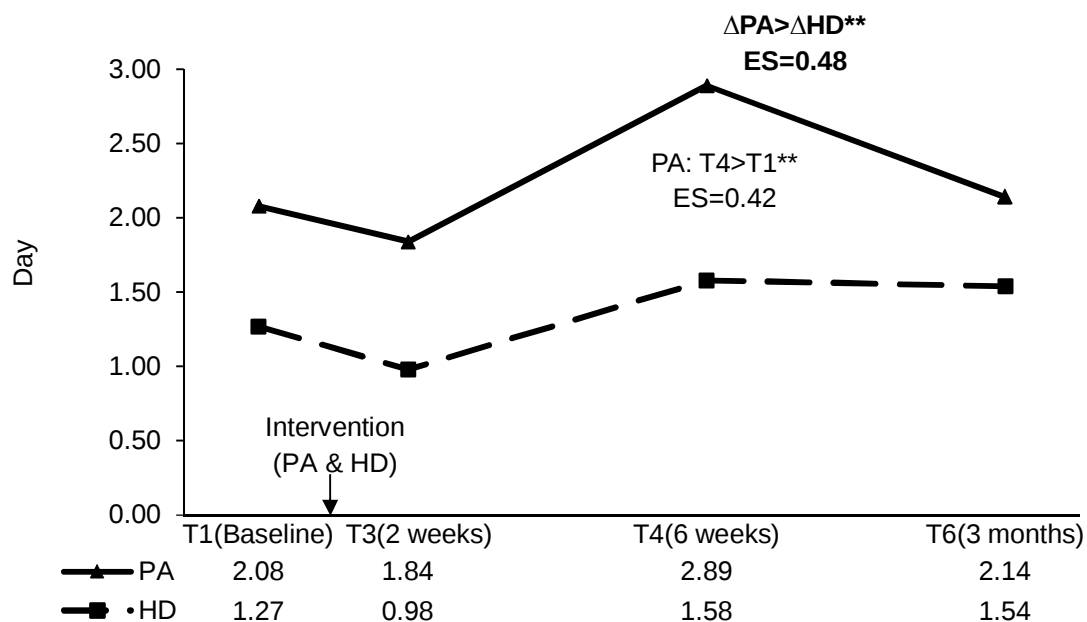
4.2.5.3.2 Physical activity

Moderate physical activity

Figure 4.19 shows a significant increase in moderate physical activity only at 6 weeks in Group PA with small effect size ($ES=0.42$, $p=0.015$). Group HD showed no significant increase.

The increase in moderate physical activity was significantly greater in Group PA than Group HD only at 6 weeks, indicating the short-term effectiveness of PA intervention with small effect size ($ES=0.48$, $p=0.035$).

Figure 4.19 Moderate physical activity (0-7 days)



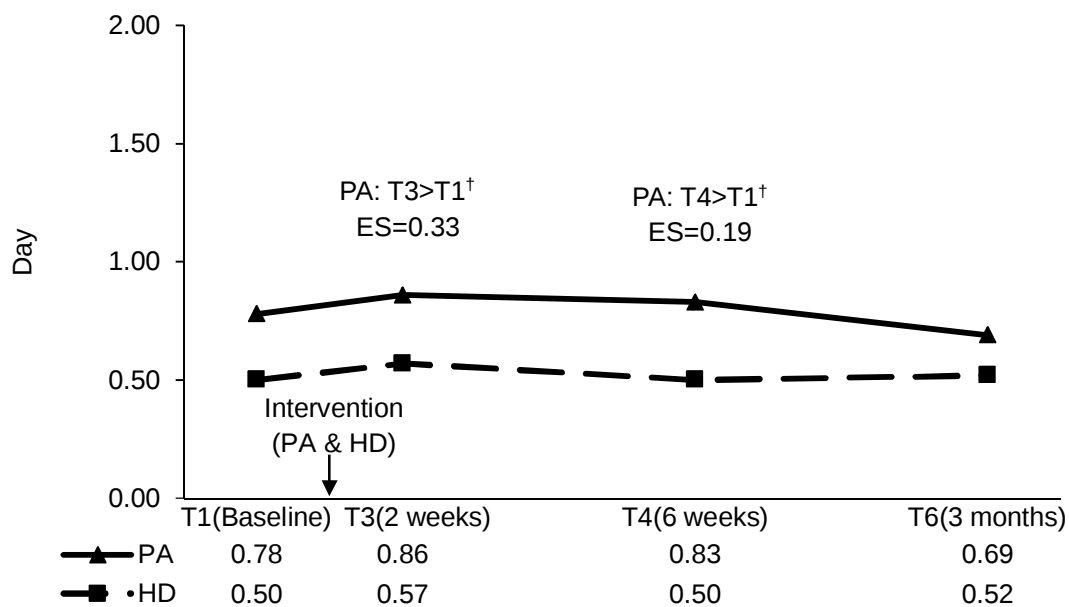
$^{**} p < 0.01$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Vigorous physical activity

Figure 4.20 shows marginally significant increase in vigorous physical activity at 2 weeks and 6 weeks in Group PA with small effect size ($ES=0.33$, $p=0.083$ and $ES=0.19$, $p=0.071$, respectively). Group HD showed no significant increase. The 2 groups showed no significant difference in the changes.

Figure 4.20 Vigorous physical activity (0-7 days)



[†] $p<0.10$; ** $p<0.01$

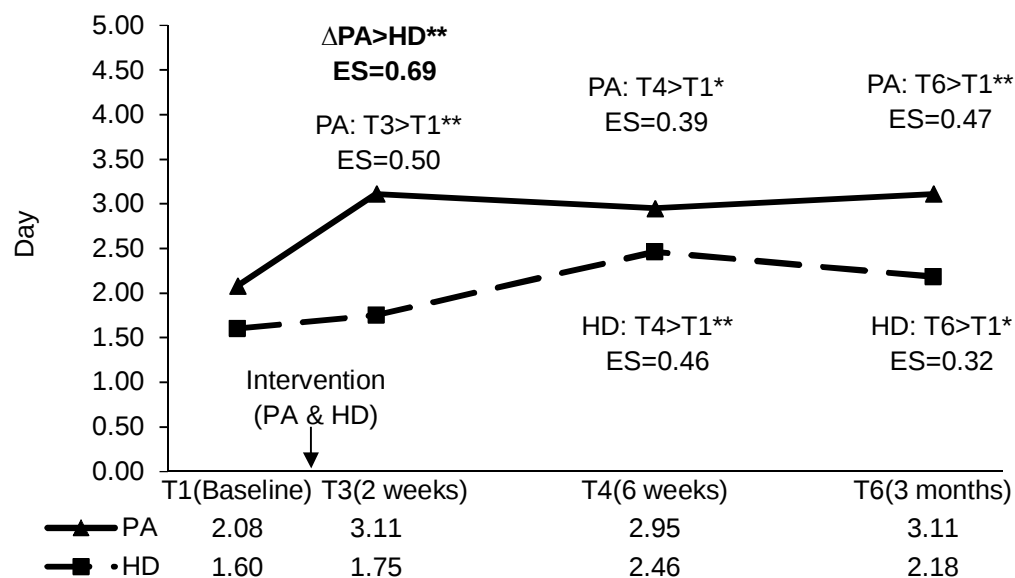
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Exercise while sitting

Figure 4.21 shows significant increase in exercise while sitting at 2 weeks, 6 weeks, and 3 months in Group PA with small to medium effect size ($ES=0.50$, $p=0.005$; $ES=0.39$, $p=0.016$; and $ES=0.47$, $p=0.007$, respectively). Exercise while sitting in HD group significantly increased at 6 weeks and 3 months with small effect size ($ES=0.46$, $p=0.003$ and $ES=0.32$, $p=0.039$, respectively).

The increase in exercise while sitting was significantly greater in Group PA than Group HD only at 2 weeks, indicating the short-term effectiveness of PA intervention with medium effect size ($ES=0.69$, $p=0.003$).

Figure 4.21 Exercise while sitting (0-7 days)



* $p<0.05$; ** $p<0.01$

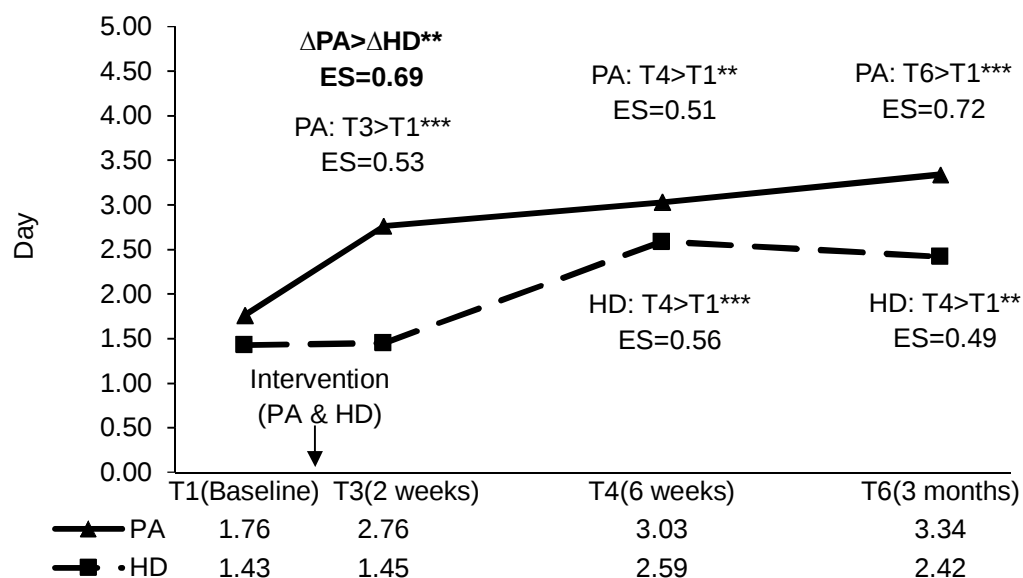
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Exercise while standing

Figure 4.22 shows significant increase in exercise while standing at 2 weeks, 6 weeks, and 3 months in Group PA with medium effect size ($ES=0.53$, $p=0.001$; $ES=0.51$, $p=0.003$ and $ES=0.72$, $p<0.001$, respectively). HD group showed significant increase at 6 weeks and 3 months with small to medium effect size ($ES=0.56$, $p<0.001$ and $ES=0.49$, $p=0.002$, respectively).

The increase in exercise while standing was significantly greater in Group PA than Group HD only at 2 weeks, indicating the short-term effectiveness of PA intervention with medium effect size ($ES=0.69$, $p=0.003$).

Figure 4.22 Exercise while standing (0-7 days)



** $p<0.01$; *** $p<0.001$

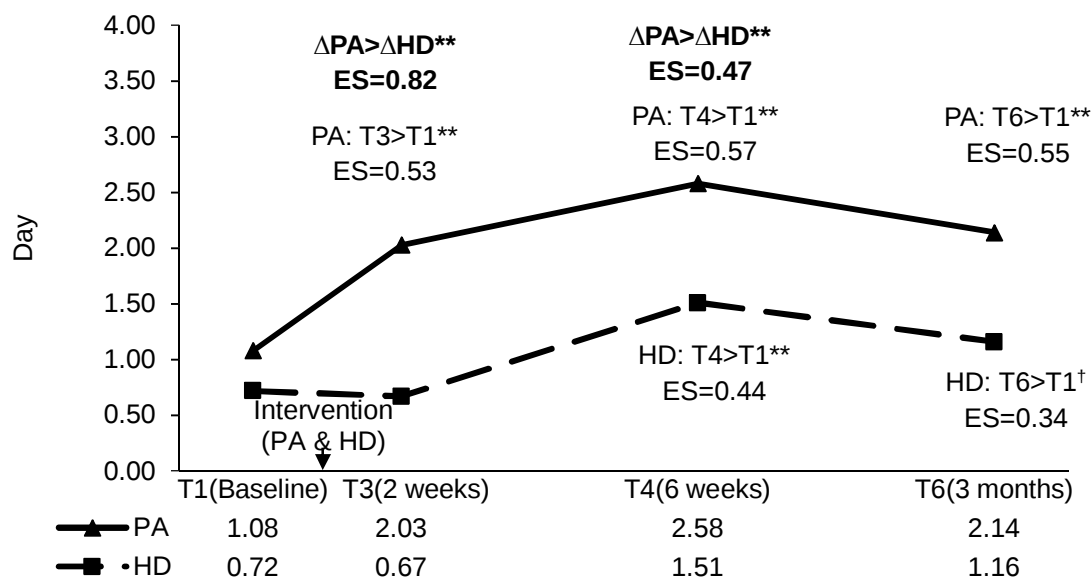
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Exercise while walking

Figure 4.23 shows significant increase in exercise while walking at 2 weeks, 6 weeks, and 3 months in Group PA (ES=0.53, $p=0.003$; ES=0.57, $p=0.002$; and ES=0.55, $p=0.003$, respectively). Exercise while walking in Group HD significantly increased only at 6 weeks (ES=0.44, $p=0.001$) and marginally significantly increased only at 3 months (ES=0.34, $p=0.061$), but it had no significant increase immediately at 2 weeks.

The increase in exercise while walking at 2 weeks and 6 weeks were significantly greater in Group PA than Group HD (ES=0.82, $p=0.001$ and ES=0.47, $p=0.002$, respectively). The 2 groups showed no significant difference in the changes.

Figure 4.23 Exercise while walking (0-7 days)



[†] $p < 0.10$; ^{**} $p < 0.01$

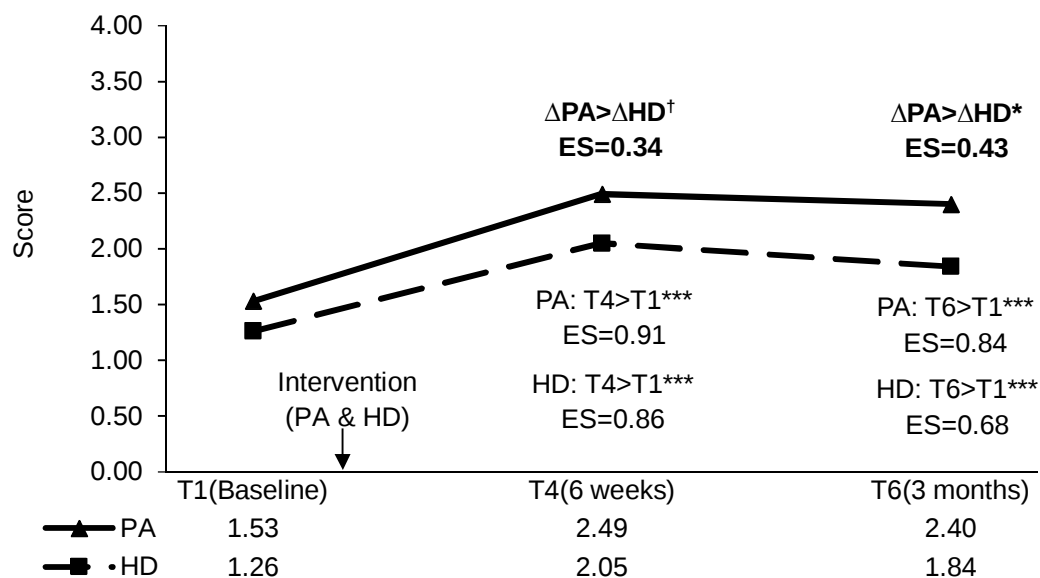
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Doing ZTEEx with family members

Figure 4.24 shows significant increase in doing ZTEEx with family members at 6 weeks and 3 months in Group PA (ES=0.91, $p<0.001$ and ES=0.84, $p<0.001$, respectively) and Group HD (ES=0.86, $p<0.001$ and ES=0.68, $p<0.001$, respectively). The effect size ranged from medium to large.

The increase in doing ZTEEx with family members in Group PA was greater than Group HD only at 3 months, indicating the longer-term effectiveness of PA intervention with medium effect size (ES=0.43, $p=0.035$).

Figure 4.24 Doing ZTEEx with family (1-5)



$^{\dagger} p<0.10$; $*$ $p<0.05$; $*** p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

4.2.5.3.3 Physical fitness performance

Table 4.4 shows significant increase in number of stands of the 30-second chair stand test, the duration of standing with single leg and the length of chair sit-and-reach test in both groups PA and HD at 1 month with small to large effect size (ES=0.66-1.17, $p<0.001$ and ES=0.34-0.77, $p<0.05$, respectively).

At one month, body weight significantly decreased in Group PA with medium effect size (ES=0.54, $p=0.002$) and right hand grip strength significantly increased in Group HD with small effect size (ES=0.42, $p=0.004$).

The increase in number of stands of the 30-second chair stand test at one month was significantly greater in Group PA than Group HD, indicating the effectiveness of PA intervention with large effect size (ES=0.96, $p<0.001$).

Table 4.4 Physical fitness performance

Group PA (n=43)			Group HD (n=54)			Difference in changes between 2 groups
Pre-training	1 month	Pre → 1month	Pre-training	1 month	Pre → 1month	
Mean (SD)	Mean (SD)	p -value ^a ES ^b	Mean (SD)	Mean (SD)	p -value ^a ES ^b	p -value ^a ES ^b
Body weight (kg¹)						
58.72 (11.08)	58.26 (10.86)	0.002/ 0.54	58.52 (10.97)	58.67 (10.88)	0.86/ 0.03	0.41/ 0.18
30-second chair stand test (no. of chair stands²)						
22.30 (5.76)	28.53 (6.89)	<0.001***/ 1.17	21.19 (4.59)	23.27 (4.98)	<0.001***/ 0.55	<0.001***/ 0.96
Single leg stance test (0-120 seconds³)						
71.74 (28.48)	95.37 (36.20)	<0.001***/ 0.70	78.76 (32.70)	103.2 (29.77)	<0.001*** 0.77	0.31/ 0.22
Chair sit-and-reach test (cm⁴)						
1.85 (9.56)	4.43 (9.19)	<0.001***/ 0.66	1.12 (9.39)	2.80 (8.38)	0.026/ 0.34	0.24/ 0.12
Hand grip strength - Left (kg⁵)						
26.48 (7.55)	26.93 (7.77)	0.26/ 0.18	26.70 (8.39)	26.82 (8.94)	0.84/ 0.22	0.63/ 0.10

Group PA (n=43)			Group HD (n=54)			Difference in changes between 2 groups
Pre-training	1 month	Pre → 1month	Pre-training	1 month	Pre → 1month	
Mean (SD)	Mean (SD)	<i>p</i> -value ^a ES ^b	Mean (SD)	Mean (SD)	<i>p</i> -value ^a ES ^b	<i>p</i> -value ^a ES ^b
Hand grip strength - Right (kg⁶)						
28.69 (8.00)	28.87 (7.89)	0.71 / 0.07	27.62 (9.24)	28.97 (9.73)	0.004/ 0.42	0.11/ 0.34

^a *p*-value for the difference between baseline and one month follow-up: *** *p*<0.001

^b ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

¹ n=91, ² n=91, ³ n=74, ⁴ n=89, ⁵ n=92, ⁶ n=97

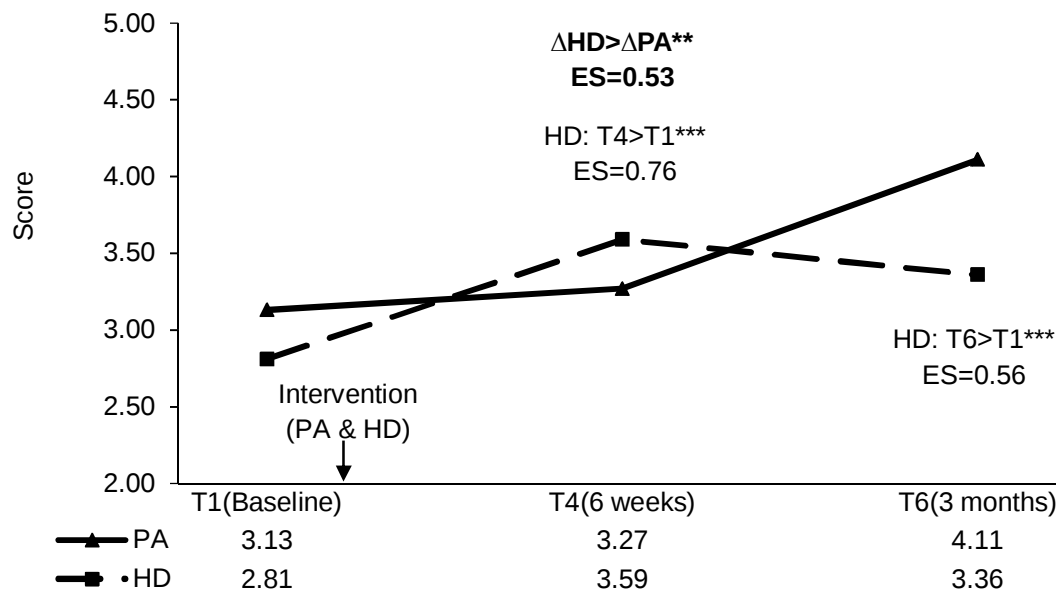
4.2.5.3.4 Low sugar consumption dietary practices

Adopting low sugar consumption dietary practices

Figure 4.25 shows significant increase in adopting low sugar consumption practices at 6 weeks and 3 months in Group HD with medium effect size ($ES=0.76$, $p<0.001$ and $ES=0.56$, $p<0.001$, respectively). Group PA showed no significant increase.

The increase in adopting low sugar consumption practices was significantly greater in Group HD than Group PA only at 6 weeks, indicating the short-term effectiveness of HD intervention with medium effect size ($ES=0.53$, $p=0.001$).

Figure 4.25 Adopting low sugar consumption dietary practices (1-5)



$^{**} p<0.01$; $^{***} p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

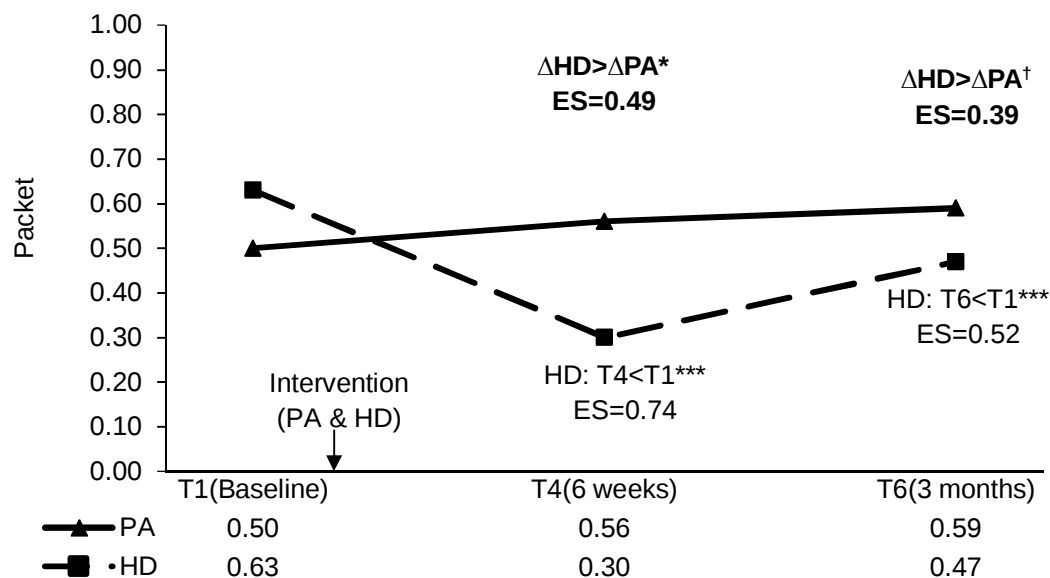
5-point Likert scale: "1=never" to "5=always"

Practice of adding sugar in beverages

Figure 4.26 shows significant decrease in putting sugar in beverages at 6 weeks and 3 months in Group HD with medium effect size ($ES=0.74$, $p<0.001$ and $ES=0.52$, $p<0.001$, respectively). Group PA showed no significant increase.

The decreases in putting sugar in beverages were significantly greater at 6 weeks and marginally significantly greater at 3 months in Group HD than Group PA, indicating the effectiveness of HD intervention with medium effect size ($ES=0.49$, $p=0.023$).

Figure 4.26 Practice of adding sugar in beverages



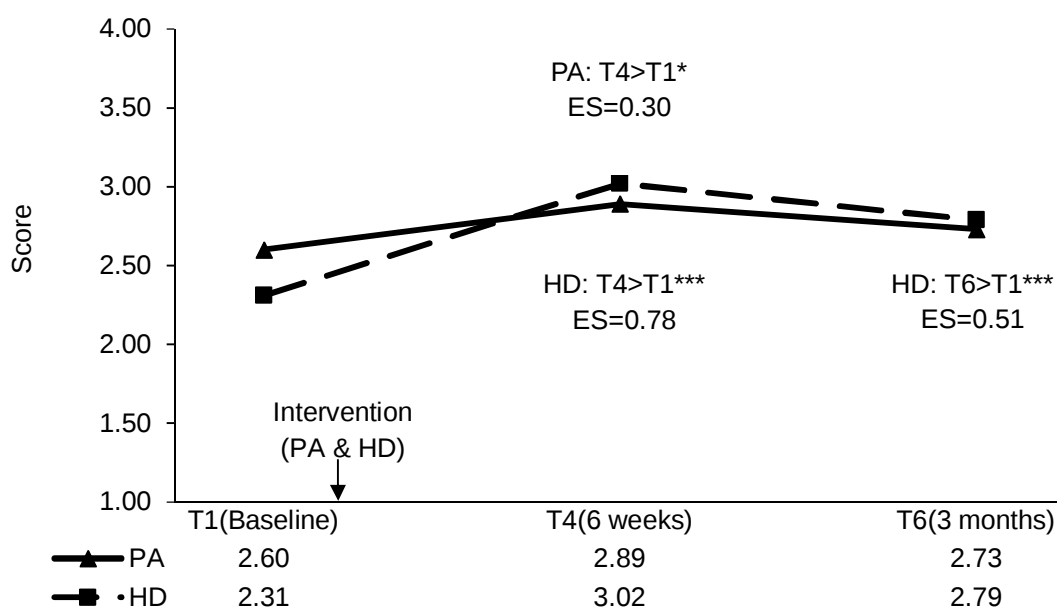
† $p<0.10$; * $p<0.05$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Adopting low sugar consumption dietary practices with family members

Figure 4.27 shows significant increase in adopting low sugar consumption practices with family members at 6 weeks and 3 months in Group HD with medium effect size ($ES=0.78$, $p<0.001$ and $ES=0.51$, $p<0.001$, respectively). The increase in Group PA was significant increase only at 6 weeks with small effect size ($ES=0.30$, $p=0.046$). The 2 groups showed no significant difference in the changes.

Figure 4.27 Adopting low sugar consumption dietary practices with family members (1-5)



* $p<0.05$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

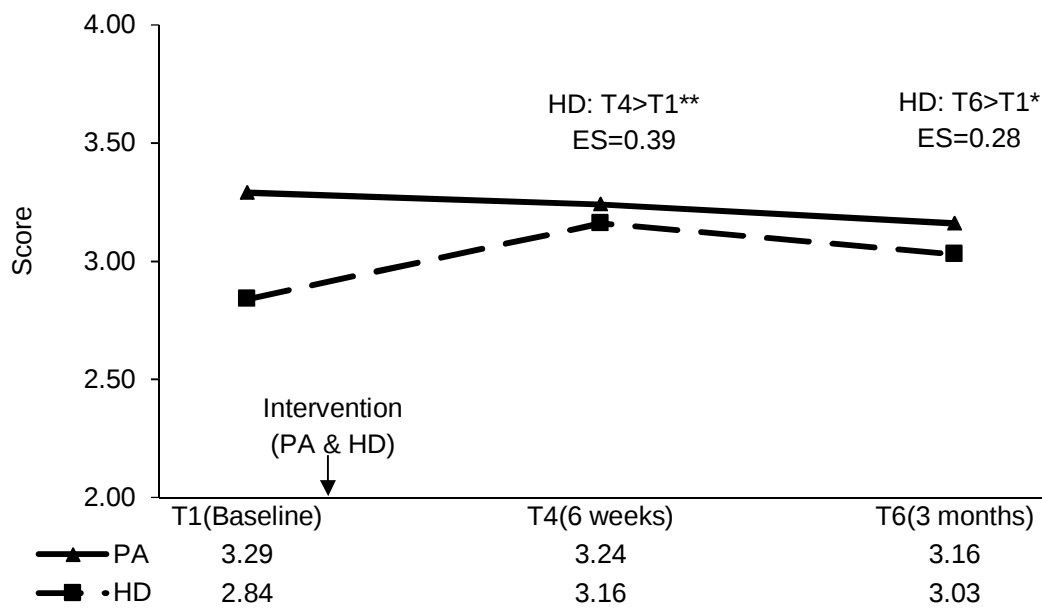
5-point Likert scale: "1=never" to "5=always"

4.2.5.3.5 Family communication

Praising family members

Figure 4.28 shows significant increase in praising family members at 6 weeks and 3 months in Group HD with small effect size ($ES=0.39$, $p=0.006$ and $ES=0.28$, $p=0.040$, respectively). Group PA showed no significant increase. The 2 groups showed no significant difference in the changes. Note that the 2 groups had the same positive psychology intervention.

Figure 4.28 Praising family members (1-5)



* $p<0.05$; ** $p<0.01$

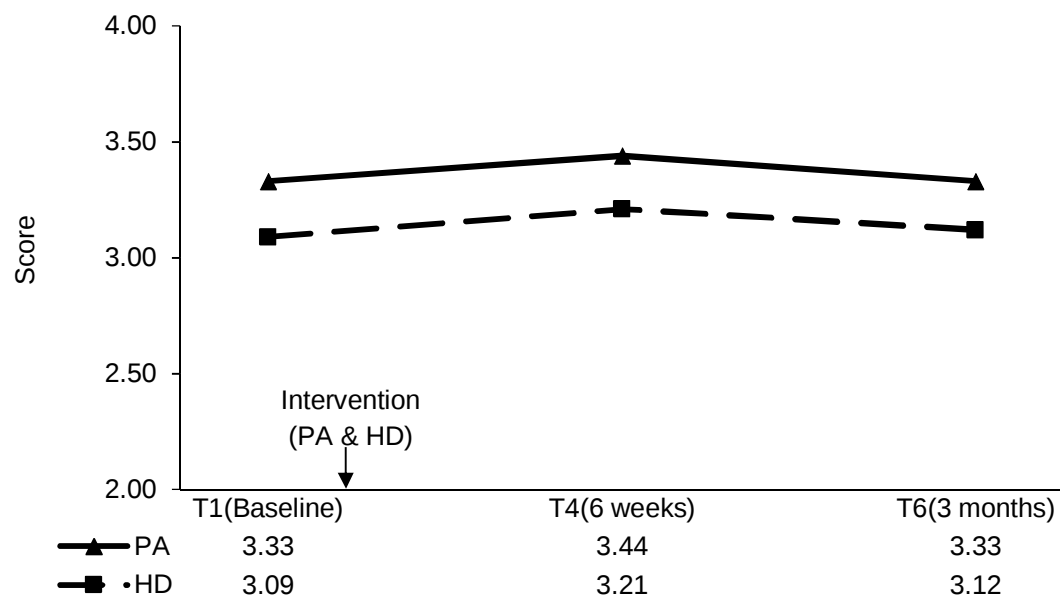
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

5-point Likert scale: "1=never" to "5=always"

Expressing gratitude to family members

Figure 4.29 shows no significant increase in the practice of expressing gratitude to family members in Groups PA and HD. The 2 groups showed no significant difference in the changes. Note that the 2 groups had the same positive psychology intervention.

Figure 4.29 Expressing gratitude to family members (1-5)

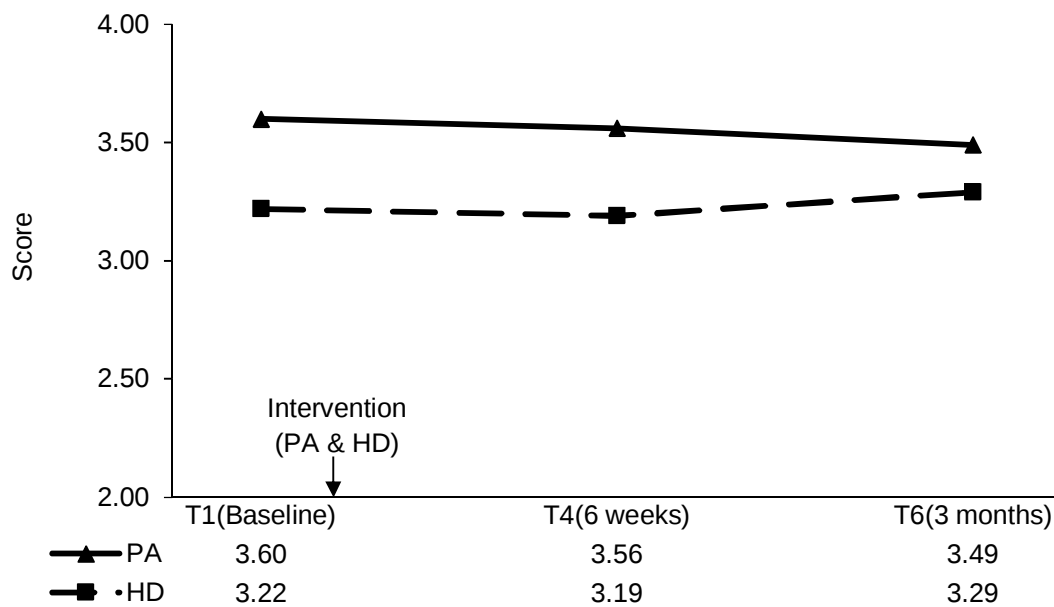


5-point Likert scale: "1=never" to "5=always"

Sharing happy experience with family members

Figure 4.30 shows no significant increase in the practice of sharing happy experience with family members in Groups PA and HD at 6 weeks and 3 months. The 2 groups showed no significant difference in the changes. Note that the 2 groups had the same positive psychology intervention.

Figure 4.30 Sharing happy experience with family members (1-5)

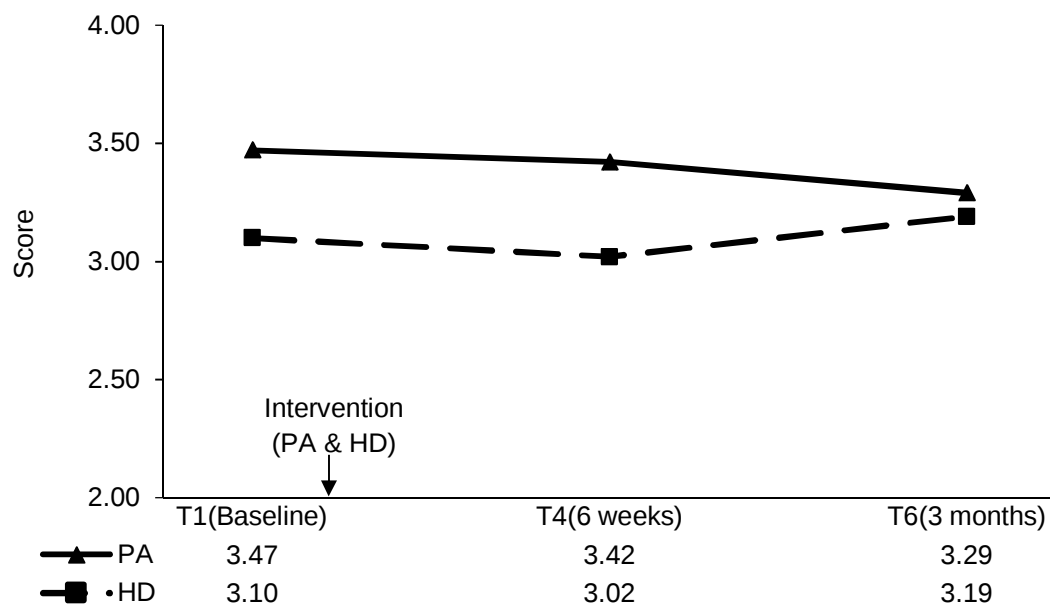


5-point Likert scale: "1=never" to "5=always"

Savouring the good time with family members

Figure 4.31 shows no significant increase in the practice of savouring the good time with family members in Groups PA and HD. The 2 groups showed no significant difference in the changes. Note that the 2 groups had the same positive psychology intervention.

Figure 4.31 Savouring the good time with family members (1-5)



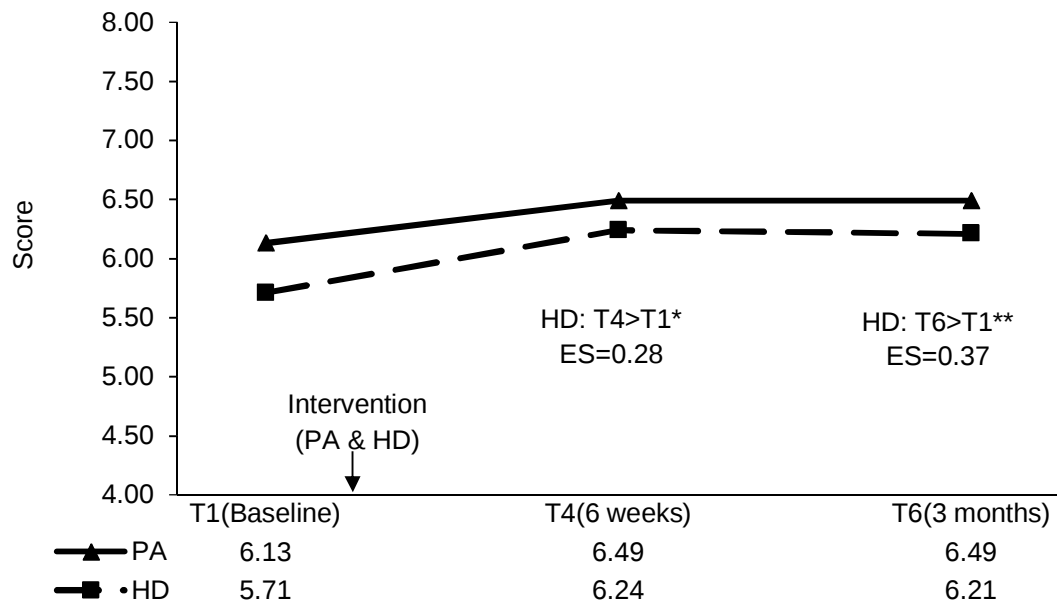
5-point Likert scale: "1=never" to "5=always"

4.2.5.3.6 Self-reported well-being

Self-reported personal health

Figure 4.32 shows significant increase in personal health at 6 weeks and 3 months in Group HD with small effect size ($ES=0.28$, $p=0.040$ and $ES=0.37$, $p=0.008$, respectively). Group PA showed no significant increase. The 2 groups showed no significant difference in the changes.

Figure 4.32 Self-reported personal health (0-10)



* $p<0.05$; ** $p<0.01$

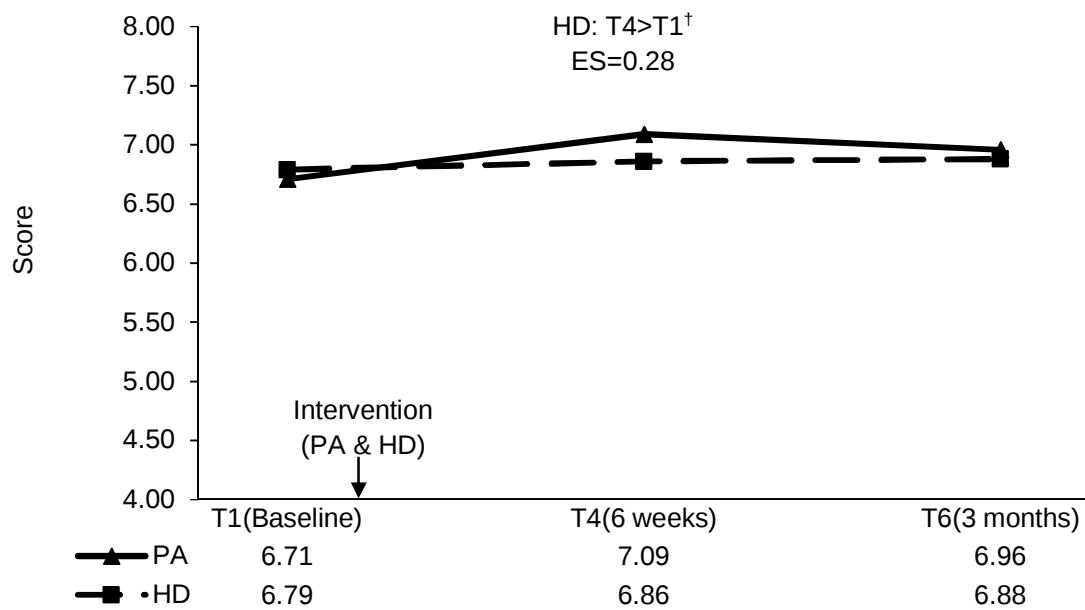
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=very unhealthy/unhappy/disharmonious" to "10=very healthy/happy/harmonious"

Self-reported personal happiness

Figure 4.33 shows a marginally significant increase in self-reported personal happiness at 6 weeks in Group HD with small effect size ($ES=0.28$, $p=0.078$). Group PA showed no significant increase. The 2 groups showed no significant difference in the changes.

Figure 4.33 Self-reported personal happiness (0-10)



[†] $p<0.10$

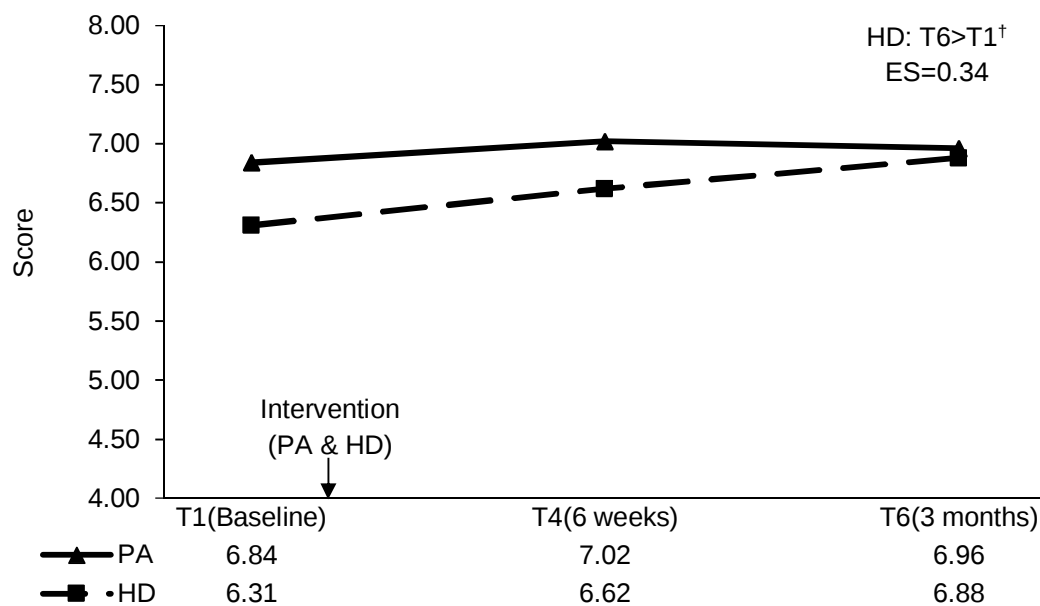
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=very unhealthy/unhappy/disharmonious" to "10=very healthy/happy/harmonious"

Self-reported FAMILY health

Figure 4.34 shows a marginally significant increase in self-reported FAMILY health only at 3 months in Group HD with small effect size ($ES=0.34$, $p=0.078$). Group PA showed no significant increase. The 2 groups showed no significant difference in the changes.

Figure 4.34 Self-reported FAMILY health (0-10)



[†] $p < 0.10$

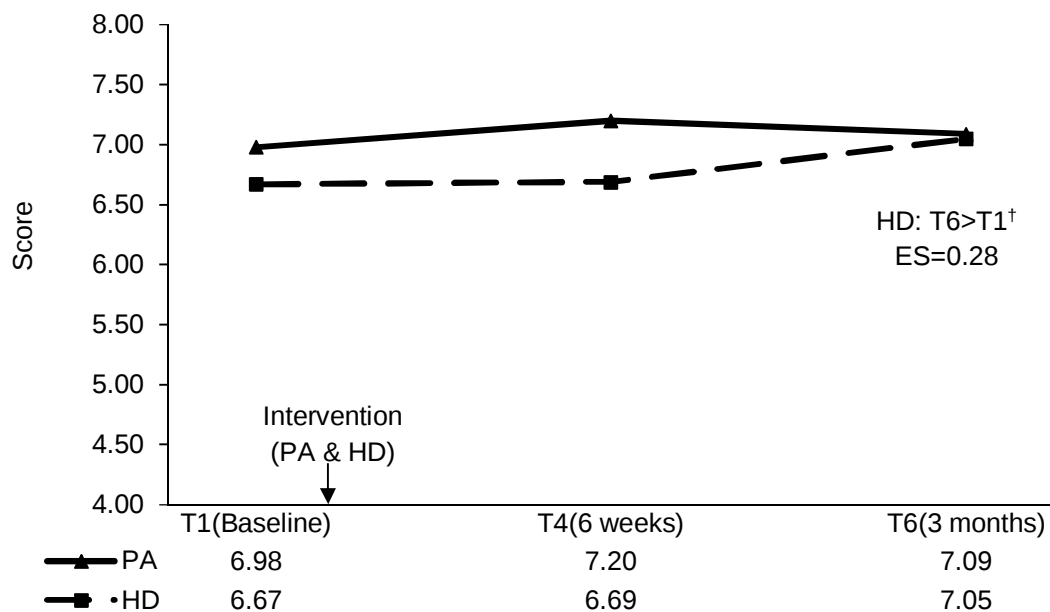
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=very unhealthy/unhappy/disharmonious" to "10=very healthy/happy/harmonious"

Self-reported FAMILY happiness

Figure 4.35 shows a marginally significant increase only at 6 weeks in Group HD with small effect size ($ES=0.28$, $p=0.088$). Group PA showed no significant increase. The 2 groups showed no significant difference in the changes.

Figure 4.35 Self-reported FAMILY happiness (0-10)



$^{\dagger} p < 0.10$

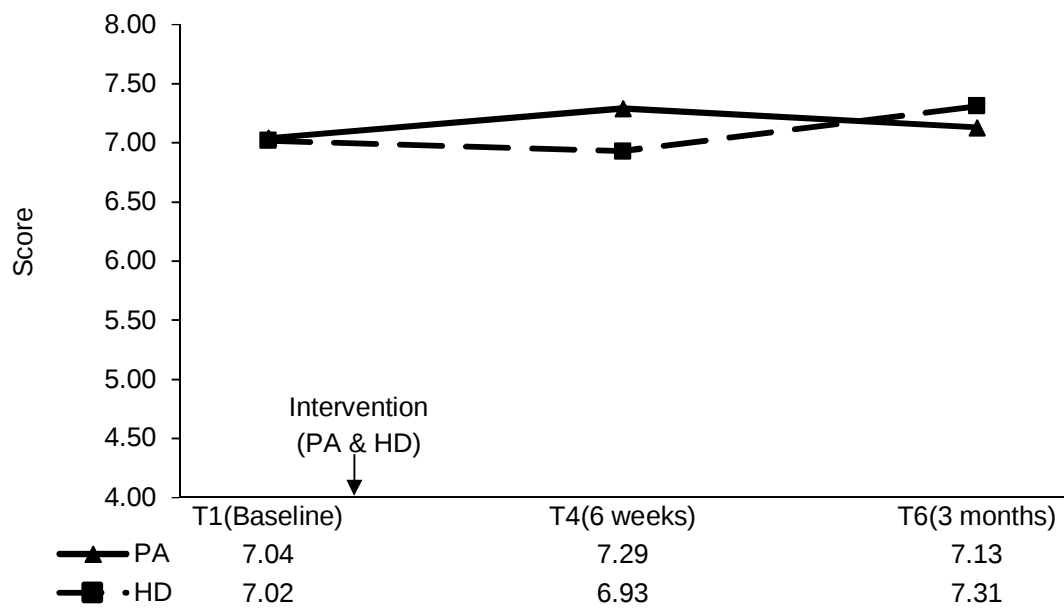
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=very unhealthy/unhappy/disharmonious" to "10=very healthy/happy/harmonious"

Self-reported FAMILY harmony

Figure 4.36 shows no significant increase in self-reported FAMILY harmony in Groups PA and HD. The 2 groups showed no significant difference in the changes.

Figure 4.36 Self-reported FAMILY harmony (0-10)



10-point Likert scale: "0=very unhealthy/unhappy/disharmonious" to "10=very healthy/happy/harmonious"

4.2.5.3.7 Subjective changes in family communication, ZTE_x, and low sugar consumption dietary practices

Table 4.5 shows no significant difference in the self-reported changes of family positive communication between Groups PA and HD.

The subjective self-reported positive changes in doing ZTE_x by themselves and with their family members were significantly greater in Group PA than Group HD, indicating the effectiveness of PA intervention with medium effect size (ES=0.66, $p<0.001$ and ES=0.66, $p=0.004$, respectively).

The subjective self-reported positive changes in adopting low sugar consumption practice by themselves and with their family members were significantly greater in Group HD than Group PA indicating the effectiveness of HD intervention with large effect size (ES=1.39, $p<0.001$ and ES=1.25, $p<0.001$, respectively).

Table 4.5 Subjective changes in family communication, ZTE_x and low sugar consumption practice (1-5)

	Group PA (n=33)	Group HD (n=34)	<i>p</i> -value/ ES
	Mean (SD)	Mean (SD)	
Comparing with before joining the training programmes, how you rate the changes on your behaviour?			
Family communications			
Praising family members	3.64 (1.09)	3.62 (1.32)	0.90/0.02
Expressing gratitude to family members	3.70 (0.53)	3.56 (1.05)	0.30/0.11
Sharing happy experience with family members	3.61 (0.56)	3.62 (0.55)	0.93/0.01
Savouring the good time with family members	3.70 (0.59)	3.65 (0.69)	0.75/0.09
ZTE_x			
Doing ZTE _x	3.91 (0.52)	3.32 (0.68)	<0.001***/ 0.66
Doing ZTE _x with family members	3.52 (0.51)	3.12 (0.59)	<0.01**/ 0.66
Sugar consumption practices			
Adopting low sugar consumption practices	3.28 (0.52)	4.06 (0.60)	<0.001***/ 1.39

	Group PA (n=33)	Group HD (n=34)	p-value/ ES
	Mean (SD)	Mean (SD)	
Adopting low sugar consumption practices with family members	3.22 (0.49)	3.82 (0.67)	<0.001***/ 1.25

* $p<0.05$; ** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

5-point scale: "1=a lot less than before" to "5=a lot more than before"

4.2.5.4 Feedbacks on the training workshops

We observed that trainees in both PA and HD groups were highly involved with enthusiasm in the training. They appreciated the training very much, particularly the physical fitness assessments, ZTEx demonstration and in-class practice, and lots of interaction between interventionists (trainers) and trainees. The workshops' atmosphere was joyful with active participation.

The trainees in Group HD appreciated the training and our good preparation work. They were impressed by the emptied beverage bottles which contained sugar granules of the same amount of sugar in the drinks. They liked the souvenirs very much, particularly the hand grip (for Group PA), and tablemats with information of sugar and salt content of different kinds of drinks and food (for Group HD).

At 3 months, Table 6 shows no significant difference in the extent of agreement on the quality of training content (Group PA: 7.06-7.33 and Group HD: 7.24-7.47), the scores of utility (Group PA: 6.82-6.88 and Group HD: 6.97-7.38) and the overall evaluation of the workshops (Group PA: 6.94 and Group HD: 7.35) between Group PA and Group HD.

94% of the trainees in Group PA and all trainees in Group HD indicated that they would share what the learnt to their family and friends. 94% of the trainees in Group PA and 97% of the trainees in Group HD indicated that they would apply the training content onto future programme.

Table 4.6 Feedbacks on the training workshops (0-10)

	Group PA (n=33)	Group HD (n=34)	p-value
	Mean (SD)	Mean (SD)	
The quality of training content			
The training content achieved the training objectives	7.06 (1.09)	7.24 (1.32)	0.56
The training increased my knowledge in design and implementing the intervention activities programme	7.33 (1.02)	7.47 (1.05)	0.59
The training increased my skills in design and implementing the intervention activities programme	7.24 (1.5)	7.32 (1.09)	0.77
The level of utility of the training			
The knowledge and/or skills I acquired can be applied to my daily life	6.88 (1.62)	7.38 (1.32)	0.17
The knowledge and/or skills I acquired improved the programme design	6.82 (1.42)	7.24 (1.39)	0.23
The training helped improvement in developing family activities and/or policy for their organisations	6.82 (1.31)	6.97 (1.17)	0.62
The overall evaluation of the workshop			
Level of satisfaction on the training workshop	6.94 (1.24)	7.35 (1.13)	0.16
	n (%)	n (%)	
Intention to share the learnt from this training to their family and friends	31 (94)	34 (100)	1.00
Intention to apply the training content onto future programme	31 (94)	33 (97)	1.00

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=strongly disagree" to "10=strongly disagree"

4.2.5.5 Summary of quantitative results

Trainees in both Groups PA and HD actively participated with good interaction with the interventionists (trainers) and indicated that the training was comprehensive and applicable in real life practice.

Both Groups PA and HD showed increases in knowledge, self-efficacy, outcome expectancies and intention on using the learning from the training workshop (in relation to positive psychology, the Logic Model, ZTE_x, and low sugar consumption) in design and implementation of community programme. Physical activity, ZTE_x, physical fitness performance, low sugar consumption practices, and well-being significantly enhanced in both Groups PA and HD. The effect size ranged from small to large (Group PA: ES=0.34-1.24, $p<0.05$ and Group HD: ES=0.24-1.03, $p<0.05$).

Group PA showed significantly greater increases in competence on using ZTE_x concepts in interventions, physical activity, ZTE_x and physical fitness performance with small to large effect size (ES=0.43-1.10, $p<0.05$), compared with Group HD.

Group HD showed significantly greater increases in competence on using low sugar consumption constructs in interventions and adopting low sugar consumption practices with small to large effect size (ES=0.36-1.10, $p<0.05$), compared with Group PA.

Trainees have successfully implemented community-based positive psychology family-oriented holistic health intervention programmes. The responses of the community participants and the effectiveness of their implemented intervention programmes are presented in the following chapter.

The discussion and conclusions of the training programmes are presented in section 4.9 of this chapter.

4.2.6 Qualitative results

4.2.6.1 Demographic characteristics

Four focus group interviews were conducted for social service workers in September 2016 and November 2016. Table 4.7 shows that the majority of the trainees were aged 30-39 years (41%) and female (90%).

Table 4.7 Socio-demographic characteristics of trainees who joined the focus group interviews (n=29)

Characteristic	n (%)
Sex	
Male	3 (39)
Female	26 (62)
Age group (years)	
20-29	8 (23)
30-39	12 (23)
40-49	7 (15)
50-59	2 (23)
Education	
Secondary level	1 (46)
Tertiary level	28 (39)

4.2.6.2 Results and quotes

The main themes generated from the focus groups include “Programme implementation”, “Programme implications for community participants” and “Programme implications for social service workers”.

The trainees commented that (a) the workshops were well-organised with detailed explanations. The training activities were well-prepared; (b) the souvenir of hand grip in Group PA reminded them the importance of being active and to do exercise regularly and the table mats in Group HD alerted them to have healthy dietary practices. In addition, trainees commented their health knowledge, behaviours, family communication, and well-being were enhanced.

The main themes, subthemes, and categories relevant to the research questions in Chinese are illustrated below with translated quotations in English. Table 4.8 shows the quotes from

the social service workers in Group PA and Table 4.9 shows the quotes from the social service workers in Group HD.

Table 4.8 Quotes from the social service workers in Group PA

Theme	Subtheme	Quotes
Programme Implementation	Perceived participants' reactions	<u>Actively participated</u> “...個效果係好好嘅我自己覺得...即係同埋個氣氛，推行氣氛都係好好嘅，咁亦都有好多家長 feedback，即係因為我哋頭兩節都係搵一啲體適能嘅教練去做一啲運動嘅還節咁樣啦。跟住除咗講個套你哋提供個套 PowerPoint 之外，咁我哋都有做運動...” (社工，女，21 年社工經驗，B20202) “...I think the effects are very good...the atmosphere, when promoting (the programme) the atmosphere was good, and there were many parents gave feedback, because the first two sessions we invited some fitness trainers to do some exercise sessions. So besides the PowerPoint you provided, we also did some exercise...” (A social worker, female, 21 yr experience, B20202) “...我係要求佢哋跳零時間啲運動嘅，咁變相佢哋每一個小朋友又好，家長都好，你會係見到佢哋係記到某啲嘅「零時間運動」同埋呢真係好開心㗎，譬如一齊跳，一個帶動作啦，其他跟住佢，跟住 pass 俾下一個，其實你見到佢哋都係開心㗎...” (社工，女，2 年社工經驗，B10201) “Actually we asked them to do the ZTEx...so it turned out every kid, parent, you can see they could remember some ZTEx, and (they are) really happy...such as jump together, one leaded the exercise, others just followed him...and then passed it to the next...you can tell that they were all very happy...” (A social worker, female, 2 yr experience, B10201)
	Impressions from the trainers	<u>Positive approach</u> “同埋我諗係 phase-wise，喺 IFSC 呢個 setting 入面，日日都好淒慘呀，一家人又惡死呀，又拎包炭嚟你度呀，即係，即係啲啲咁。用返啲，正向啲嘅...嘅概念，同埋都唔駛咁...咁多戾氣啦。我諗即係，即係個人都會好啲嘅。” (社工，女，20 年社工經驗，B20205) “And I think it was phase-wise, in the setting of IFSC, everyday it was very miserable, such as (subject) got family member violently died, brought charcoal...just cases like this. (This project) used some...hmm...positive...concepts, (made it) less morbid air. I think... (it

Theme	Subtheme	Quotes
		is) good for individuals (who work for the programme).” (A social worker, female, 20 yr experience, B20205)
	Impressions from the trainers	“即係個溝通係，即係...都好嘅，即係你唔係吓吓都要 er 同個仔對著幹呀，要欣賞多啲小朋友呀。即係我覺得呢方面，即係比較係唔駛咁多負面嘅嘢囉，正能量其實係多嘅...” (社工，女，20 年社工經驗，B20205) “The communication, the...(concept) was good, like you are not stand up to the kids for everything, (but to) gratitude the kids more. I think in this part, there are less negative things (in the programme), but more positive energy.” (A social worker, female, 20 yr experience, B20205) <u>Well prepared activities</u> “我覺得好詳細嘅啲啲野，即係啲文件呀啲啲，其實...因為到...你已經知道邊啲嘢要填呀，有啲咩嘢要睇呀，咁有時我哋自己去帶嘅時候漏咗啲嘢都可以睇返。” (項目員工，女，19 年社工經驗，B20203) “I think it's very detailed, (such as) some documents, actually...because when it came to you, you already know where need to be filled, what to read, so sometimes when we go to lead (the programme) we can check back when something was missed.” (A programme staff, female, 19 yr experience, B20203) “我覺得 er...個培訓就好充足嘅，咁變咗啲設計活動個度，其實有好多料可以用返啲...即係啲個 training 度啲啲料呢可以用返落去自己個 programme 到...” (社工，女，21 年社工經驗，B20202) “I think...hmm...the training is very content, and then the project design part...there are actually many materials could be applied...to our own project.” (A social worker, female, 21 yr experience, B20202) “Er...資料豐富嘅...咁再花啲時間去睇多啲 substantial 嘅嘢，或者其他嘢嘅話，就推行個陣時，即係自己個信心都好啲囉。即係你起碼有個 basic 嘅底。” (社工，女，20 年社工經驗，B20205) “Hmm...(there are) very rich information...so (if I) spend more time on the substantial part etc, I will be more confident when promoting It is like at least you have the basic (knowledge).” (A social worker, female, 20 yr experience, B20205)

Theme	Subtheme	Quotes
		<u>Impressive activities</u> “我都覺得其實 mindfulness 呢一個呢係幾好嘅 concepts，因為呢我覺得呢，好...好適合我哋啲家長呀，因為我哋機構呢都好推 mindfulness 嘅，咁變相呢好知個成效其實好好㗎，因為變相當你運用緊「零時間運動」嗰陣呢，除咗話同啲家庭裡面有啲相聚嘅時候，而係自己心裡面有安靜嘅時間...” (社工，女，15 年社工經驗，B10202) “I think mindfulness is actually a very good concept, because I think, it is very suitable for our parents, our organisation is also promoting mindfulness. So now it is like (when we take the training) knowing it is very beneficial in another way, because when do the ZTE, besides the time the family spend together, (when you do it) you (also) have some inner peace time...” (A social worker, female, 15 yr experience, B10202) <u>Enough financial support</u> “我諗，我諗如果整體嚟講最開心...我諗 er...係有錢啦。其實好重要嘅，因為我哋搞三個 programme，我哋 serve 咗就幾十個家庭，對我哋呢個 scale 嘅 center 嚟講係好多嘅。咁所以我諗係好少機會俾咁多個家庭裡邊可以參加呢啲活動，我覺得呢個係最開心嘅咁樣。” (社工，女，10 年社工經驗，B20204) “I think, in general, the happiest thing is...Hmm...is having money reward. This is indeed very important because holding three programmes, and serving dozens of families are demanding for our centre in this (small) scale. But I think there were very little chance for such a large number of families to participate in these kind of activities, (therefore) I think this is the most favourable part.” (A social worker, female, 10 yr experience, B20204)
	Challenges	<u>Good preparation is needed before the training</u> “我會覺得係 trainer 之前嘅準備，即係對我嚟講我覺得係多嘢嘅，好 comprehensive 啦。你唔識個套嘅話呢...theory 呀，又或者做運動呀，你唔識嘅話就好難帶...去帶得到。” (社工，女，20 年社工經驗，B20205) “I think the preparation for trainer was a lot to me, very comprehensive. If you don't know about the training content... (such as) the theory, or exercise, it will be difficult for you to lead (the programme).” (A social worker, female, 20 yr experience, B20205)

Theme	Subtheme	Quotes
		<u>Difficult to keep the subjects</u> “不過我哋同事呢就真係花咗好多工夫呢，就例如每一次出活動之前呢去 phone call 曬每一個家庭啦，咁每一次...都話俾佢聽。喂，可能臨活動之前個 15 分鐘又再 call 啦即係要呢啲位不停咁去洗腦式呢令佢哋再嚟囉，咁當然啦我哋都唔係要講到啲家庭係咁現實嘅定點樣。咁實際上個運作的而且確有困難嚟度。” (社工，女，12 年社工經驗，B10204) “My colleagues had really made a lot of efforts (for the programme), for instance (we) called all of the (participating)families before the event every time, to inform them. Perhaps (we will) call (them) again 15 minutes before the events began....It's like brainwashing to let them come back again... it was really a challenge in implementation.” (A social worker, female, 12 yr experience, B10204) “我哋喺 recruitment 個度 er...都有啲難嘅，因為我哋係 er 家長加小朋友，咁啲小朋友有時都...即係細，都細過你哋 requirement 個個 age，但我哋都唔可以 leave children unattended at home，所以有時都要帶埋一啲小朋友嚟。咁我哋個 recruitment 其實需要啲時間做，因為係要佢哋三個 session 都嚟，都要嚟得囉，咁所以都要用啲時間去做囉。” (社工，女，20 年社工經驗，B20205) “When recruited, it was a bit difficult, because we...hmm...parents and the kids, the kids were...very young, younger than your criteria, but we couldn't leave the children unattended at home, so sometimes (the parents) will bring the kids together. And it takes some time to conduct the recruitment, because they need to attend the whole three sessions, so takes some time to do it.” (A social worker, female, 20 yr experience, B20205) <u>Lack of manpower</u> “咁另外就係都喺運作上感覺係吃力...即係人手真係多，起（碼）比我哋帶嘅組要多一倍，多一倍人。” (社工，女，6 年社工經驗，B10206) “Another thing would be the feeling of challenging in operation...the manpower is really not enough, at least we need double manpower, a double.” (A social worker, female, 6 yr experience, B10206)

Theme	Subtheme	Quotes
		<u>Questionnaires are difficult for elderly and less educated participants</u> “同埋有啲呢可能我哋紅磡區有啲家庭呢其實真係 er 嗰個學歷唔係好高，咁變相有啲文字，可能佢哋識睇中文字，但係成句呢佢哋理解唔到嗰個意思呀，咁可能有啲係 double negative 呢，佢哋其實唔係好理解到...所以呢就想睇返吓有無啲問卷啲意思可能簡單少少。”(社工，女，2 年社工經驗，B10201) “And maybe in some families in Hung Hom, actually they are really...Hmm...don't have high educational level, so turned out some terms, they can read Chinese, but the whole sentences they couldn't not really understand the meaning, such as some (sentences) were double negative, actually they couldn't really get it... so (we) want to ask if there are any simpler questionnaires.” (A social worker, female, 2 yr experience, B10201) “都係問卷好長，因為對佢嚟講有困難嘅...咁...花咗好多時間喺呢一方面反而，係啦。咁...變咗真係你話...都夠時，即係所謂我哋都可以 within 個 time 去完成個 programme。但係...你話佢哋真係攞...嗰刻係咪攞到好...好十足嘅信息又未必。”(社工，女，6 年社工經驗，B20207) “The questionnaire is very long, because it is difficult for them.... Ur...(it) took a lot of time on this, yes. So you can say the time is okay for us, it is like we could finish the event within the time (planned), but...if you concern about the message learning, I don't have much confident in it. (A social worker, female, 6 yr experience, B20207)

Theme	Subtheme	Quotes
Programme implications	For community participants	<u>Better family relationship</u> <u>More gratitude</u> “係，咁變相你係會見到小朋友會識得讚返媽咪，呢個...好少，我哋好少見到小朋友係主動去讚返媽咪，或者媽咪點樣主動讚返，真係讚呀嘛...咁變相我都要...要同返家長講呢樣嘢，其實佢哋都學到少少，咁當然佢哋都有表達返其實有少少難度㗎，因為你讚完佢就會好想佢做到某樣嘢㗎嘛。” (社工，女，2 年社工經驗，B10201) “Yes, so it is like you can see the child realised to gratitude the mum, this, was really rare (before). We rarely saw the kids actively praised the mums, or (saw) how the mothers gratitude the kids. So we needed to remind the parents (to do this), actually they really learnt some, of course they have said that it was a bit difficult, because after you praised them (kids) then you would be expecting them to make it.” (A social worker, female, 2 yr experience, B10201) “因為可能...做運動，因為我哋係做讚美嘅 part 嘅。除咗 verbally 讚，係言謝行動嗰度都有按摩呀，有啲小朋友都會錫自己嘅 parents 呀咁樣，都係 sweet 嘅。” (社工，女，20 年社工經驗，B20205) “Maybe because of...exercising, because we were doing the theme, gratitude. Besides verbal gratitude, there were also gratitude in action, (such as giving) massage, some kids would kiss their parents. As such, it is very sweet.” (A social worker, female, 20 yr experience, B20205) <u>More family interaction</u> “...同埋你見到佢哋都係嗰個「零時間運動」裡面呢佢哋可能平時無乜機會呢係同啲屋企人有 body touch 嘅，咁其實嗰啲位呢...我諗都係，佢哋 family 入面佢哋一個喜樂嘅片段囉...” (社工，女，12 年社工經驗，B10204) “...and you can see that the ‘ZTEx’, maybe usually they don’t have the chance to have body touch with family, so actually this part...I think it’s...a happy moment in their family...” (A social worker, female, 12 yr experience, B10204) “我覺得...咁我哋都有 32 個家庭，咁當中裡面你都會見到，當然唔係好多啦，但係可能有幾個家庭返到嚟你會見到佢哋每一節呢會係愈...好投入呀，同埋有時候呢，尤其是係小

Theme	Subtheme	Quotes
		朋友呀...小朋友都知道譬如可能係啲動作係點樣做先啱呀, 或者有咩用呀, 甚至你會見到...小朋友同媽媽嘅關係好咗㗎。”(社工, 女, 2 年社工經驗, B10201) “I think...we have 32 families (participated), so among them you can see, of course not too many, but maybe a few families, when they came back (to the event), you would see them very enjoyed each session, and sometimes, especially the kids...such as the kids knew how to do the moves (exercise), or what's the purpose of the moves (exercise), and even you can see the relationship between the kids and the mums were closer.” (A social worker, female, 2 yr experience, B10201) <u>Spent more time with family</u> “我哋覺得都 positive 嘅。因為...係好難得有個機會係可以叫到啲家人一齊嚟...我哋通常就擺喺禮拜六搞嘅啲活動, 咁就其實因為都有個限制, 因為好多長者都話「可唔可以自己嚟?」咁樣, 我話都鼓勵其實個個...即係個概念係想同家人一齊嚟啦成件事。咁佢哋就努力地就啖咗啲子女呀, 有啲就叫咗啲孫呀咁樣。咁反而我覺得係一個難得嘅機會可以即係等佢哋可以同啲家人有一個機會共同去學一啲野同做一啲野...真係去中心參加啲活動又或者學一啲嘅嘢其實係甚少出現。”(社工, 女, 6 年社工經驗, B20207) “I think it's very positive. Because, it's not easy to have such chance to come together with the family...usually we organise events on Saturdays, it's because of this limitation, because of many elderlies said they were not able to come themselves. I encouraged them that the concept (of this event) is to come with the whole family. So they would ask the grandchildren (to come). I think it turned out to be a rare chance for the family to do and learn something together...it was really rare (for these people) to participate the activities or learn something together to the centre.” (A social worker, female, 6 yr experience, B20207) “即係例如我哋頭先講特登去咗兩次 day camp...係佢哋平時都無去過嘅。咁所以你問我就係...對佢哋嚟講有一個機會, 因為我哋係一定要大加細咁樣去, 唔可以是旦一個咁自己去嚟嘛, 咁對佢嚟講已經係一個平台俾佢多咗個機會同家人溝通。同埋你話對我哋嚟講好明顯嘅, 因為有一部分參加者係今次活動先嚟我哋中心嘅...”(社工, 女, 10 年社工經驗, B20204) “Such as we just now talked about the two-day camps... they (the participants) never done this before. So if you ask me, (I think it is) a chance for them, because we have to go (camp) with the whole family, but not go alone, so it

Theme	Subtheme	Quotes
		is a platform for them to have more chance to communicate with the family. And it (the effect) is obvious to us, because there are some participants only joined our centre this time.” (A social worker, female, 10 yr experience, B20204) <u>Increased awareness of doing exercise</u> “咁都會帶到一個概念俾佢哋知道，其實唔一定係要好多，有充裕嘅時間先可以做運動囉。咁有啲家長都話，佢哋返工嘅過程或者帶細路仔返學嘅過程呢，佢都...即係...係 alert 咗，都覺得呢啲時間都可以掌握要嚟做運動嘅咁樣樣。” (社工，女，21 年社工經驗，B20202) “(This programme) can generate a concept to them. In fact, (you) don’t have to spend much time on exercise. Some parents also said that when they are on their way to work or send kids to school, they...stay alerted, they think they can make good use of the time to exercise.” (An in-school social worker, female, 21 yr experience, B20202)
	For social service workers (the trainers of the community programme)	<u>Inner joy</u> “...真係好大困難同好大 workload，但係當你帶個陣呢見到班家長又或者同佢哋嘅關係都好咗，同埋你見到佢哋係愈嚟愈投入囉，我覺得都幾好嘅。” (社工，女，2 年社工經驗，B10201) “...(the programme) was really difficult (to organise) and (required) a lot workload, but when you lead (the programme), and you see the parents or (their relationship) are getting closer, and you can tell they were getting put themselves in (it). I think it’s very good.” (A social worker, female, 2 yr experience, B10201) <u>Inspiration for future work</u> “...我覺得個 training 呢其實幾好嘅...因為雖然呢...我期望呢...就係正面溝通或者係思考呀可能點樣去帶「零時間運動」或者點樣一啲 健康飲食...即係你會更加實際點樣帶係會比較好啲，咁或者我哋自己都會去經歷咗個一次呀，咁變相我哋會更加落地，噢，點樣帶會比較好，會較容易啲明白呢。” (社工，女，2 年社工經驗，B10201)

Theme	Subtheme	Quotes
		“I think this training is very good...because even though when we look at it (the programme) is just about positively communication or thinking, how to introduce 'ZTEEx' or healthy diet.... That is, you will know how to do it practically. Perhaps we have experienced once (in the training), so we are more down to the earth and know the better way of teaching to make it easy to understand.” (A social worker, female, 2 yr experience, B10201). “同埋我覺得好似係個活動係俾我哋多啲囉。因為係，好似係一開始我哋上曬啲堂，跟住又不停提我哋做運動，又間唔時 send 啲短訊出嚟叫我哋做...做啲運動咁樣。即係個個感覺令我去帶活動嘅時候諗，呀...其實我都可以做多啲嘢先可以令到啲參加者唔係上完一堂就走咗，即係可能間唔時就再提一提咁樣。” (項目員工，女，19 年社工經驗，B20203) “And I think it seemed the activities were richer than ours. Because, it seemed we had the training, and then kept reminding us to do the exercise, and also sent message to use from time to time to remind us to do exercise. This made me felt that when I lead the programme, there are more things I could do for the participants, (but) not just let them leave after the lectures, maybe can remind them from time to time.” (A programme staff, female, 19 yr experience, B20203) <u>Developed habit to do ZTEEx in daily life</u> “...即係譬如可能去開會，咁樣明明已經過咗成年嘅喇個 project...即係我哋搞呢個活動，咁佢哋都會話「我『零時間運動』吓先」咁樣，咁所以我哋都覺得其實原來呢個概念呢其實都係好都係好入到腦嘅同事或者係...” (社工，女，12 年社工經驗，B10204) “...for example when having meetings, it has already passed a whole year since the project has finished, they (the colleagues) would still say 'let me do some "ZTEEx" first', I think actually this concept has really rooted in our colleagues' mind...” (A social worker, female, 12 yr experience, B10204) “但我覺得最大嘅分別其實係喺 office 囉，因為我哋...我哋有同事一齊上堂㗎嘛，咁個同事成日都好嘈就喺 office 度「做運動喇」咁樣，咁我哋就會帶埋其他無嚟上堂嘅同事就...即係...” (項目員工，女，19 年社工經驗，B20203) “I think the biggest difference is in office, because, one of our colleagues attended the training, and then this colleague would ask the rest of the colleagues like “(time

Theme	Subtheme	Quotes
		to) do exercise!", so we would lead the other colleagues who didn't attend the training to (do the exercise) ..." (A programme staff, female, 19 yr experience, B20203)

Table 4.9 Quotes from the social service workers in Group HD

Theme	Subtheme	Quotes
Impressions of the workshop	Increased health awareness	"...少糖嗰方面，咁嘅買（飲料）之前啦都會諗一諗先買嘅...雖然有時都會買，但係我覺得都，多糖㗎㗎，即係都留意咗呢樣嘢囉。”（社工，女，10 年社工經驗，B10106） "...for the low sugar level's part, (I) will have a second thought before buying (the drinks), even though (I will) still buy it sometimes, but I'd think, it really has a lot of sugar. (I am) more alert.." (A social worker, female, 10 yr experience, B10106)
	Easy to understand the contents	<u>Easy to understand the contents</u> “我哋機構嘅同事都覺得有用嘅...係一啲好簡單嘅 concept，例如計啲糖份呀，水果飲品等等。咁變咗嚟講我哋即係...返去帶俾嘅家長，可以好簡單去明白，點樣計法，咁 so far 嚟講我覺得喺我哋嗰幾區嚟講都...都唔錯嘅嗰個反應。”（社工，男，10 年社工經驗，B10101） “Colleagues from our centre all thought it's useful... (they are) some very simple concepts, such as calculating the sugar level (in) fruits (or) drinks and so on. So it turned out like, when we bring this (information) to the parents, (they could) understand it very easily, how to calculate. So far the reactions were not bad, in our (promoting) areas” (A social worker, male, 10 yr experience, B10101)
Programmed implications	Impressions of the events	<u>Very advanced concepts</u> “如果我哋做一個前線嘅參與同工呢，呢一套嘢就好新喇，新到我真係完全唔認識囉...咁另外對自己嘅得著呢就係入面個訊息本身真係好好嘅，好正嘅，真係好值得推廣嘅。”（社工，女，10 年社工經驗，B10109） “If we as a frontline staff, this set of thing (information, training) is very new, it's so new that we didn't have idea of it...the self-gaining, is the information in it, they are really good, very good, it is really worthy well promotion.” (A social worker, female, 10 yr experience, B10109)

Theme	Subtheme	Quotes
	Reactions from the participants	<u>Actively reacted to the workshop</u> “有一次佢唔喺度我都話，呀我都要搵義工去攞一攞跟住再 feedback 返，咁但係我覺得呢個活動都好勁。咁家長會再即係 alert 多啲...alert 多啲再問多啲咁樣囉。”(社工，男，10 年社工經驗，B10101) “There was a time that he (the participant asked me questions) I said, I need to go to the volunteers to copy some (get more information) and then gave feedback...I think this programme is really good. The parents will ask more questions when they got more alerts (healthy reminders).” (A social worker, male, 10 yr experience, B10101) <u>Impressed by the content</u> “核心部分嗰度，佢哋真係睇得到呢，例如話，哇原來咁犀利㗎，一個檸檬茶咁多糖㗎...其實佢哋個個都幾開心，都學得到，點樣去可以學一啲少糖飲食嘅要決。”(社工，女，13 年社工經驗，B10107) “For the core part, they can really see it, such as, Wow it's so severe, there is so much sugar in lemon tea... In fact, they were quite happy and they learnt some tips in low-sugary diet.” (A social worker, female, 13 yr experience, B10107) “即係有啲會親自走埋嚟多謝「哎呀！多謝你叫我嚟玩呢樣嘢，好好玩咁囉！」都會有咁樣嘅情況囉。”(社工，女，10 年社工經驗，B10109) “There were some (participants) would come and say thanks, “Ah...thank you for teaching me playing (using) this, it is so fun!” It has such situation.” (A social worker, female, 10 yr experience, B10109)
	Cooperation with HKU	“咁所以你話同工嗰個培訓嗰個呢...嗰三個鐘嗰個我哋覺得俾到啲額外意識我哋，即係就算如果完咗呢個 project，咁有陣時佢有啲機會，社會有啲 咩 issue，靠你哋俾我哋啲 knowledge，我哋可以再做多次囉。”(社工，男，10 年社工經驗，B10101)

Theme	Subtheme	Quotes
		“If you say the 3 hours training, I think it taught us the extra knowledge. So even when the project finished, (if there is opportunity, (if there is) any issues in the society, count on you give the knowledge, we can do it again.” (A social worker, male, 10 yr experience, B10101)
	Suggestions	<u>Need more support from HKU</u> “所以港 u 嘅同事可以喺呢方面幫多少少，咁就理想喇。但係我問，即係第二次咁問，佢又唔郁咁呀，問我我又唔係好掌握，我自己嚟填我都覺得，好辛苦。”(社工，男，10 年社工經驗，B10101) “If colleagues from HKU could help with this part (questionnaire) a bit more, it will be ideal. If I have to ask, the second time (for the same questionnaire), (but the participants) did not respond. I really don't know (how to) handle, I think it is a bit difficult for me to fill in for the participants.” (A social worker, male, 10 yr experience, B10101) <u>Invite families from different backgrounds to join the programme</u> “我哋中心有呢個情況，即係我哋中心有好多會員...佢係一個人嘅，一個獨居嘅，退咗休嘅...咁我哋好大量呢啲咁嘅客仔但係就唔啱入呢個咁嘅活動...所以如果可以再放寬啲，任何家庭類別包括獨居單身咁樣都 OK 嘅...如果可以嘅話我希望可以加入佢哋囉。”(社工，女，10 年社工經驗，B10109) “There is a situation in our centre, we have many members in our centre...that they are (living) alone, living alone and retired...many of our clients couldn't enrol this programme because of this...so if can lose restriction, any type of family, including solitary, single are all ok. If it is ok I hope they could be eligible to join us.” (A social worker, female, 10 yr experience, B10109) “其實係咪兩個老嘅老人家其實都 OK 嘅...咁我哋的確有啲老嘅夫妻，呀伯呀嫲同呀孫咁樣啦，然後都有啲小學生嘅家長啦咁...你啲口味要符合到咁多個唔同類型家庭組合都啱玩咁樣。”(社工，女，10 年社工經驗，B10109) “(I'm wondering) actually if (the family only has) an old couple is also ok (to join) ...I mean we did have some (families with) old couples, grandpa, grandma and the grandchild, and then (there are family has) pupils and the parents...your (programme) should fit for many different combinations of family to join.” (A social worker, female, 10 yr experience, B10109)

Theme	Subtheme	Quotes
	Implications	<u>Inspiration for trainers</u> “如果我自己最大嘅得著呢就係...我係從來唔知道呢原來...有呢一個 funding 然後做一個全港性咁大規模嘅...我知道咗呢樣嘢之後呢咁我都有上你哋個網址嗰度望一望...之前發生咗嘅事一路延伸落嚟發展到今天，咁都了解返成件事囉，俾我知道原來，呀原來真係好有心希望喺健康嘅到推廣一啲呢個訊息，其實本身係好有意義嘅事。”(社工，女，10 年社工經驗，B10109) “If (asking) the greatest gain for myself is, I never known...there is a funding (and) then (it is) conducting such a big scare (programme) over Hong Kong...after knowing this I checked online on your website... (to see) what happened earlier (in this programme) and all the way developed till today, so get to know the whole thing, let me know that, (you are) really very trying to promote the health information. It is very meaningful.” (A social worker, female, 10 yr experience, B10109) <u>Increased self-awareness in sugary intake</u> “嗰個少糖嗰個健康飲食嗰部分係...話你會睇到食物入面真係有幾多糖呀。嗰個視覺效果，其實都...好強嘅。自己嚟講...咁 alert 咗自己一啲生活習慣...”(社工，女，13 年社工經驗，B10107) “In the part of low sugar healthy diet... you can see how much sugar in the food. The visual effects are indeed very powerful. To me, it (has) made me alert (aware) some of my life habits...” (A social worker, female, 13 yr experience, B10107) “其實我本身嘅生活都已經係少糖嘅，咁今次嗰個活動...強化咗...要 keep 住去少糖嘅咁。同埋我覺得有啲例子都幾好，呢就係啲生活化，即係譬如我哋知道凍檸茶，即係佢哋成日飲㗎嘛可能係。”(社工，女，4 年社工經驗，B10108) “Actually I have already (adopted) low sugar (practice) in my life, this programme...has strengthened... (my mentality) to keep this low sugar practice. Plus I think there are some very good examples, which are very close to real life, for instance we know the iced lemon tea, we drink that every day.” (A social worker, female, 4 yr experience, B10108) “食少啲糖，日常生活都盡量唔飲甜嘢囉，咁呢個最主要啦。”(社工，男，9 年社工經驗，B10104)

Theme	Subtheme	Quotes
		“Reduced the sugary intake, try not to drink sweetened drinks in daily life, this is the main changes.” (A social worker, male, 9 yr experience, B10104) <u>Improved family-well-being among participants</u> “個 project 名叫「愛+人」，我哋當初都信呢個理念係屋企人帶返身邊啲人去做一樣嘢...我又幾讚同呢個做法。當然招募上面或者等等可能轉人等等有啲嘢咁媽咪 working couples 呢，可能未必有時間嚟，咁可能婆婆咁樣，咁但係我哋都總覺得由一個大帶住一個細咗去改變一個習慣...即係都仲好。” (社工，男，10 年社工經驗，B10101) “The name of the project called ‘FAMILY’, we believed that this idea was the one family member participated an activity together with the other family members...I really appreciate this idea.” (A social worker, male, 10 yr experience, B10101)

4.3 TTA Programme

A total of 12 workshops were conducted for lay volunteers to “Health Ambassadors” during June 2015 to March 2017. Lay volunteers were recruited through the strong networks of the participating institutions of HFKM. The volunteers first changed their health behaviours, then helped influencing health behaviours of their family and friends through role modelling approach.

4.3.1 Objectives

- To enhance trainees’ healthy living habits, including positive family communication, healthy diet and physical activity;
- To enhance trainees’ knowledge, self-efficacy and attitude in relation to positive psychology, ZTEx, and low sugar consumption practices;
- To improve trainees’ physical fitness, personal well-being, and FAMILY 3Hs;
- To encourage trainees to share the health information with and influence the health behaviour of their family members and friends.

4.3.3 Design

The cRCT randomly allocated the institutions where the trainees belonged (clusters) into either Group PA or Group HD. The details of the cRCT design was presented in section 4.2.2. Group PA received the PA intervention including physical activity (including ZTEx) and positive psychology, whereas Group HD received the HD intervention including information on healthy diet (including low sugar consumption practices) and positive psychology.

All trainees fulfilled the following inclusion criteria:

- a. Ethnic Chinese, 18 years of age or older; and
- b. Able to read Chinese and speak Cantonese.

4.3.4 Interventions

The TTA was jointly developed by the organising committee of HFKM, which included representatives of the FAMILY Project Team and HKCSS.

Two batches of the training programmes were conducted during May 2015 to February 2016 (Batch 1) and September 2016 to January 2017 (Batch 2). The training was conducted by a multidisciplinary research team [a clinical psychologist, registered social workers, and a nurse from FAMILY Project Team (research officer)]. The training content was similar to the TTT, but was condensed into 6 hours. Physical fitness assessments were conducted immediately before the first core session and at 6 weeks later.

The first session was a positive psychology session conducted by the clinical psychologist to introduce the three positive psychology themes for communication including 'Joy' [26], 'Gratitude' [27] and 'Savouring' [28], as well as how to utilise these positive psychology principles to improve family communication.

The second session was a health knowledge self-efficacy and motivation enhancement session conducted by the nurse to introduce ZTEx in Group PA and healthy dietary practice in Group HD. The details were presented in section 4.2.3.

The third session was a booster session conducted by the clinical psychologist and the nurse. Trainees were invited to share their experiences and barriers they had encountered in engaging in healthy living habits (physical activity, particularly ZTEx, in Group PA/HD; and particularly low sugar consumption practices, in Group HD) and positive family communication.

Diversified learning methods were used and the fidelity of the intervention was assessed. We also provided 6 bi-weekly health-related electronic messages for knowledge self-efficacy and motivation enhancement and acted as reminders for 3 months. The details were presented in section 4.2.3.

4.3.5 Evaluation of the TTA

4.3.5.1 Outcomes

Primary outcome

- Physical activity, ZTEx, sugar consumption practices, and family communication.

Secondary outcomes

- Competence (knowledge and self-efficacy) and attitude (outcome expectancies, intention and planning) in relation to positive psychology, ZTEx and low sugar consumption practices;
- Personal well-being and FAMILY 3Hs;
- Physical fitness performance;
- Engaging in ZTEx and low sugar consumption practices with family members; and
- Feedbacks on the training programme.

4.3.5.2 Measurements and statistical analysis

Both qualitative and quantitative methods were used. Measurements and analysis method were presented in 4.4.2 and section 4.4.3, respectively.

4.3.6 Quantitative results

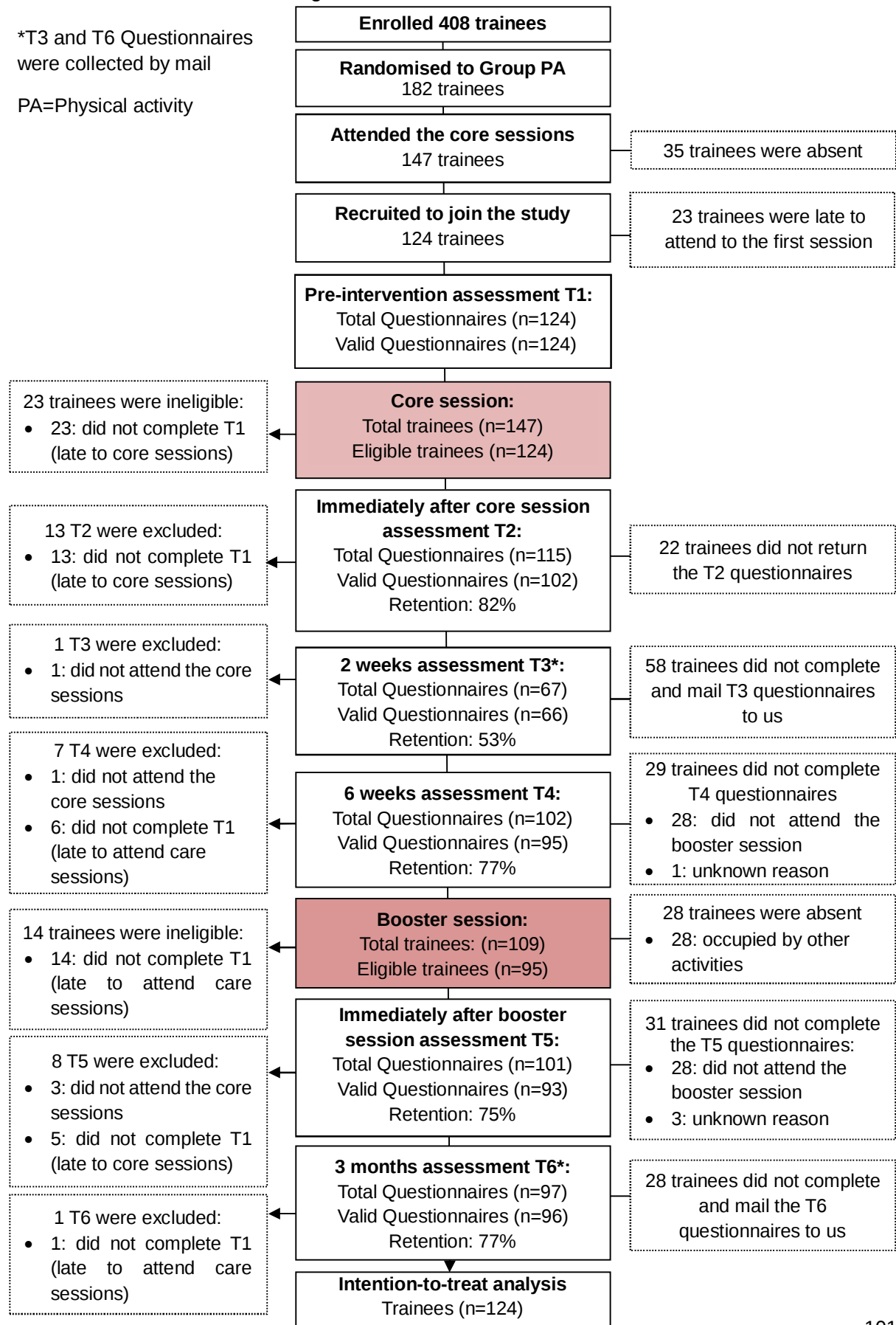
4.3.6.1 The Recruitment

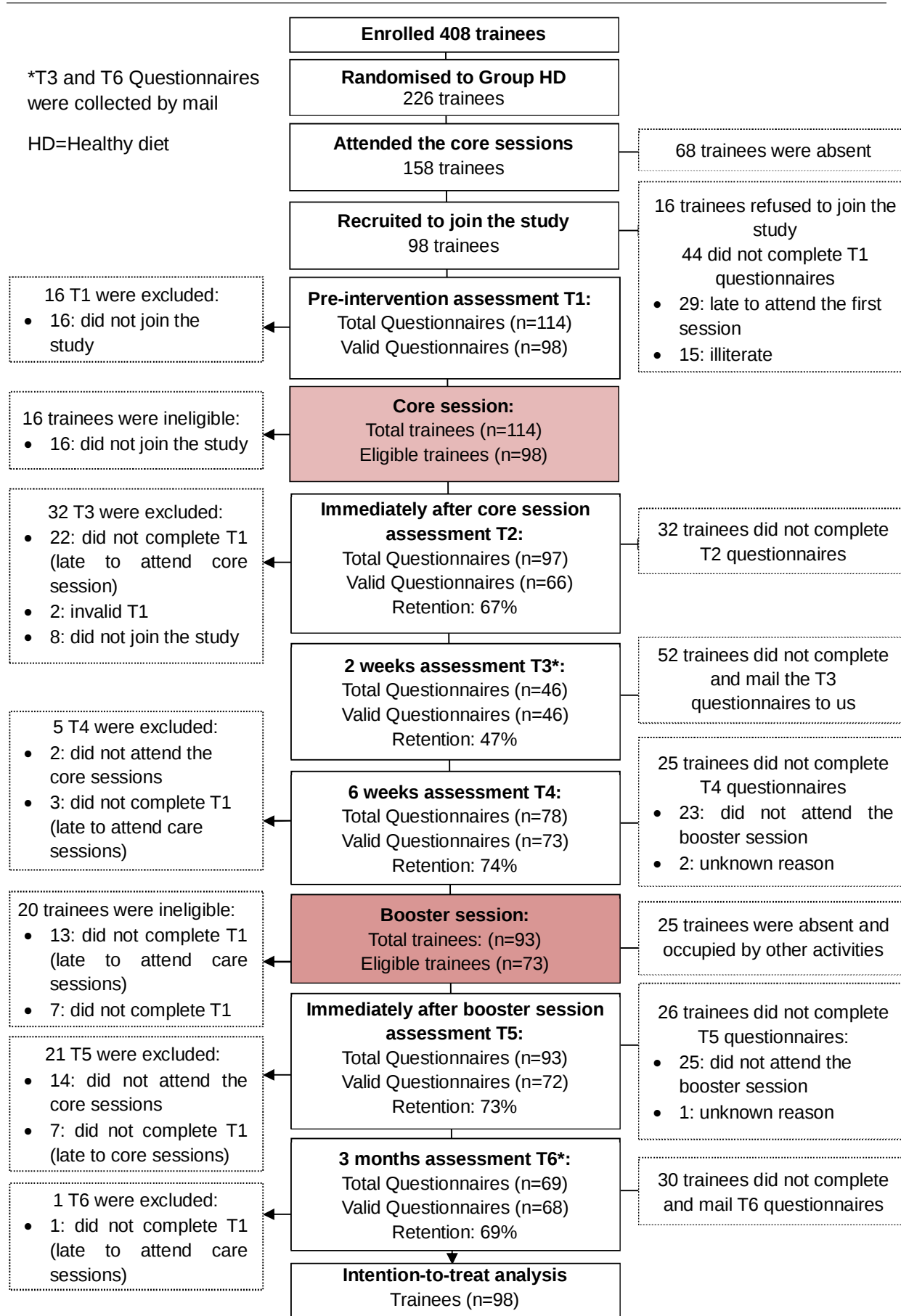
Table 4.10 shows the enrolment, attendance and recruitment. 408 trainees enrolled in the programmes from 32 participating institutions and randomised into a Group PA and Group HD. The details of participating institutions were presented at the end of this chapter. 103 trainees were unable to attend the training and 16 refused to join the study. 57 did not complete the baseline questionnaires because of late to attend the core sessions (n=42) and illiterate (n=15). 222 trainees were recruited into either Group PA (n=124) or Group HD (n=98). 28 and 25 trainees did not attend the booster session in Group PA and Group HD, respectively. 222 valid questionnaires at baseline (T1), 167 immediately after the core sessions (T2), 112 at 2 weeks (T3), 168 at 6 weeks (T4), 165 immediately after booster session (T5) and 164 (T6) at 3 months follow-up were collected. Figure 4.37 shows the CONSORT flow chart.

Table 4.10 Enrolment, attendance and recruitment of 12 workshops

Programme code	Number of people enrolled	Number of people attended	Number of people recruited
1	22	21	20
2	23	22	19
3	13	12	12
4	12	7	3
5	11	10	9
6	13	11	11
7	49	41	37
8	19	15	12
9	27	17	10
10	54	44	25
11	124	74	40
12	41	31	24
Total	408	305	222

Figure 4.37 CONSORT flow chart





4.3.7 Baseline characteristics

Table 4.11 shows that most trainees were female (90% in Group PA and 77% in Group HD), half of them aged over 60 years (43% in Group PA and 50% in Group HD). A significantly higher proportion of trainees was female in Group PA than in Group HD ($p=0.024$). However, Group HD had a significantly higher proportion of trainees with diabetes mellitus ($p=0.040$) and marginally significantly higher proportion of trainees with hypertension, compared with Group PA ($p=0.061$).

Table 4.12 shows a significantly higher perceived knowledge in relation to ZTE_x in Group PA higher than Group HD ($p=0.036$). There were no significant difference in physical activity, family communication and personal and well-being between two groups. The potential confounding factors of age, sex and baseline values were included as covariates in the subsequent analyses.

Table 4.11 Characteristics of trainees in two groups (n=222)

Characteristic	Group PA (n=124)	Group HD (n=98)	p-value
	n (%)	n (%)	
Sex			
Male	8 (9.7)	10 (20.4)	0.02*
Female	37 (90.3)	48 76.9)	
Age group (years)			
20-39	33 (26.6)	16 (19.4)	0.14
40-49	24 (19.4)	17 (17.3)	
50-59	14 (11.3)	13 (13.3)	
≥60	53 (42.7)	52 (53.1)	
Medical history			
Hypertension	16 (12.9)	22 (22.4)	0.06 [†]
Cardiovascular disease	7 (5.6)	4 (4.1)	0.76
Diabetes mellitus	5 (4.0)	11 (11.2)	0.04*
Arthritis	12 (9.7)	13 (13.3)	0.40

[†] $p<0.10$; * $p<0.05$

Table 4.12 Baseline scores of outcome variables in two groups (n=222)

	Group PA (n=124)	Group HD (n=98)	p-value
	Mean (SD)	Mean (SD)	
Knowledge in relation to			
ZTE _x (0-10)	5.23 (3.29)	4.29 (3.22)	0.04*
Low sugar consumption (1-6)	6.99 (2.56)	7.16 (2.49)	0.62
Physical activity			
Average time spent seated on a week day (0-7 days)	5.80 (2.44)	5.03 (4.43)	0.15
Average time spent seated on a weekend (0-7 days)	5.37 (2.02)	4.89 (3.17)	0.27
Moderate physical activity (0-7 days)	2.66 (2.78)	1.94 (2.68)	0.90
Vigorous physical activity (0-7 days)	0.76 (1.64)	1.26 (2.33)	0.12
Exercise while sitting (0-7 days)	3.80 (2.89)	4.35 (2.89)	0.20
Exercise while standing (0-7 days)	3.65 (2.92)	4.33 (2.99)	0.12
Exercise while walking (0-7 days)	2.96 (3.11)	3.32 (3.22)	0.45
Doing ZTE _x with family members (1-5)	1.93 (1.15)	1.90 (1.11)	0.93
Sugar consumption practices			
Adopting low sugar consumption practices (1-5)	3.34 (1.13)	3.38 (1.03)	0.82
Adopting low sugar consumption practices with family members (1-5)	2.69 (1.23)	2.72 (1.20)	0.88
Family communications			
Praising family members (1-5)	2.92 (1.04)	2.90 (1.06)	0.89
Expressing gratitude to family members (1-5)	3.15 (1.02)	2.94 (1.01)	0.15

	Group PA (n=124)	Group HD (n=98)	<i>p</i> -value
	Mean (SD)	Mean (SD)	
Sharing happy experience with family members (1-5)	3.14 (1.04)	2.99 (1.06)	0.29
Self-reported well-being			
Self-reported personal health (0-10)	6.00 (2.22)	5.92 (1.97)	0.84
Self-reported personal happiness (0-10)	6.42 (2.39)	6.63 (1.89)	0.29
Self-reported FAMILY health (0-10)	6.22 (2.33)	6.48 (1.99)	0.37
Self-reported FAMILY happiness (0-10)	6.35 (2.40)	6.58 (1.94)	0.46
Self-reported FAMILY harmony (0-10)	6.56 (2.33)	6.58 (1.91)	0.30

* $p < 0.05$

4.3.7.1 Changes in outcomes by time and group

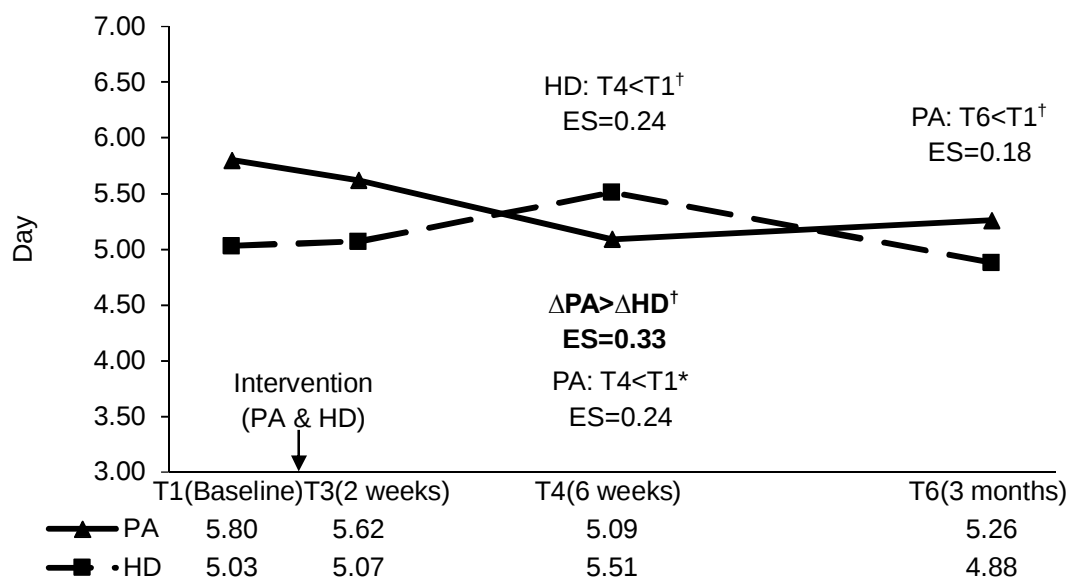
(A) Physical activity

Average time spent seated on a week day

Figure 4.38 shows a significant decrease in average time spent seated on a week day in Group PA only at 6 weeks with small effect size ($ES=0.24$, $p=0.028$). Group HD showed no significant increase.

The decrease in average time spent seated was marginally significantly greater in Group PA than in Group HD, indicating that a suggestive evidence of the short-term effectiveness of PA intervention ($ES=0.33$, $p=0.057$).

Figure 4.38 Average time spent seated on a week day (0-7 days)



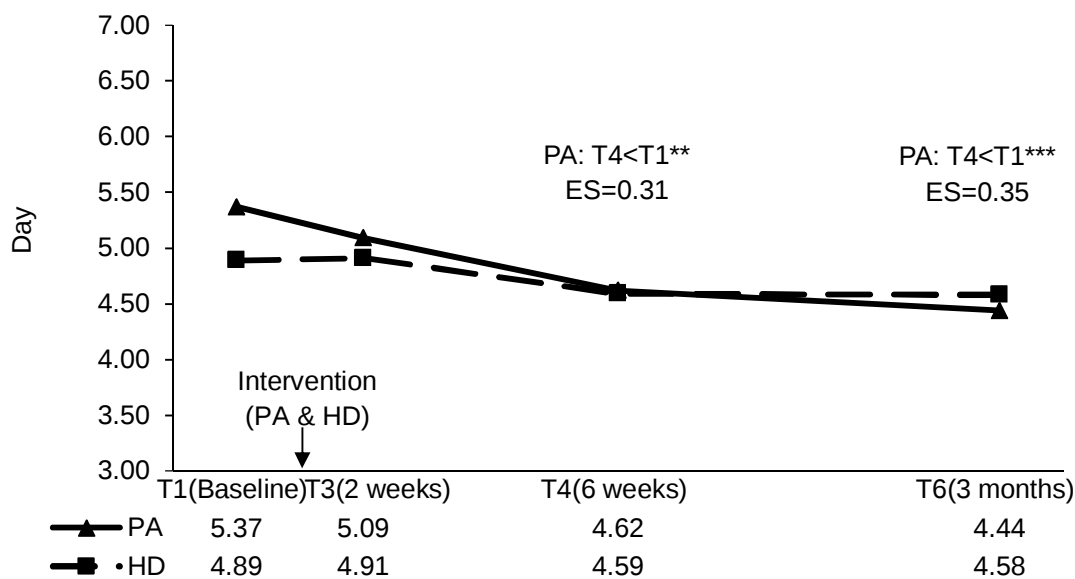
† $p < 0.10$; * $p < 0.05$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Average time spent seated on a weekend day

Figure 4.39 shows significant decrease in average time spent seated on a weekend day in Group PA only at 6 weeks and 3 months with small effect size ($ES=0.31$, $p=0.002$ and $ES=0.35$, $p<0.001$, respectively). Group HD showed no significant increase. The 2 groups showed no significant difference in the changes.

Figure 4.39 Average time spent seated on a weekend day (0-7 days)



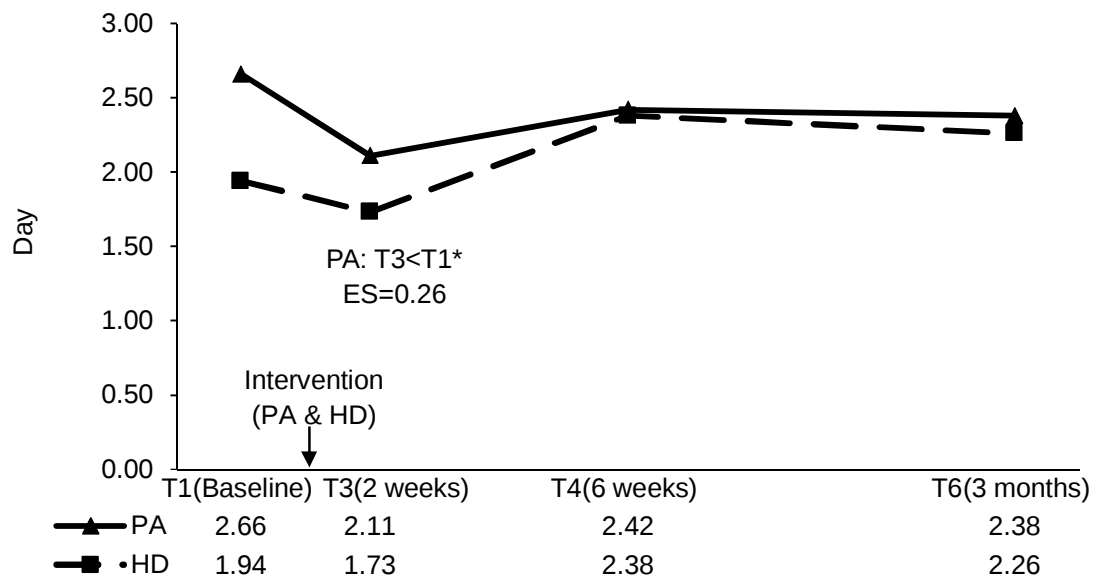
** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Moderate physical activity

Figure 4.40 shows a significant decrease in moderate physical activity in Group PA only at 2 weeks with small effect size ($ES=0.26$, $p=0.015$). Group HD showed no significant change. The 2 groups showed no significant difference in the changes.

Figure 4.40 Moderate physical activity (0-7 days)



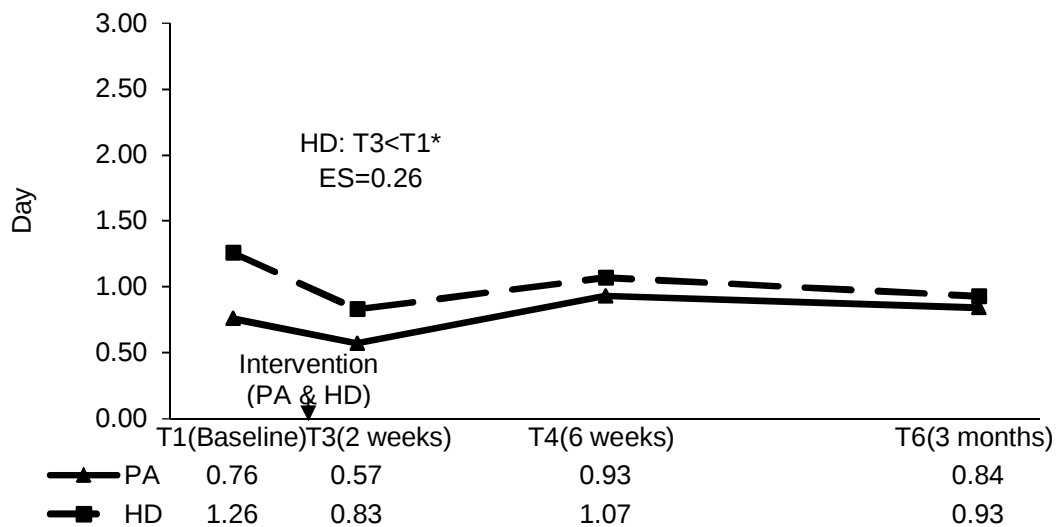
* $p<0.05$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Vigorous physical activity

Figure 4.41 shows a significant decrease in vigorous physical activity only at 2 weeks in Group HD (ES=0.26, $p=0.033$). Group PA showed no significant change in vigorous physical activity. The 2 groups showed no significant difference in the changes.

Figure 4.41 Vigorous physical activity (0-7 days)



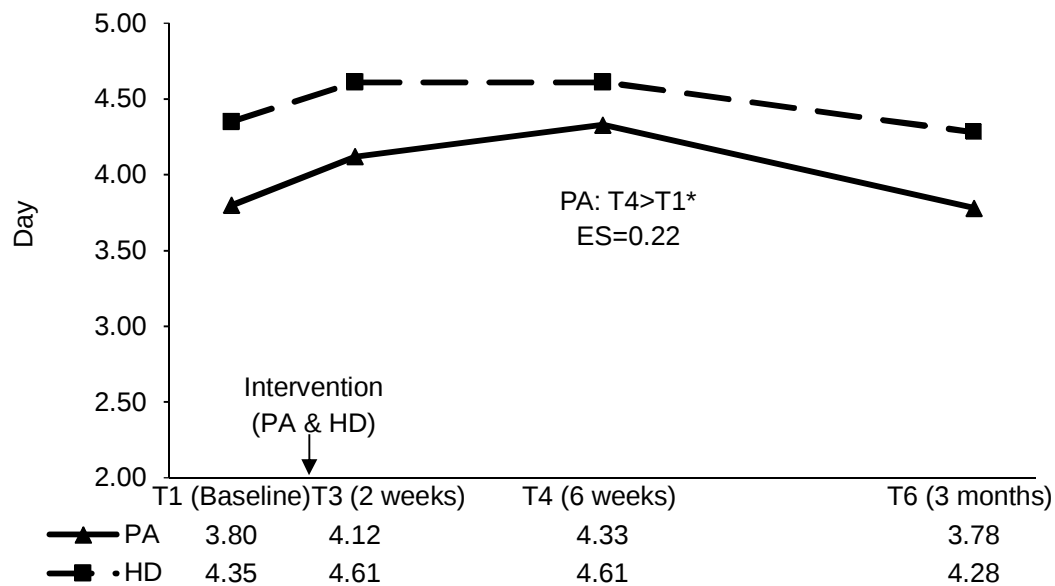
* $p<0.05$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Exercise while sitting

Figure 4.42 shows a significant increase in exercise while sitting only at 6 weeks in Group PA with small effect size ($ES=0.22$, $p=0.025$). Group HD showed no significant increase. The 2 groups showed no significant difference in the changes.

Figure 4.42 Exercise while sitting (0-7 days)



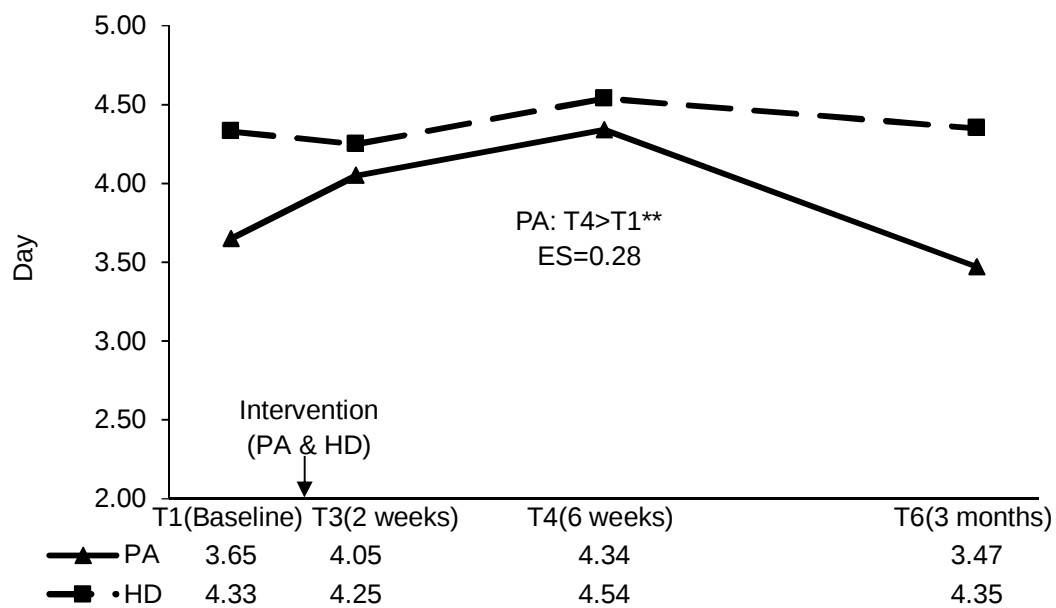
* $p<0.05$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Exercise while standing

Figure 4.43 shows a significant increase in exercise while standing in Group PA only at 6 weeks with small effect size ($ES=0.28$, $p=0.005$). Group HD showed no significant increase. The 2 groups showed no significant difference in the changes.

Figure 4.43 Exercise while standing (0-7 days)



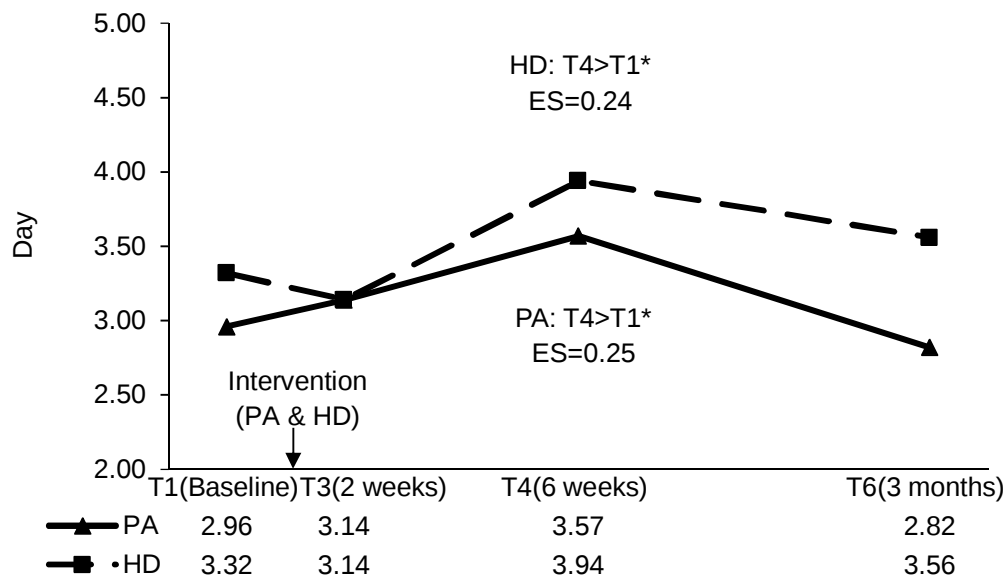
** $p<0.01$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Exercise while walking

Figure 4.44 shows significant increase in exercise while walking only at 6 weeks in Group PA and Group HD with small effect size ($ES=0.25$, $p=0.013$ and $ES=0.24$, $p=0.033$, respectively). The 2 groups showed no significant difference in the changes.

Figure 4.44 Exercise while walking (0-7 days)



* $p<0.05$

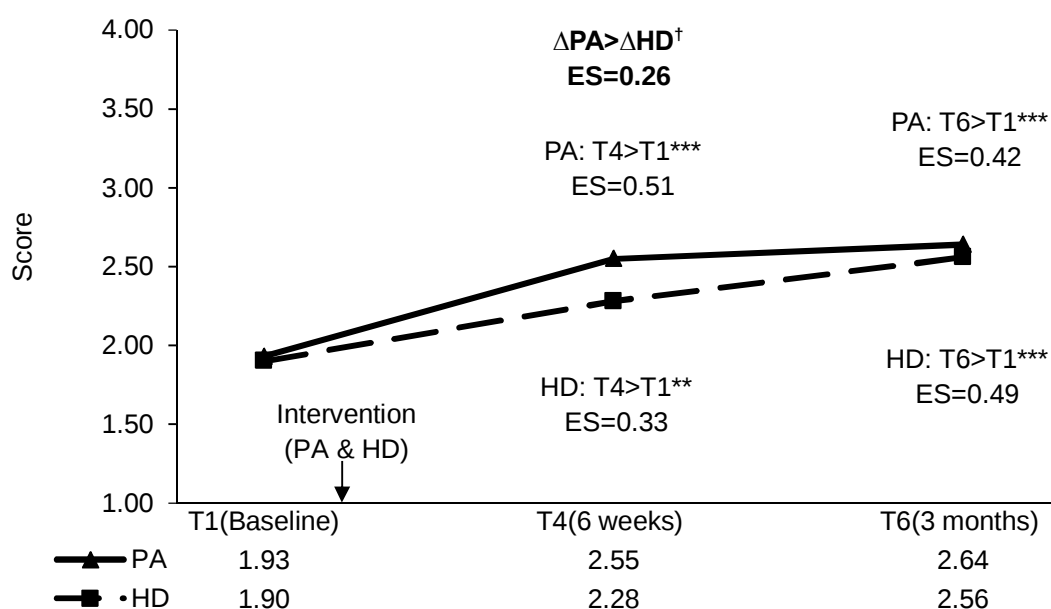
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Doing ZTE_x with family members

Figure 4.45 shows significant increase in doing ZTE_x with family members at 6 weeks and 3 months in Group PA (ES=0.51, $p<0.001$ and ES=0.42, $p<0.001$, respectively) and Group HD (ES=0.33, $p=0.002$ and ES=0.49, $p<0.001$, respectively). The effect size ranged from small to medium.

The increase was marginally significantly greater in Group PA than Group HD only at 6 weeks, which could be suggestive evidence of the short-term effectiveness of PA intervention with small effect size (ES=0.26, $p=0.058$).

Figure 4.45 Doing ZTE_x with family members (1-5)



$^{\dagger} p<0.10$; ** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

5-point Likert scale: "1=never" to "5=always"

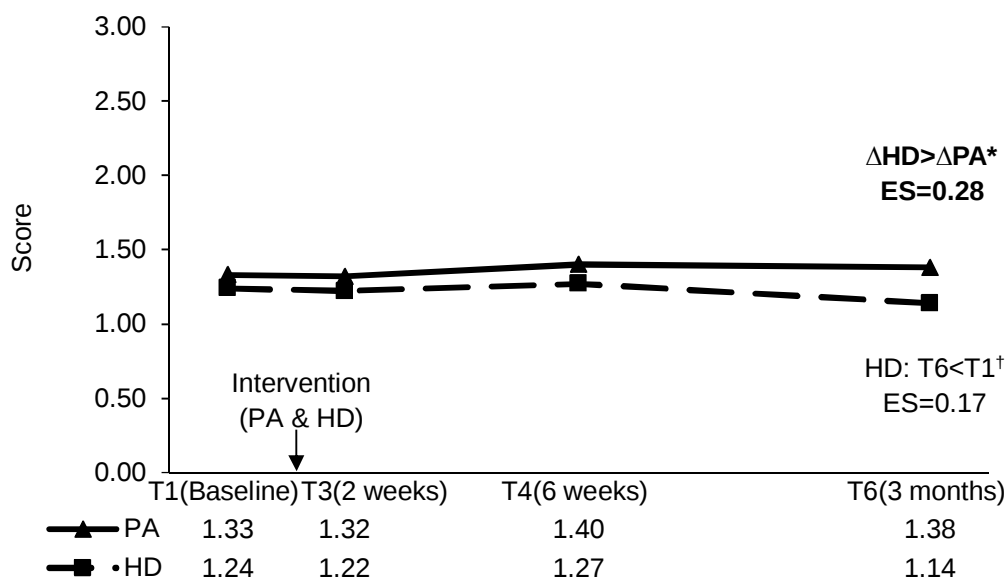
(B) Dietary practices

Consumption of regular soft drinks

Figure 4.46 shows a marginally significant decrease in drinking regular soft drinks in Group HD only at 3 months with small effect size ($ES=0.17$, $p=0.094$). Group PA showed no significant decrease.

The decrease was significantly greater in Group HD than Group PA only at 3 months, indicating the long-term effectiveness of HD intervention with small effect size ($ES=0.28$, $p=0.046$).

Figure 4.46 Consumption of regular soft drinks (1-7)



[†] $p<0.10$; * $p<0.05$

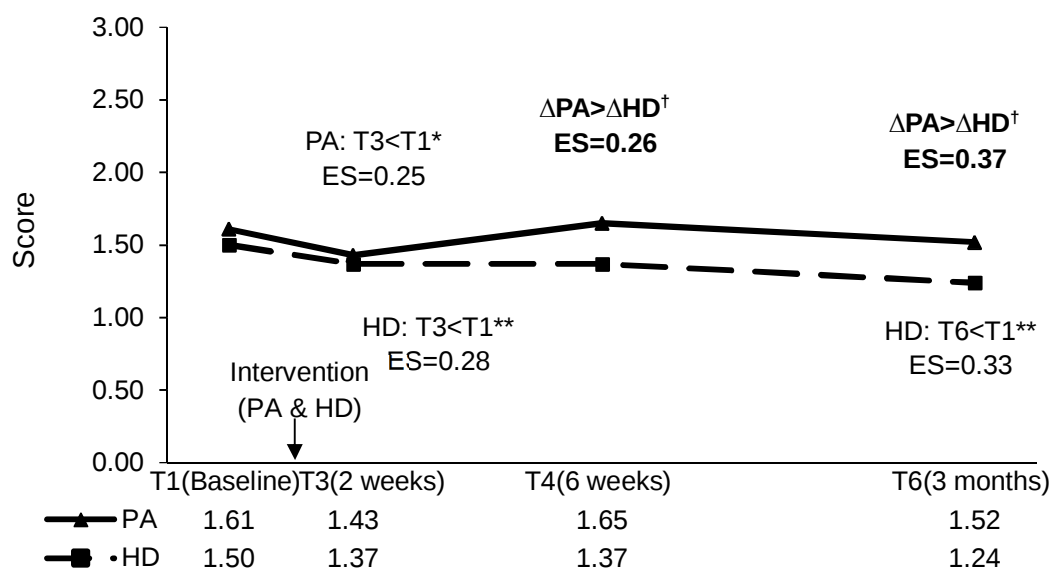
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Consumption of fruit juice and sweetened juice beverages

Figure 4.47 shows significant decrease in drinking fruit juice and sweetened juice beverages in Group HD at 2 weeks and 3 months ($ES=0.28$, $p=0.010$ and $ES=0.33$, $p=0.004$, respectively) and in Group PA only at 2 weeks ($ES=0.25$, $p=0.011$). The effect size was small.

The decreases were marginally significantly greater in Group HD than Group PA at 6 weeks and 3 months, which could be suggestive evidence of the effectiveness of PA intervention ($ES=0.26$, $p=0.075$ and $ES=0.37$, $p=0.083$, respectively).

Figure 4.47 Consumption of fruit juice and sweetened juice beverages (1-7)



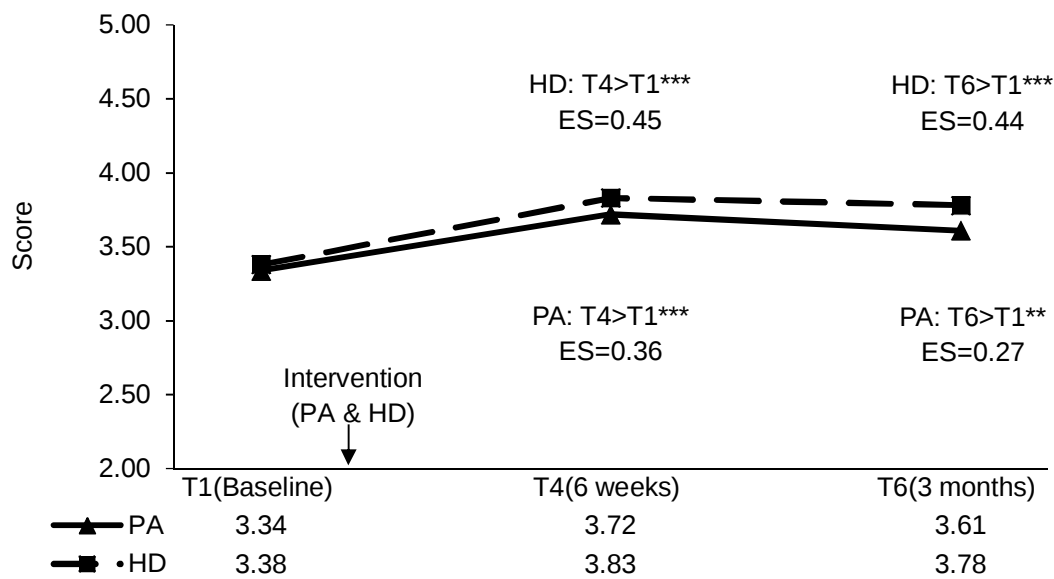
† $p<0.10$; * $p<0.05$; ** $p<0.01$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Adopting low sugar consumption dietary practices

Figure 4.48 shows significant increase in adopting low sugar consumption practices at 6 weeks and 3 months in Group HD (ES=0.45, $p<0.001$ and ES=0.44, $p<0.001$, respectively) and Group PA (ES=0.36, $p<0.001$ and ES=0.27, $p=0.005$, respectively), with small effect size. The 2 groups showed no significant difference in the changes.

Figure 4.48 Adopting low sugar consumption practice (1-5)



** $p<0.01$; *** $p<0.001$

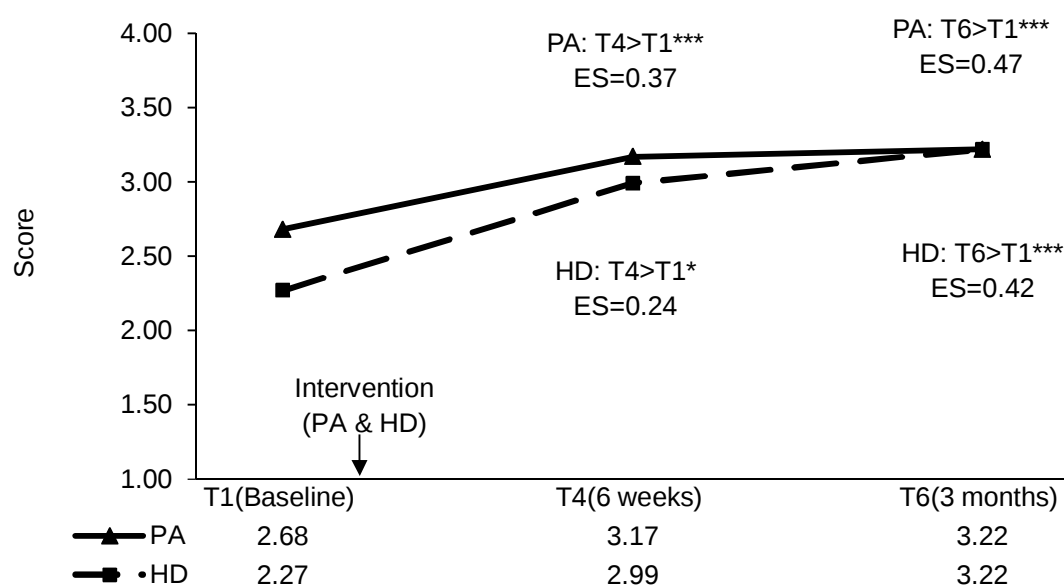
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

5-point Likert scale: "1=never" to "5=always"

Adopting low sugar consumption dietary practices with family members

Figure 4.49 shows significant increase in adopting low sugar consumption practices with family members at 6 weeks and 3 months in Group HD (ES=0.24, $p=0.020$ and ES=0.42, $p<0.001$, respectively) and Group PA (ES=0.37, $p<0.001$ and ES=0.47, $p<0.001$, respectively), with small effect size. There 2 groups showed no significant difference in the changes.

Figure 4.49 Adopting low sugar consumption dietary practices with family members (1-5)



* $p<0.05$; *** $p<0.001$

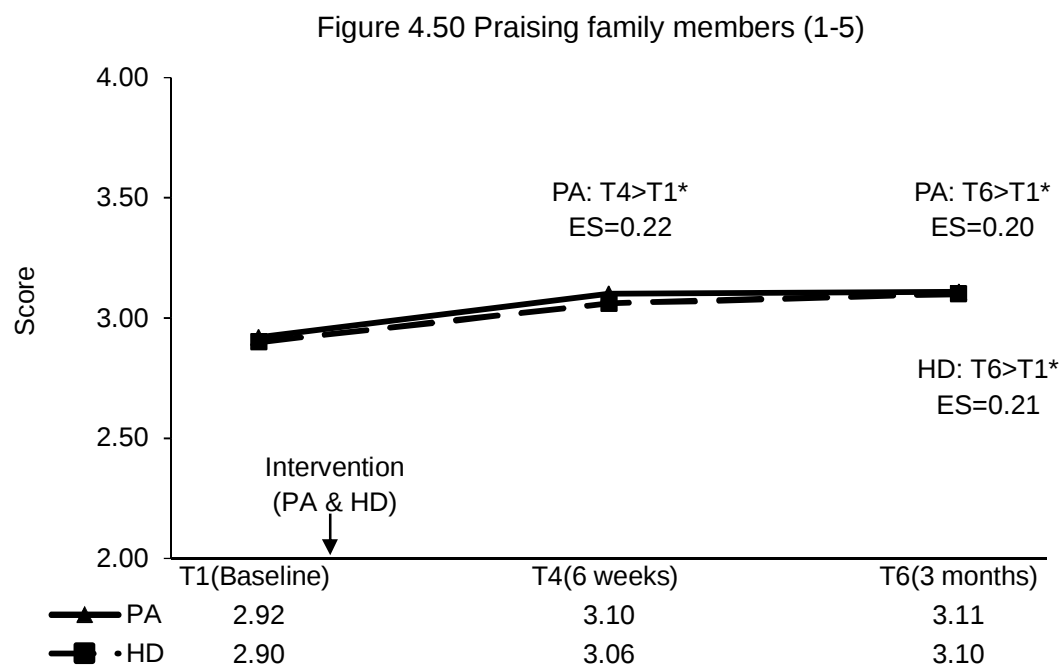
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

5-point Likert scale: "1=never" to "5=always"

(C) Family communication

Praising family members

Figure 4.50 shows significant increase in praising family members in Group PA at 6 weeks and 3 months ($ES=0.22$, $p=0.017$ and $ES=0.20$, $p=0.024$, respectively) and in Group HD only at 3 months ($ES=0.21$, $p=0.036$). The effect size was small. The 2 groups showed no significant difference in the changes.



* $p<0.05$

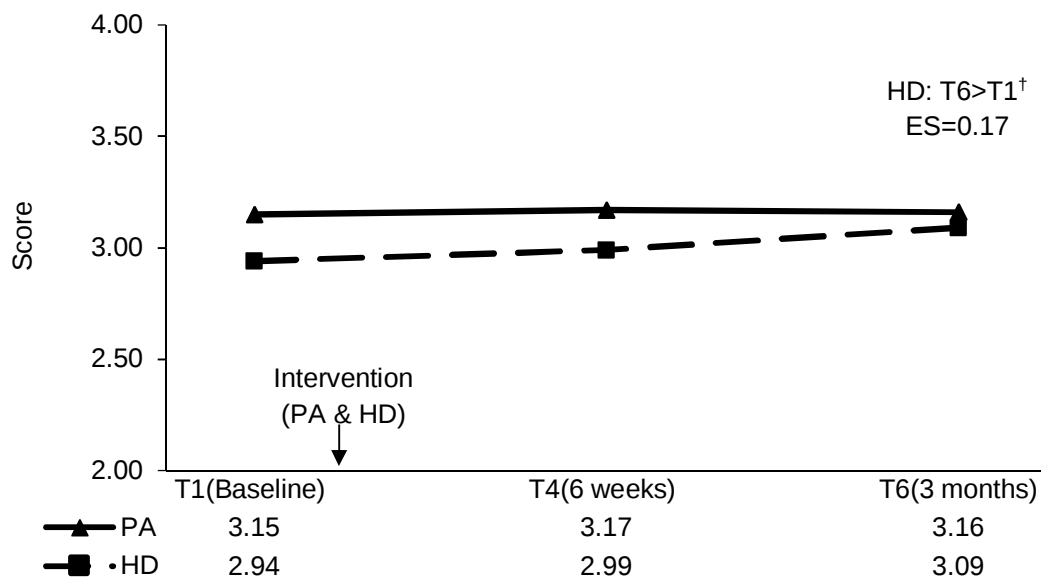
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

5-point Likert scale: "1=never" to "5=always"

Expressing gratitude to family members

Figure 4.51 shows marginally significant increase in expressing gratitude to family members in Group HD only at 3 months with small effect size ($ES=0.17$, $p=0.091$). Group PA showed no significant increase. The 2 groups showed no significant difference in the changes.

Figure 4.51 Expressing gratitude to family members (1-5)



[†] $p<0.10$

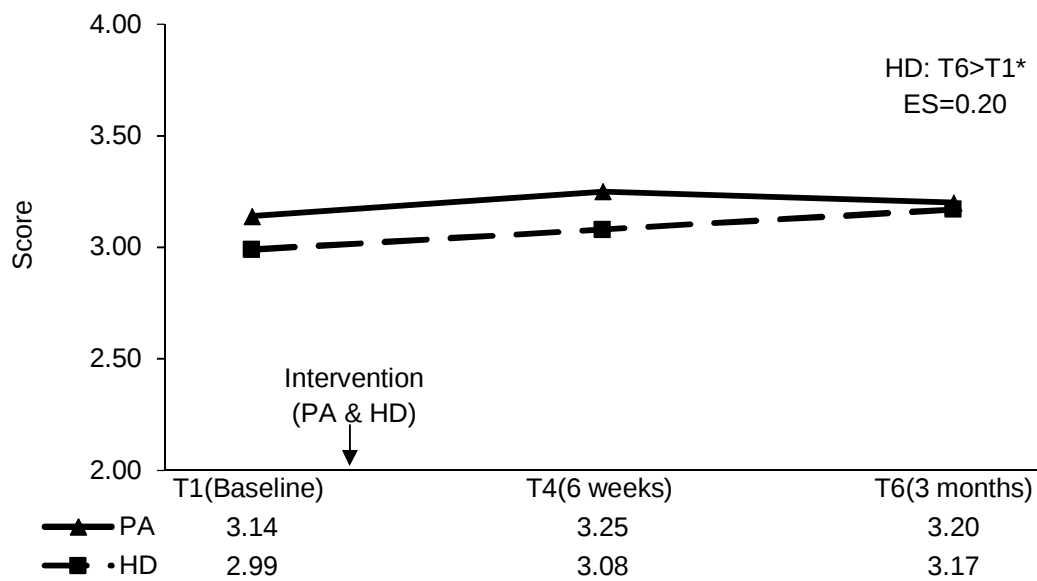
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

5-point Likert scale: "1=never" to "5=always"

Sharing happy experience with family members

Figure 4.52 shows a significant increase in sharing happy experience with family members in Group HD only at 3 months with small effect size ($ES=0.20$, $p=0.049$). PA group showed no significant increase. The 2 groups showed no significant difference in the changes.

Figure 4.52 Sharing happy experience with family members (1-5)



* $p<0.05$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

5-point Likert scale: "1=never" to "5=always"

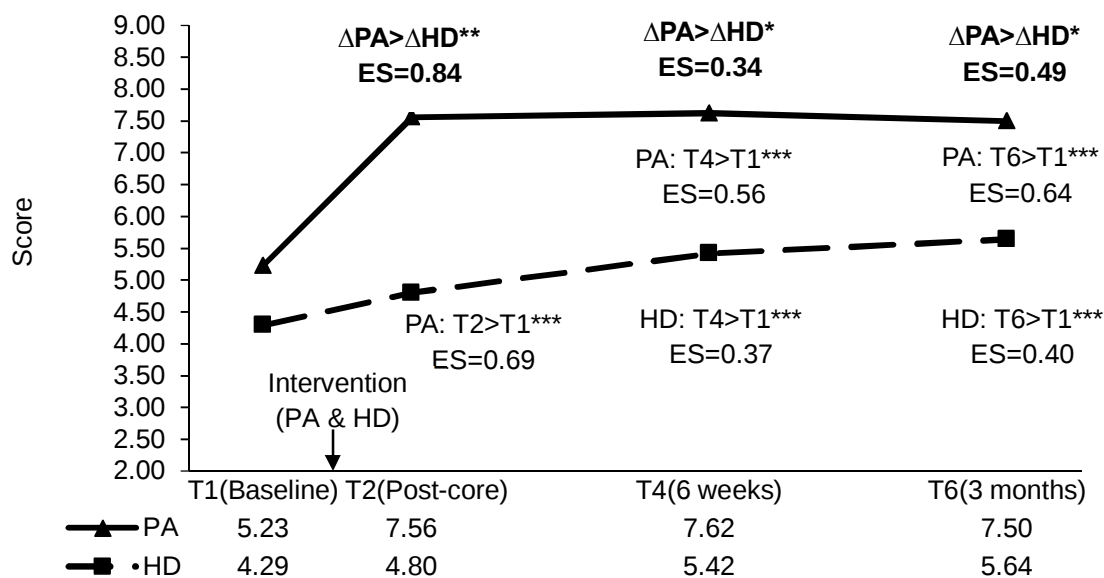
(D) Knowledge, self-efficacy, attitudes in relation to ZTEEx

Knowledge of ZTEEx

Figure 4.53 shows significant increase in knowledge of ZTEEx in Group PA immediately after the core sessions, at 6 weeks and 3 months ($ES=0.69$, $p<0.001$; $ES=0.56$, $p<0.001$; and $ES=0.64$, $p<0.001$, respectively) and in Group HD at 6 weeks and 3 months ($ES=0.37$, $p<0.001$ and $ES=0.40$, $p<0.001$, respectively). The effect size ranged from small to medium.

The increases in knowledge in Group PA were significantly greater than Group HD immediately after the core sessions, at 6 weeks and 3 months, indicating the effectiveness of PA intervention with small to large effect size ($ES=0.84$, $p=0.001$; $ES=0.34$, $p=0.036$; and $ES=0.49$, $p=0.01$, respectively).

Figure 4.53 Knowledge of ZTEEx (0-10)



* $p<0.05$; ** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

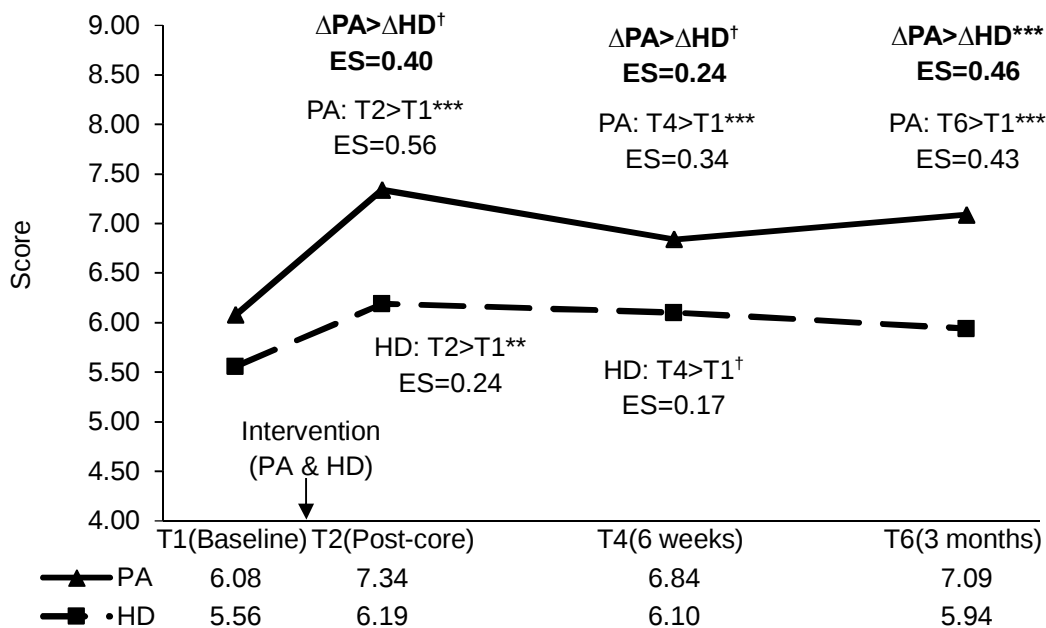
10-point Likert scale: "0=strongly disagree" to "10=strongly agree"

Self-efficacy of engaging in ZTE_x regularly

Figure 4.54 shows significant increase in self-efficacy of engaging in ZTE_x in Group PA immediately after the core sessions, at 6 weeks and 3 months with small to medium effect size (ES=0.56, $p<0.001$; ES=0.34, $p<0.001$; and ES=0.43, $p<0.001$, respectively). The self-efficacy in Group HD significantly increased only after the core sessions with small effect size (ES=0.24, $p=0.023$).

The increases in self-efficacy were significantly greater in Group PA than Group HD only at 3 months, indicating the long-term effectiveness of PA intervention with small effect size (ES=0.46, $p<0.001$).

Figure 4.54 Self-efficacy of engaging in ZTE_x regularly (0-10)



[†] $p<0.10$; ^{**} $p<0.01$; ^{***} $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

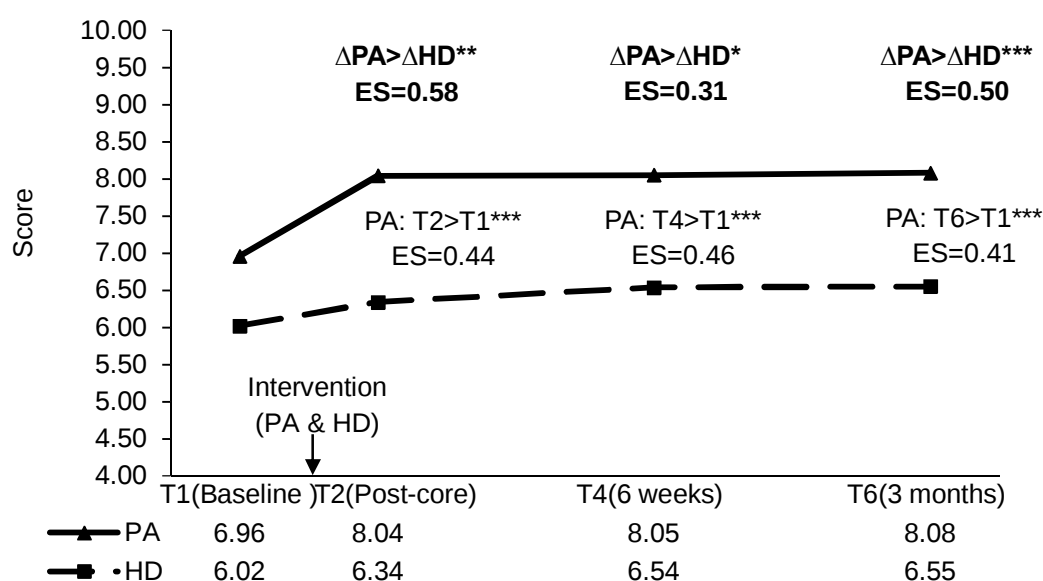
10-point Likert scale: "0=strongly disagree" to "10=strongly agree"

Outcome expectancies of engaging in ZTE_x regularly

Figure 4.55 shows significant increase in outcome expectancies of engaging in ZTE_x regularly in Group PA immediately after the core sessions, at 6 weeks and 3 months with small to medium effect size (ES=0.44, $p<0.001$; ES=0.46, $p<0.001$; and ES=0.41, $p<0.001$, respectively). Group HD showed no significance increases.

The increases in outcome expectancies immediately after the core sessions, at 6 weeks and 3 months were significantly greater in Group PA than Group HD, indicating the effectiveness of PA intervention with small to medium effect size (ES=0.58, $p=0.007$; ES=0.31, $p=0.031$; and ES=0.50, $p<0.001$, respectively).

Figure 4.55 Outcome expectancies of engaging in ZTE_x regularly (0-10)



* $p<0.05$; ** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

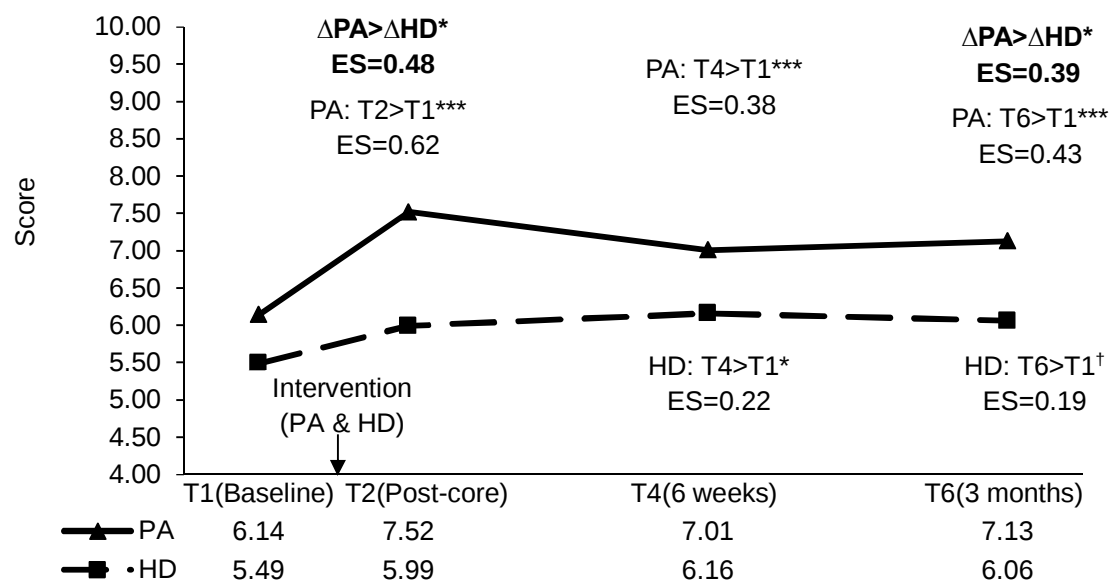
10-point Likert scale: "0=strongly disagree" to "10=strongly agree"

Intention to engage in ZTE_x regularly

Figure 4.56 shows significant increase in intention to engage in ZTE_x regularly in Group PA immediately after the core sessions, at 6 weeks and 3 months with small to medium effect size (ES=0.62, $p<0.001$; ES=0.38, $p<0.001$; and ES=0.43, $p<0.001$, respectively). The intention in Group HD significantly increased only at 6 weeks with small effect size (ES=0.22, $p=0.036$).

The increases in intention were significantly greater in Group PA than Group HD only immediately after the core sessions and at 3 months, indicating the effectiveness of PA intervention with small effect size (ES=0.48, $p=0.014$ and ES=0.39, $p=0.016$, respectively).

Figure 4.56 Intention to engage in ZTE_x regularly (0-10)



† $p<0.10$; * $p<0.05$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

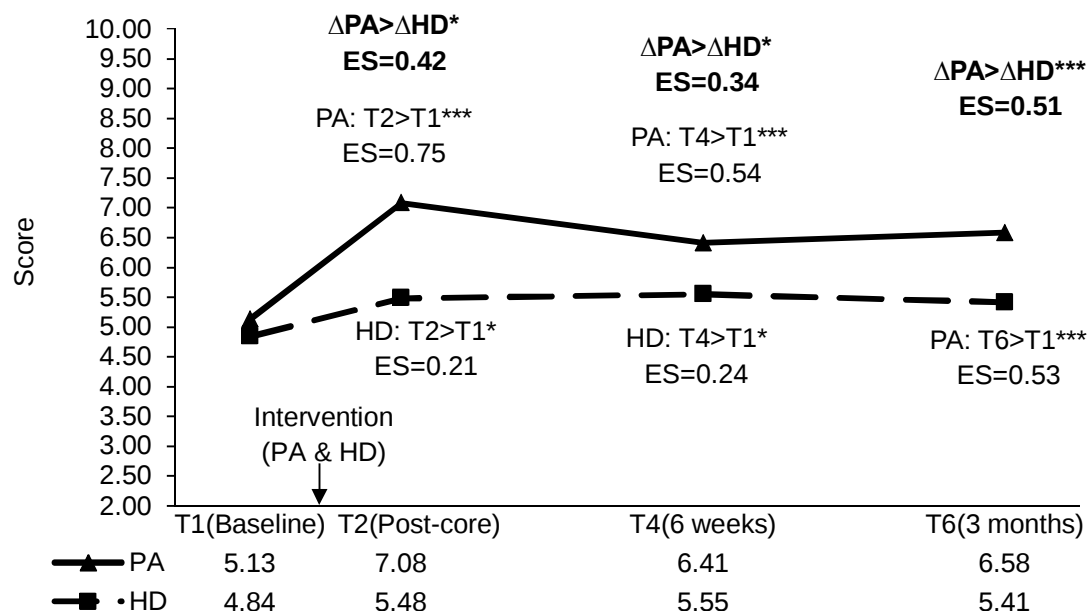
10-point Likert scale: "0=strongly disagree" to "10=strongly agree"

Planning for engaging ZTE_x regularly

Figure 4.57 shows significant increase in planning for engaging in ZTE_x regularly in Group PA immediately after the core sessions, at 6 weeks and 3 months with medium effect size (ES=0.75, $p<0.001$; ES=0.54, $p<0.001$; and ES=0.53, $p<0.001$, respectively). HD group showed significant increase in planning only immediately after the core sessions and at 6 weeks with small effect size (ES=0.21, $p<0.05$ and ES=0.24, $p<0.05$, respectively).

The increases in planning were significantly greater in Group PA than Group HD immediately after core sessions, at 6 weeks and 3 months, indicating the effectiveness of PA intervention with small to medium effect size (ES=0.42, $p=0.018$; ES=0.34, $p=0.016$; and ES=0.51, $p<0.001$, respectively).

Figure 4.57 Planning for engaging ZTE_x regularly (0-10)



* $p<0.05$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=strongly disagree" to "10=strongly agree"

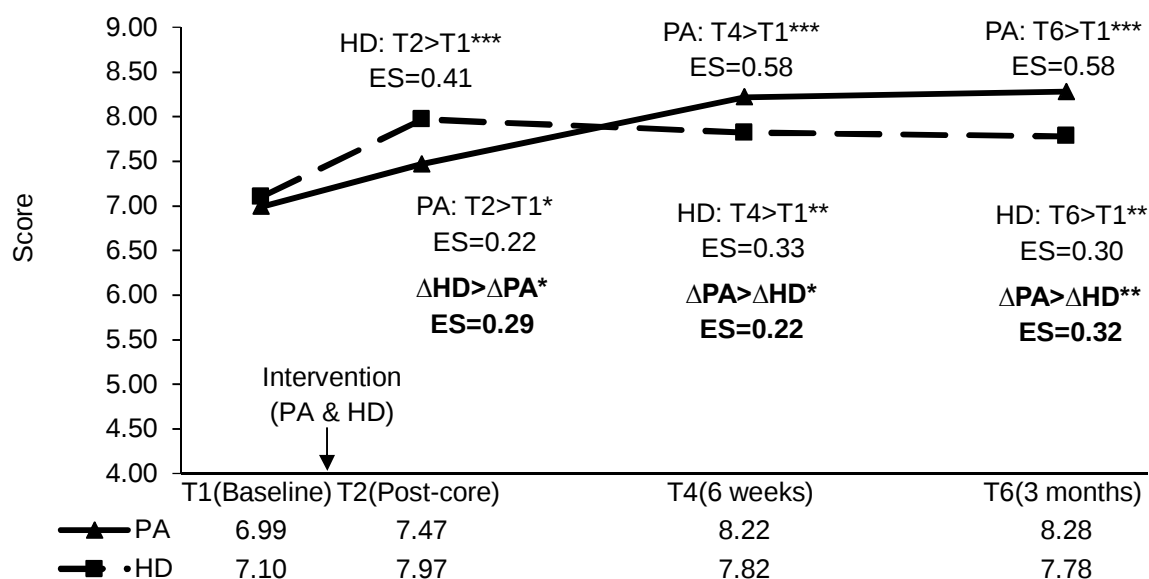
(E) Knowledge, self-efficacy and attitudes in relation to adopting low sugar consumption dietary practices

Knowledge of the general concept of low sugar consumption

Figure 4.58 shows significant increase in knowledge of the general concept of low sugar consumption immediately in Group HD after the core sessions, at 6 weeks and 3 months (ES=0.41, $p<0.001$; ES=0.33, $p=0.005$; and ES=0.30, $p=0.004$, respectively) and Group PA (ES=0.22, $p=0.018$; ES=0.58, $p<0.001$; and ES=0.58, $p<0.001$, respectively). The effect size ranged from small to medium.

The increases in knowledge immediately after the core sessions was significantly greater in Group HD than Group PA with small effect size (ES=0.29, $p=0.036$). However, the increases in knowledge at 6 weeks and 3 months were significantly greater in Group PA than in Group HD with small effect size (ES=0.22, $p=0.010$ and ES=0.32, $p=0.001$, respectively). Such results could not be considered as consistent evidence for effectiveness of either intervention.

Figure 4.58 Knowledge of the general concept of low sugar consumption (0-10)



* $p<0.05$; ** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

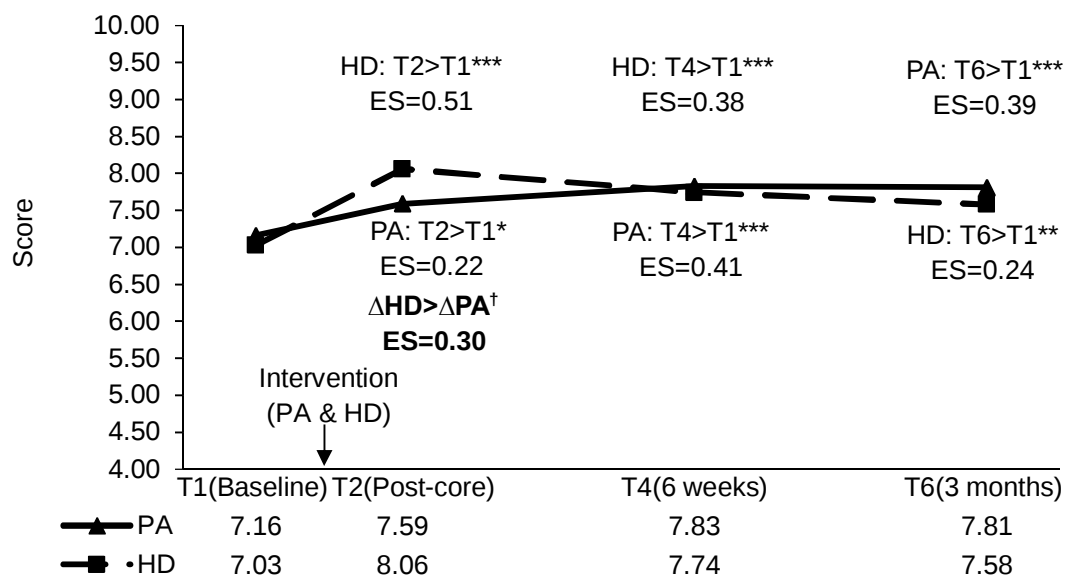
10-point Likert scale: "0=strongly disagree" to "10=strongly agree"

Self-efficacy of adopting low sugar dietary practices regularly

Figure 4.59 shows significant increase in self-efficacy of adopting low sugar consumption practices regularly in Group HD immediately after the core sessions, at 6 weeks and 3 months (ES=0.51, $p<0.001$; ES=0.38, $p<0.001$; and ES=0.24, $p=0.019$, respectively) and Group PA (ES=0.22, $p=0.018$; ES=0.41, $p<0.001$; and ES=0.39, $p<0.001$, respectively). The effect size ranged from small to medium.

The increase in self-efficacy immediately after the core sessions was marginally significantly greater in Group HD than Group PA, which could be suggestive evidence of the short-term effectiveness of PA intervention (ES=0.30, $p=0.097$).

Figure 4.59 Self-efficacy of adopting low sugar dietary practices regularly (0-10)



$^\dagger p<0.10$; * $p<0.05$; ** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

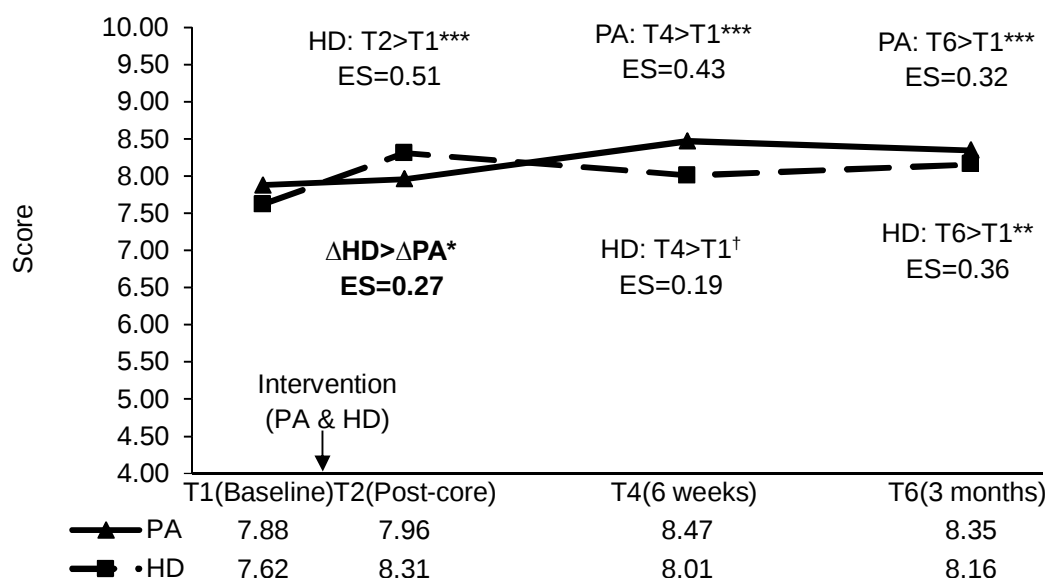
10-point Likert scale: "0=strongly disagree" to "10=strongly agree"

Outcome expectancies of adopting low sugar dietary practices regularly

Figure 4.60 shows significant increase in outcome expectancies of adopting low sugar consumption practices regularly in Group HD immediately after the core sessions, at 6 weeks and 3 months with small to medium effect size ($ES=0.51$, $p<0.001$; $ES=0.19$, $p<0.10$; and $ES=0.36$, $p<0.01$, respectively). The outcome expectancies in Group PA significantly increased only at 6 weeks and 3 months with small effect size ($ES=0.43$, $p<0.001$ and $ES=0.32$, $p=0.006$, respectively).

The increase was significantly greater in Group HD than Group PA only immediately after the core sessions, indicating the short-term effectiveness of HD intervention with small effect size ($ES=0.27$, $p=0.048$).

Figure 4.60 Outcome expectancies of adopting low sugar dietary practices regularly (0-10)



† $p<0.10$; * $p<0.05$; ** $p<0.01$; *** $p<0.001$

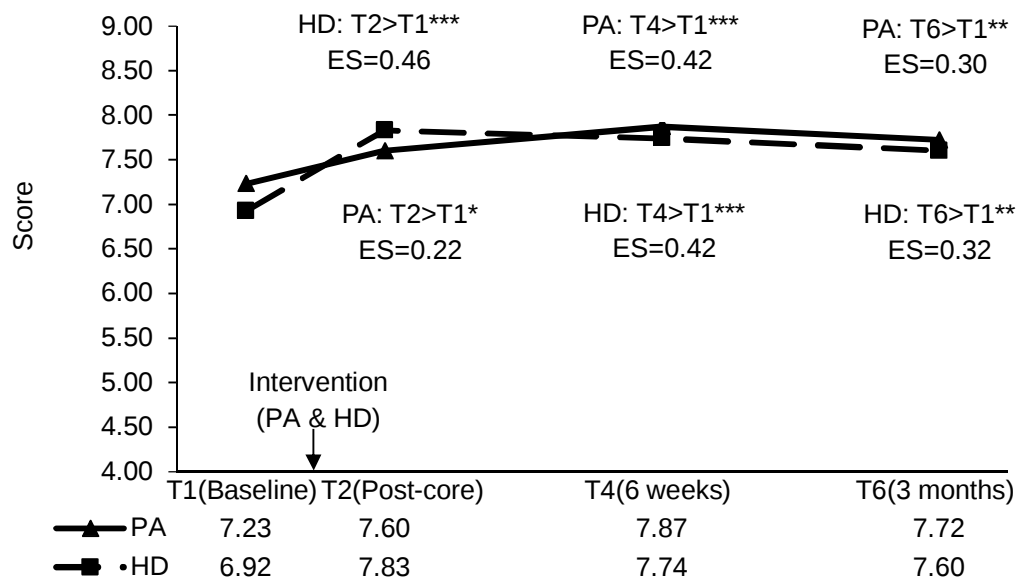
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=strongly disagree" to "10=strongly agree"

Intention to adopt low sugar consumption dietary practices regularly

Figure 4.61 shows significant increase in Intention to adopt low sugar consumption practices regularly immediately after the core sessions at 6 weeks and 3 months in Group HD (ES=0.46, $p<0.001$; ES=0.42, $p<0.001$; and ES=0.32, $p=0.002$, respectively) and Group PA (ES=0.22, $p=0.024$; ES=0.42, $p<0.001$; and ES=0.30, $p=0.001$, respectively). However, the 2 groups showed no significant difference in the changes.

Figure 4.61 Intention to adopt low sugar dietary practice regularly (0-10)



* $p<0.05$; ** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

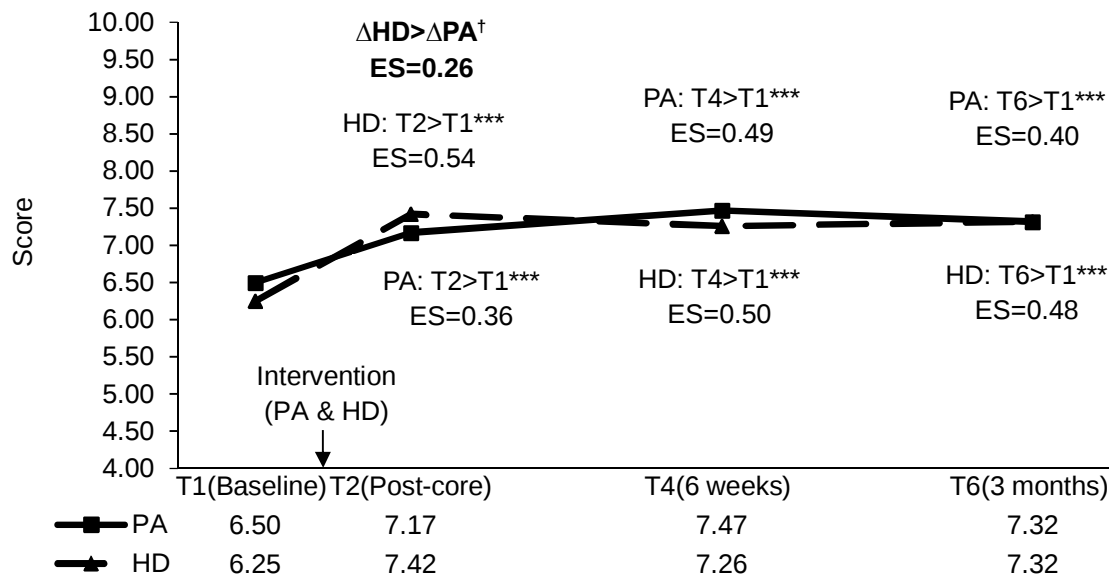
10-point Likert scale: "0=strongly disagree" to "10=strongly agree"

Planning for adopting low sugar consumption dietary practices regularly

Figure 4.62 shows significant increase in planning for adopting low sugar consumption practices regularly immediately after the core sessions at 6 weeks and 3 months in Group HD (ES=0.54, $p<0.001$; ES=0.50, $p<0.001$; and ES=0.48, $p<0.001$, respectively) and Group PA (ES=0.36, $p<0.001$; ES=0.49, $p<0.001$; and ES=0.40, $p<0.001$, respectively).

The increase was marginally significantly greater in Group HD than in Group PA only immediately after the core sessions, which could be suggestive evidence of the short-term effectiveness of HD intervention (ES=0.26, $p=0.093$).

Figure 4.62 Planning for adopting low sugar dietary practices regularly (0-10)



† $p<0.10$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=strongly disagree" to "10=strongly agree"

(F) Physical fitness performance

Table 4.13 shows significant increase in hand grip strength of both hands and the duration of standing with single leg in Group PA only at 6 weeks (ES=0.26-0.36, $p<0.05$) with small effect size. Group HD showed a significant decrease in left grip strength only at 6 weeks, with small effect size (ES=0.18, $p=0.013$).

The increases in grip strength of both hands were significantly greater in Group PA than Group HD, indicating the effectiveness of PA intervention, with small to medium effect size (left hand grip strength: ES=0.68, $p<0.001$ and right hand grip strength: ES=0.39, $p=0.036$).

Table 4.13 Physical fitness performance

Group PA (n=112)			Group HD (n=47)			Difference in changes between 2 groups
Pre-training	6 weeks	Pre → 6 weeks	Pre-training	6 weeks	Pre → 6 weeks	
Mean (SD)	Mean (SD)	p -value ^a / ES ^b	Mean (SD)	Mean (SD)	p -value ^a / ES ^b	p -value ^a / ES ^b
Body weight (kg)						
57.67 (11.08)	57.23 (9.52)	0.84/ 0.02	59.60 (13.98)	59.57 (13.91)	0.58/ 0.05	0.99/ 0.00
Single leg stance test (0-120 seconds)						
63.17 (47.36)	69.43 (47.02)	0.010*/ 0.26	55.65 (36.51)	63.51 (39.59)	0.010*/ 0.34	0.75/ 0.06
Hand grip strength - Left (kg)						
21.49 (7.35)	22.66 (7.93)	0.002**/ 0.25	24.12 (8.01)	23.01 (8.72)	0.013*/ 0.18	<0.001**/ 0.68
Hand grip strength- Right (kg)						
22.81 (7.65)	23.43 (7.62)	0.036*/ 0.20	24.68 (8.23)	24.11 (8.32)	0.23 0.18	<0.05 [†] / 0.39

^a p -value for the difference between baseline and 1 month follow-up

[†] $p<0.10$; * $p<0.05$; ** $p<0.01$

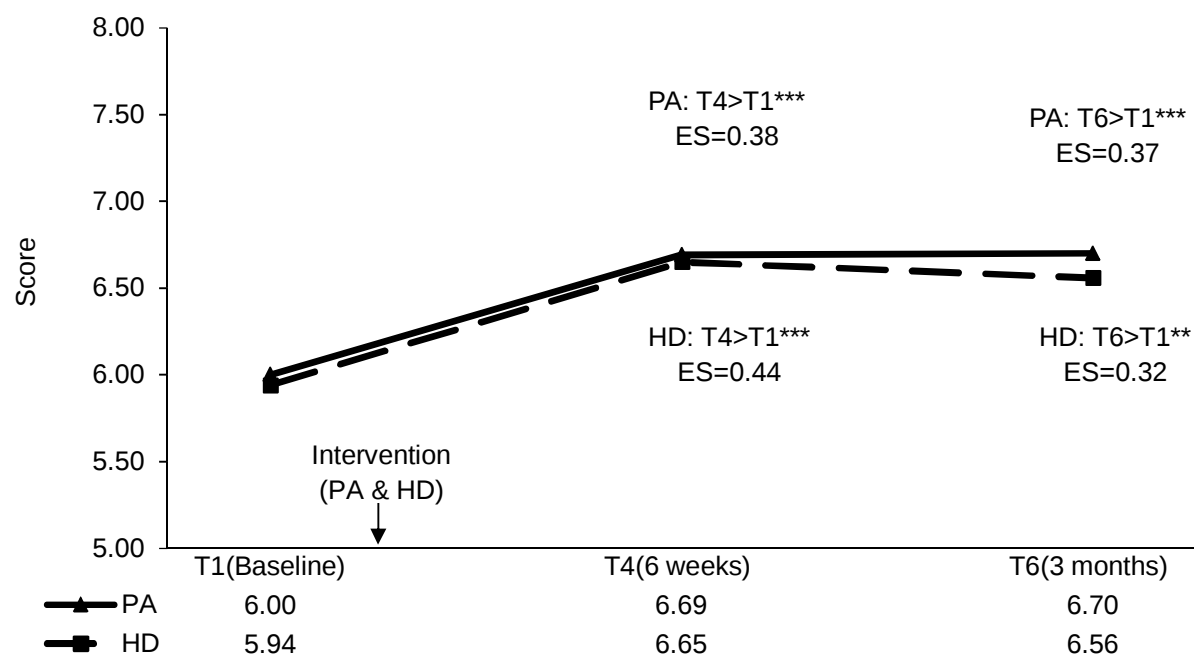
^b ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

(G) Self-reported well-being

Self-reported personal health

Figure 4.63 shows significant increase in self-reported personal health at 6 weeks and 3 months in Group PA (ES=0.38, $p<0.001$ and ES=0.37, $p<0.001$, respectively) and Group HD (ES=0.44, $p<0.001$ and ES=0.32, $p=0.002$, respectively), with small effect size. The two groups showed no significant difference in the changes.

Figure 4.63 Self-reported personal health (0-10)



** $p<0.01$; *** $p<0.001$

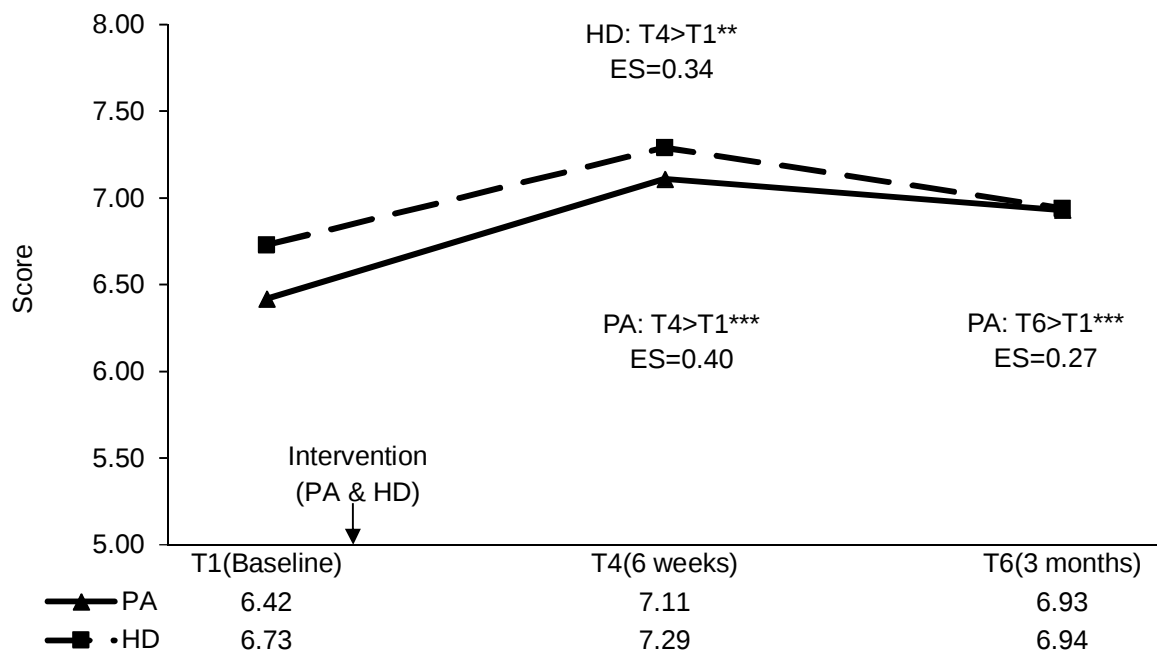
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=very unhealthy/unhappy/disharmonious" to "10=very healthy/happy/harmonious"

Self-reported personal happiness

Figure 4.64 shows significant increase in self-reported personal happiness in Group PA at 6 weeks and 3 months with small effect size ($ES=0.40$, $p<0.001$ and $ES=0.27$, $p<0.001$, respectively). The increase in Group HD significantly increased with small effect size only at 6 weeks ($ES=0.34$, $p=0.001$). The 2 groups showed no significant difference in the changes.

Figure 4.64 Self-reported personal happiness (0-10)



** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

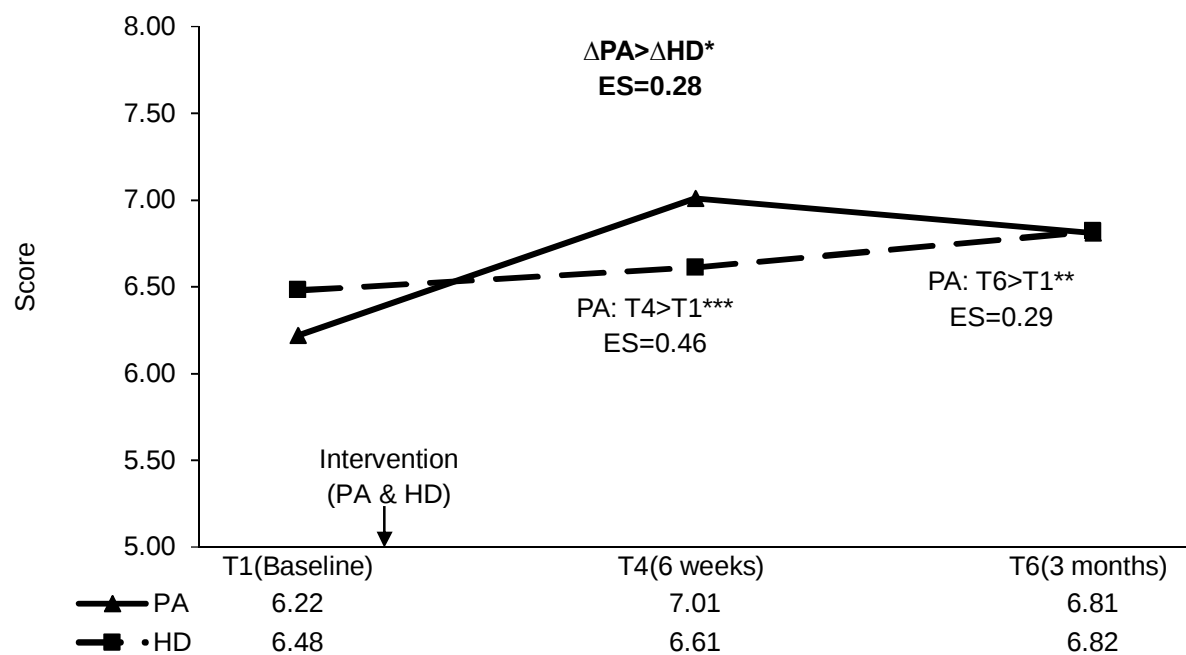
10-point Likert scale: "0=very unhealthy/unhappy/disharmonious" to "10=very healthy/happy/harmonious"

Self-reported FAMILY health

Figure 4.65 shows significant increase in self-reported FAMILY health in Group PA at 6 weeks and 3 months with small effect size ($ES=0.46$, $p<0.001$ and $ES=0.29$, $p=0.002$, respectively). Group HD showed no significant increase.

The increase in FAMILY health only at 6 weeks was significantly greater in Group PA than Group HD, indicating the short-term effectiveness of PA intervention with small effect size. ($ES=0.28$, $p=0.041$).

Figure 4.65 Self-reported FAMILY health (0-10)



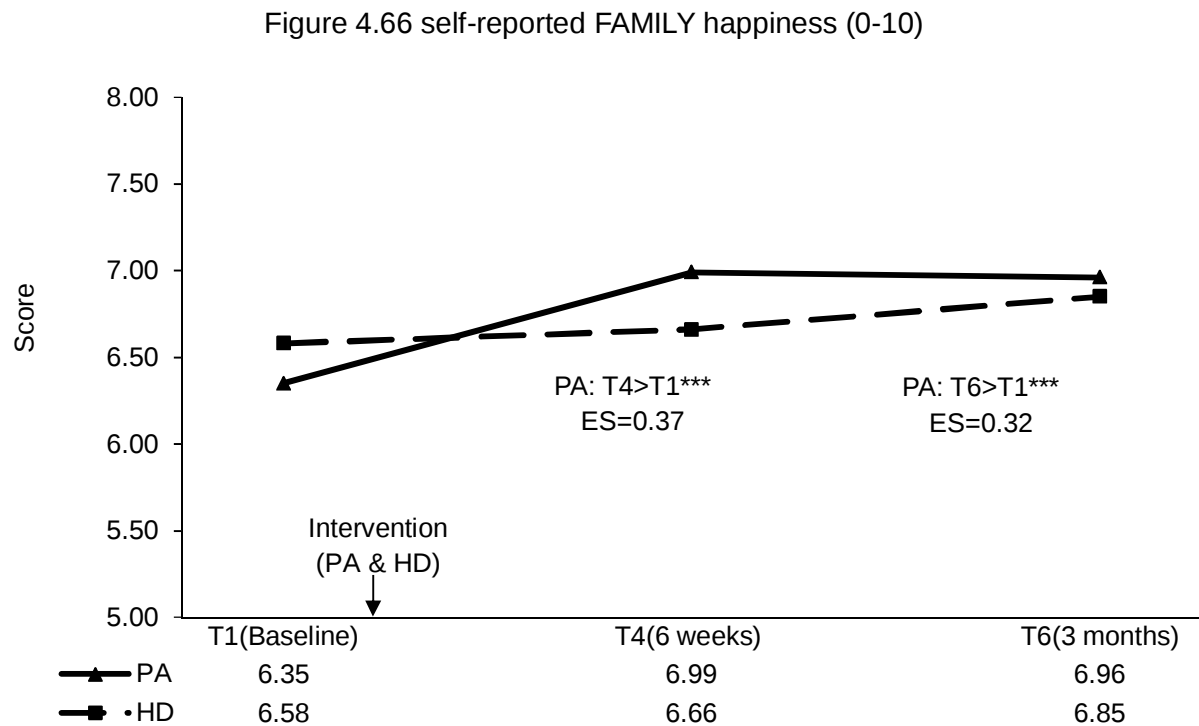
* $p<0.05$; ** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=very unhealthy/unhappy/disharmonious" to "10=very healthy/happy/harmonious"

Self-reported FAMILY happiness

Figure 4.66 shows significant increase in self-reported FAMILY happiness at 6 weeks and 3 months in Group PA with small effect size ($ES=0.37$, $p<0.001$ and $ES=0.32$, $p<0.001$, respectively). Group HD showed no significant increase. The 2 groups showed no significant difference in the changes.



*** $p<0.001$

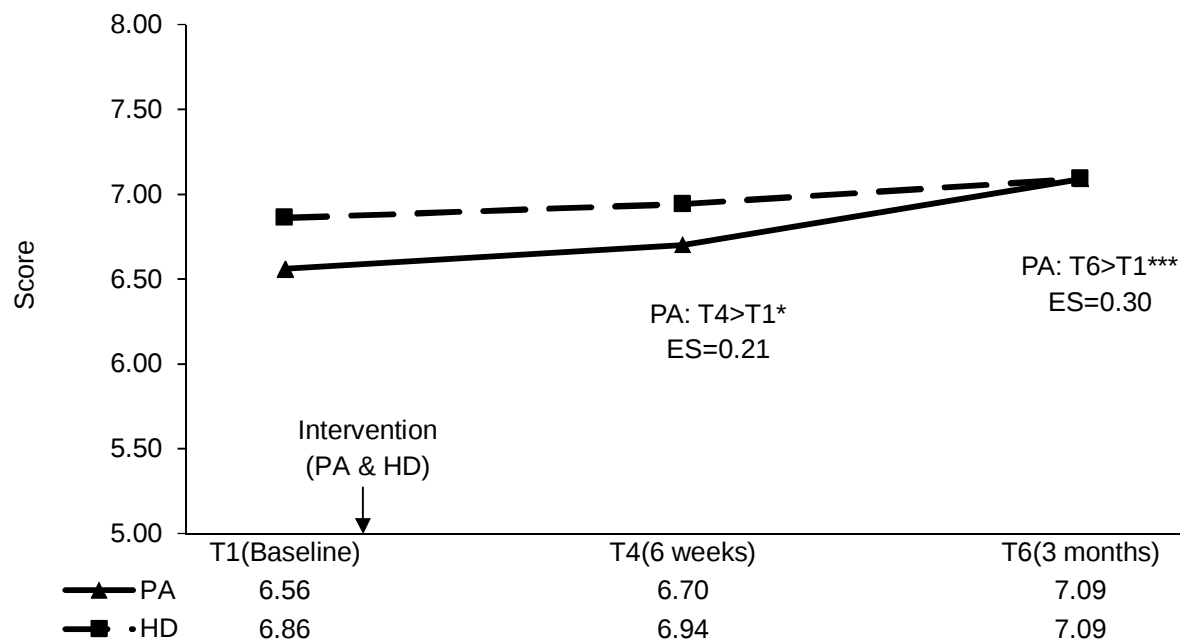
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=very unhealthy/unhappy/disharmonious" to "10=very healthy/happy/harmonious"

Self-reported FAMILY harmony

Figure 4.67 shows significant increase in self-reported FAMILY harmony in Group PA at 6 weeks and 3 months with small effect size ($ES=0.21$, $p=0.024$ and $ES=0.30$, $p<0.001$, respectively). Group HD showed no significant increase. The 2 groups showed no significant difference in the changes.

Figure 4.67 Self-reported FAMILY harmony (0-10)



* $p<0.05$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

v10-point Likert scale: "0=very unhealthy/unhappy/disharmonious" to "10=very healthy/happy/harmonious"

4.3.7.2 Feedbacks on the training workshops

From the on-site direct observation, trainees were highly involved with active participation and enthusiasm in the training. Trainees in Group PA showed great interests in the physical fitness assessments, particularly the hand grip strength and single leg stance. They liked the ZTE_x demonstration and were actively doing in-class ZTE_x with enthusiasm. The workshop atmosphere was joyful, and trainees had great fun in comparing their fitness results with the normative values and their peers' results. Trainees in Group HD appreciated the good preparation on making the sugar bottles (which contained sugar granules with equivalent amount of sugar of the bottled beverages had) and the games for guessing how much sugar in their favourite drinks.

At one month, trainees rated the quality of the workshop content as 8.2 ± 1.5 units and 7.9 ± 2.1 units in Group PA and Group HD, respectively. The level of utility was rated as 7.7 ± 1.6 units and 7.5 ± 2.3 units on a scale from 0 to 10 in Group PA and Group HD, respectively. Ninety-nine percent trainees ($n=81$) in Group PA and 98% ($n=61$) in Group HD indicated that they would recommend this workshop to their friends and family.

4.3.7.3 Summary of quantitative results

Trainees in both Groups PA and HD actively participated with good interaction with the trainers and indicated that the training was easy-to-understand and applicable in real life practice. They shared the new concept of ZTE_x and low sugar consumption practices with their families and friends.

Both Groups PA and HD showed increases in knowledge, self-efficacy, outcome expectancies and intention on applying the general constructs of positive psychology, ZTE_x and low sugar consumption in daily practices. Physical activity, ZTE_x, physical fitness performance, low sugar consumption practices, family communication and well-being significantly enhanced in both Groups PA and HD. The effect size ranged from small to medium effect size (Group PA: $ES=0.21-0.75$, $p<0.05$ and Group HD: $ES=0.20-0.54$, $p<0.05$).

Group PA showed significantly greater increases in competence and attitudes towards on ZTE_x concepts, physical fitness performance and family health with small to large effect size ($ES=0.22-0.84$, $p<0.05$), compared with Group HD.

Group HD showed significantly greater increases in competence and attitudes towards low sugar consumption constructs and significantly greater decreases in sugar consumption with small effect size ($ES=0.27-0.28$, $p<0.05$), compared with Group PA.

The discussion and conclusions of the training programmes are presented in section 4.9 of this chapter.

4.3.8 Qualitative results

4.3.8.1 Demographic characteristics

Two focus group interviews were conducted for volunteers in December 2016 and January 2017. Table 4.14 shows that the majority of the trainees were female (62%).

Table 4.14 Socio-demographic characteristics of trainees joined the focus group interviews (n=13)

Characteristic	n (%)
Sex	
Male	5 (39)
Female	8 (62)
Age group (years)	
30-39	3 (23)
40-49	3 (23)
50-59	2 (15)
60-64	3 (23)
≥65	2 (15)
Education	
Primary level	2 (15)
Secondary level	6 (46)
Tertiary level	5 (39)

4.3.8.2 Results and quotes

The main themes generated from the focus groups include “Impression of the training”, “Programme implications”, “Programme implementation” and “Behaviour changes”. The trainees were impressed by well-organised training content and professional information. They reported gained useful knowledge, improved health awareness, better family relationship and well-being. The electronic message acted as good reminder for them to actively take part into healthy living habits. ZTEx is a good and effective exercise and low sugar consumption dietary information was easy-to-understand and -apply to daily life. Increased interaction with family and improved health awareness and behaviours were reported. However, the questionnaires were long and difficulty for the elderly to answer.

The main themes, subthemes, and categories relevant to the research questions in Chinese are illustrated below with translated quotations in English. Table 4.15 shows the quotes from the volunteers in Group PA and Table 4.16 shows the quotes from the social service workers in Group HD.

Table 4.15 Quotes from the volunteers in Group PA

Theme	Subtheme	Quotes
Impressions of the training	Impressions of the workshop	<u>Gained useful knowledge</u> “我覺得呢，佢每一個運動呀介紹俾你哋個時候總會介紹埋有啲咩幫助呀，譬如手握力咁樣對個心臟好呀，平衡力第時就老咗無咁易跌呀。即係呢方面好好啦。” (家庭主婦，女，40-49 歲，B20208) “I feel like they tend to introduce how it works (when) they talk about the exercise, such as hand grip strength is good for heart, balance (exercises) could lower the chance from falling when getting older. This part is very good.” (A housewife, female, 40-49 yr, B20208) “我覺得「零時間運動」係值得推廣，因為比較簡單，適合香港人。” (家庭主婦，女，40-49 歲，B20208) “I think ‘ZTEx’ is very worth the promotion, because it is relatively easy and it suits Hong Kong people.” (A housewife, female, 40-49 yr, B20208) <u>Good impression of the interventionists (trainers)</u> “我又覺得賴姑娘都唔錯，幾好。因為佢好緊張我哋嚟嘛係咪先，好緊張我哋就表示呢，佢係有責任心囉，我覺得。” (退休人士，女，60-64 歲，B20203) “I think Ms. Lai is good, very good. Because she really cared about us right, cared about us means she’s conscientious, in my opinion.” (A retiree, female, 60-64 yr, B20203) “(培訓) 太精彩，精彩到覺得好似仲未夠候嘅感覺。” (家庭主婦，女，40-49 歲，B20208) “(The training) was wonderful, it was so wonderful that I feel it’s not yet gotten enough.” (A housewife, female, 40-49 yr, B20208)

Theme	Subtheme	Quotes
	Messages worked as a reminder	“會記得囉，其實都...都（係）一個提點，因為收到 WhatsApp。” (退休人士，女，60-64 歲，B20203) “(We) will remember (it), it is actually a reminder, when we got the WhatsApp (message).” (A retiree, female, 60-64 yr, B20203)
	Suggestions	<u>Reminder for forgettable exercise</u> “其實佢教每一項運動呢，我哋都會做得好開心，但係都係完咗之後，都係會唔記得咗喇。” (家庭主婦，女，40-49 歲，B20208) “Actually for each of the exercise he taught, we performed it happily. But after we were done, (we) would forget about it.” (A housewife, female, 40-49 yr, B20208) <u>Shorten the questionnaire</u> “我覺得（問卷內容）多咗囉。如果可以能夠...簡短啲，精啲咁就...（好了）。” (退休人士，女，60-64 歲，B20203) “I think (the content of the questionnaire) is too many. If it can be...shorter and simpler...it would be (better).” (A retiree, female, 60-64 yr, B20203) <u>Need longer time to digest information</u> “...佢最好呢，就係講完有多少少時間俾我哋，即係再溫習先，咁會好似加強咗記憶呀...” (家庭主婦，女，40-49 歲，B20206) “...it's better, after the speech, give some time for us, to review (the training information), it's like (helpful for us to) strengthen the memory...” (A housewife, female, 40-49 yr, B20206)

Theme	Subtheme	Quotes
Programme implications	Better family relationship	<u>Family gratitude</u> “即係你讚我我讚你，大家都開心。” (退休人士，女，65 歲或以上， B20205) “It’s like, you praise me, I praise you (back), everyone is happy.” (A retiree, female, 65 yr or above, B20205) “佢讚我讚佢呀...佢要上堂表演呀嘛，平時唔係好鍾意做啲大動作，跟住我「哇呀仔你今次啲動作做得好靚㗎，真係認真去做㗎」係呀，多謝媽媽讚我，你讚我，我以後就夠膽去做囉。」”(家庭主婦，女，40-49 歲， B20208) “He (the son) praised me to praise him!... He needed to go up to do the show, (he) usually didn’t like to do the big moves, and then later I (said) ‘Wow son, this time the moves you did very good, you really got down to it!’ (he said) ‘yes, thanks mom, (now) you praised me, I have the courage to do it in the future’.” (A housewife, female, 40-49 yr, B20208) <u>More family interaction</u> “我覺得家庭和諧方面係提升咗少少囉。同埋小朋友，親子之...關係之間呢，會多啲同佢互動㗎。唔係話成日話顧住自己，咁即係會...同小朋友大家玩吓，多啲互動咁樣，大家都開心㗎。” (在職人士，女，30-39 歲， B20201) “I think, family harmony has increased a bit. Plus children and parents, the relationship between us, have more interaction. Not only consider myself, but also play with the kids. With more interactions, we are all happier.” (A part-time employee, female, 30-39 yr, B20201)

Theme	Subtheme	Quotes
	Better family well-being	<u>Improved health awareness</u> “我覺得佢就係教我哋做運動嗰 part 幾好...同埋提供好多資訊，例如你點樣為之標準啦，應該，即係你做完測試你個個，你個啲 BMI 個啲，你睇吓自己邊度需要減呀，標唔標準呀咁樣。平時又好少理呢啲嘢。”(家庭主婦，女，40-49 歲，B20206) “I think the part they taught us to do exercise was very good...with much information provided, such as what is the standard, like after the tests, your BMI, you can see what you have to pay attention to. Is it standard or not. We seldom pay attention to such things usually.” (A housewife, female, 40-49 yr, B20206) <u>Increased chances to do exercise</u> “之前係未聽過嘅，本身都係鍾意運動嘅，聽到呢啲更加有多啲機會，提返自己做運動。”(退休人士，男，65 歲或以上，B20204) “Didn't know this (exercise) before, I myself like exercise too, knowing this have remind me to do more exercise.” (A retiree, male, 65 yr or above, B20206)
	Gained knowledge	<u>Positive effects of positive psychology</u> “我成日開開心心嘅。啲仔呀，見到我，咁佢唔駛擔心我啦。Eh 見到其他人，譬如，中心老友記呀，咁見到我都會笑吓打吓招呼呀，我覺得成日笑呢，就係唔錯㗎。”(退休人士，女，60-64 歲，B20203) “I am happy for most of the time, my son, see me (like this), so he doesn't have to worry about me, and (when I) see others, such as the elderly in the centre, I would say hi with a smile. I think having a smile on face would never go wrong(A retiree, female, 60-64 yr, B20203) “咁呢，佢個讚美呢，我哋就即係成日用嘅。不過有時真係好嬲嗰陣都會諗返開心嘢，呢個係有正面個個...會...會降低你自己啲情緒...”(退休人士，男，65 歲或以上，B20204) “The praise, we use it all the time. Sometimes when you are really mad, you will think about happy moments, there is a positive effect, which will relieve

Theme	Subtheme	Quotes
		your (negative) emotion..." (A retiree, male, 65 yr or above, B20206)
	Newly learnt ZTE _x	“以前亦都唔識得話咩叫「零時間運動」咁以前返工就返工，一日坐係寫字樓就係咁多個鐘頭...但係依家呢上咗個堂呢就知道，哦「零時間運動」就即係，可以點樣做嘅咁。咁係有幫助囉。”(退休人士，女，60-64 歲，B20203) “Before I didn't know what is 'ZTE_x' ...before I just go to work, sitting in there the whole day, (for) so many hours...but now I know about 'ZTE_x', (I know) how to do it. It's helpful.” (A retiree, female, 60-64 yr, B20203) “都開心嘅，有幾個...好多嘢都係，即係未接觸過，知道有咁個...即係嗰個讚美同埋你個啲「零時間運動」。”(退休人士，男，65 歲或以上，B20204) “It's happy, there are many things that we didn't know before, (now we) know this, the gratitude and 'ZTE_x'.” (A retiree, male, 65 yr or above, B20206)
	Better relationship with others	“有一樣嘢呢就，都幾大感受囉...咁我呢就係間老人院度做義工喇...老人家其實都...原來都係要讚嘅吓嘛，就會讚佢哋...佢一玩到嗰個遊戲呢，呀...一擺到嗰個分數我「哇好叻喎，俾個讚你先，俾個 like 你先」，咁喇佢就好開心...鼓勵嚟嘅，原來係一種鼓勵...老人家同細路仔都係一樣，我哋都一樣，係嘛，即係如果有人讚...讚吓我呢，我都會好開心咁囉。”(退休人士，女，60-64 歲，B20203) “There's one thing I was really feeling impressed...I do volunteer in nursing home...the elderly likes being gratitude, then I'd praise them...when he plays a game, once he got a score, (I'd say) 'Wow, good job, give you're a thumb up, give you a "like"! And then they become very happy...I think it (the gratitude) is an encouragement...the aged people are same as the kids, we are all same, right, if someone praised me, I would be very happy too.” (A retiree, female, 60-64 yr, B20203)

Table 4.16 Quotes from the volunteers in Group HD

Theme	Subtheme	Quotes
Programme implementation	Impressed by the programme content	<u>Gratitude and savouring</u> “我就最深刻呢其實係...係常感恩同常讚賞囉。因為...可能我...近排我啲朋友好多時會用呢一part嘅嘢囉...好應用到囉。”(家庭主婦，女，30-39歲，B20107) “What impressed me the most, actually was the gratitude and frequent praises. Because...maybe I, recently there were many times my friends they had applied this part...it's very applicable.” (A housewife, female, 30-39 yr, B20107) “...有幾個我都鍾意嘅。嗰個常讚賞，嚐細味，咁即係返到屋企又學吓讚美吓家人，咁食嘢又食慢啲...”(退休人士，女，60-64歲，B20105) “...There were many parts I quite liked, that gratitude and savouring, and also praise family members when get back home, and eat slowly when having meals...” (A retiree, female, 60-64 yr, B20105) <u>Less sugar</u> “...因為藉住個話題同佢講多啲嘢...傾嘅時候「喂你呀，唔好咁夠膽呀，因為有七粒方糖喺裡面㗎。」即係我哋就覺得好似我哋，說之有理咁樣呀...咁就佢哋可能會記住。”(退休人士，男，50-59歲，B20104) “...because by (talking about) this topic, I can talk more with him (the son) ...when we were talking, I'd say 'you, it's not good to be so 'brave' (to drink the sweetened drinks), because it has 7 cubes of sugar in it.' It's like it seems (what) I said made sense...so he would probably remember it.” (A retiree, male, 50-59 yr, B20104)

Theme	Subtheme	Quotes
	Professional information	“...你哋咪送咗一大個，枱墊。咁我返到去囉咗個枱墊之後呢，我放喺度，咁點知我個女睇咗之後呢，佢又好冇好奇喎，咁又呀「呀爸爸，估唔到呢，你都搵到啲咁專業嘅資料返嚟，咁樣介紹俾我哋睇。」唔係介紹，即係估唔到我係會咁 pro 嘅。” (退休人士，男，50-59 歲，B20104) “the big table mat you gave me, I have brought it home and put it there. Who knows why my daughter was so curious after seeing that, and said ‘Dad, didn’t know you can get such professional information and would introduce (the knowledge) to us in this way.’ ...it’s like (she) didn’t expect me can be so professional.” (A retiree, male, 50-59 yr, B20104)
	Implications	<u>Apply positive psychology in daily life</u> “我...欣賞同埋感恩。我諗呢個好實際同埋的而且確可以讓心情或者睇事物嘅角度呢會正面同埋有動力一啲。” (在職人士，男，30-39 歲，B20106) “I (like the parts of) gratitude. I think this one is very practical and it did make your mood (better) or made the way you see things more positive and motivated.” (A full-time employee, male, 30-39 yr, B20106) “我就同，朋友分享囉多數都係感恩啲 part，因為我發覺身邊嘅朋友好少會為著一啲有嘅嘢去感謝，而係為咗一啲無嘅嘢而去到難受...” (家庭主婦，女，30-39 歲，B20107) “I shared...mostly the gratitude part with friends, because I realised that friends around rarely thank for things, rather they would feel bad about some not important things...” (A housewife, female, 30-39 yr, B20107)

Theme	Subtheme	Quotes
	Difficulties in doing questionnaires	<u>Verbose questionnaires</u> “...個 survey 個度呢...好大份...一來做得好匆忙，二來裡面有一啲好概念性嘅嘢呢，其實好難判斷。我自己做都覺得有啲難判斷。我諗其他人啲啲就更甚...” (在職人士，男，30-39 歲，B20106) “the survey...was long...for one thing (we) do it in a hurry, for another there were many conceptual things (in the questionnaire), actually it's hard to get it. I myself also found it's difficult to understand, let alone for the others.” (A full-time employee, male, 30-39 yr, B20106) <u>Elderly people are impatient in doing questionnaire</u> “...因為我哋當中好多長者呀參加，啲長者唔識字嘅嘛，咁就我哋俾佢哋聽嘅時候，佢都係求其答，因為想快啲走...” (退休人士，女，60-64 歲，B20105) “Because there were many elderly participated, who didn't know how to read. So even though we read the questionnaire to them, they won't answer it by heart, because they wanted to leave sooner...” (A retiree, female, 60-64 yr, B20105)
	Suggestions	<u>Early inform the programme content</u> “可能話俾參加者知可能預早少少嚟，要做一柞嘢咁...因為佢又無 expect 你哋要做，度高磅重，又要做吓啲體能。” (家庭主婦，女，30-39 歲，B20107) “If it's possible let the participants know earlier that they need to do a number of things...because they didn't expect you required to take the weight and also the height, and then need to test the physical ability.” (A housewife, female, 30-39 yr, B20107)
Behaviour changes	Increased risk perception	<u>Less junk food</u> “即係呢一個就俾我知道好多，即係譬如 pizza 啦，原來咁邪惡嘅...原來我無諗過係即係...咁犀利嘅。咁以前我哋叫個大嘅，依家我哋叫個細嘅啫...係依家係節制咗。” (在職人士，女，40-49 歲，B20101) “One thing (of the programme) is it let me know a lot, such as pizza, Woo it is so evil...before I didn't think

Theme	Subtheme	Quotes
		of it as...so severe. Before we would order a big one (pizza), now we would order a small one...we try to control it." (A full-time employee, female, 40-49 yr, B20101) <u>Less sugar</u> “...以前係知嘅，即係譬如飲檸茶係甜嘅，但係唔知道甜到咁恐怖...所以依家就，我自己都少飲咗。每次去茶餐廳呢...檸水我依家都唔落糖㗎喇。” (在職人士，女，40-49 歲，B20101) “...I knew it before, for instance drinking lemon tea is sugary, but I didn't know the sugar level was so severe...so now I drink less. Every time when I go to cha chaan teng...I drink lemon tea without sugar.” (A full-time employee, female, 40-49 yr, B20101) “我諗我自己屋企咪...即係我諗買飲品的形態改變咗囉。咁第一樣嘢就係嘢飲都要照飲嘅，買茶，係囉買多咗茶，但係盒裝飲品就減囉。咁另外都會，有陣時想飲甜嘢呢，都會買，但係將個量減低啲囉...咁我覺得呢個係深刻嘅改變囉...咁呢個係屋企裡面都有...呢個轉變。” (在職人士，男，30-39 歲，B20106)” “I think in my family, the lifestyle of purchasing drinks has changed. First thing is that still need to drink, (but will) buy tea, buy more tea, but will try to reduce purchasing the packed drinks. And then is, sometimes when want to drink something sweet, I will still buy it, but will try to reduce the amount. And I think these changes are very profound, and there are such changes in the family.” (A full-time employee, male, 30-39 yr, B20106) “飲食嗰方面呢，平時我唔注重㗎嘛，但係因為我 take 咗呢個 course 呢，咁人哋俾我嘅。所以我依家已經知道㗎喇，你一飲一包啲咁樣嘅盒裝呢，已經係七粒方糖㗎喇。咁佢哋即係會 alert㗎喇，咁我覺得對家人都會有幫助。” (退休人士，男，50-59 歲，B20104) “The diet part, usually I didn't pay attention to it, but now because of taking this course, then they gave me (the materials), so now I know, once you had a pack of this drink, (you) have already (taken) 7 cubes of sugar. So they (the information) alerted (me), I think it's also helpful for family (members).” (A retiree, male, 50-59 yr, B20104)

Theme	Subtheme	Quotes
	Barriers	<u>Flavour preference</u> “少糖啲度，我就難做啲。係喇咁我超鍾意食甜嘢啲啲” (家庭主婦，女，30-39 歲，B20107) “For cutting down on sugar, it is difficult for me. Yes, I really like eating foods high in sugar.” (A housewife, female, 30-39 yr, B20107)

4.4 Overall discussion and conclusion

The social service workers and lay volunteers were benefited from the TTT and in TTA, respectively. In general, the training programmes

- Showed high acceptability and applicability of the training programmes;
- Enhanced competence on (knowledge and self-efficacy), attitudes toward (outcome expectancies and intention) and practice of using the training content in their interventions;
- Increased physical activity, ZTEx and low sugar consumption practices;
- Improved physical fitness performance;
- Enhanced competence (knowledge and self-efficacy), attitude (outcome expectancies, intention and planning) and practice of applying the construct of positive psychology, ZTEx and low sugar consumption practices in daily life;
- Improved family communication and increased engaging family members in ZTEx and low sugar consumption practices; and
- Improved personal and family well-being.

We have (a) designed brief three-phase evidence-based evidence generating TTT with theoretical conceptual model and innovation to meet the needs of the services; (b) implemented our programmes with guidelines and provided post-training support; and (c) systematically evaluated them with model-based approach, and quantitative and qualitative methods.

The training content included the general constructs of positive psychology, ZTEx (a new and simple exercise concept), healthy dietary practices (particularly low sugar consumption dietary practices) the implementation skills and the logistics of HFKM. During the training, we introduced the general concepts of positive psychology themes, health-related and project-related information and how these could be used in designing and implementing the programme for the clients. Experiential and diversified teaching and learning methods were used, including physical fitness assessments, experiential learning strategy, role-plays, games, group discussion and didactic talks. After the training, practice manuals and

continuous support including ongoing guidance, supervision and consultation, were provided to the trainees.

Trainees indicated that the training was easy-to-understand and comprehensive; the electronic messages were useful and reminded their health behaviours; and the souvenirs were attractive and practical-to-use. The training not only helped their work, but also improved their health behaviour and physical fitness and benefited personal and family well-being. They reported a great sense of achievement, and better relationships with family and people around. They disseminated their learning to their friends, families and participants of their implemented programmes. The qualitative feedbacks corroborated and enriched the quantitative results, with touching and enlightening messages.

There were several limitations in our study. First, because validated questionnaires were not available, we developed our outcome-based questionnaires to assess the changes in trainees. We measured perceptions and not actual knowledge and skills. Perceived knowledge and skills, may not reflect actual knowledge and skills acquired and can be influenced by the individual's personality, self-perception [49], and may be under- or over-estimated depending upon numerous factors in play at the time when completing the questionnaire. In addition, social desirability bias might have exaggerated the positive findings. We did get indirect information about actual knowledge and skills by examining the trainees' proposals, the design and content of the programmes and the delivery process, which fulfilled our requirement. Objective measures or tests/examinations of specific knowledge and skills, and a waitlist control group of trainees who do not receive the programme would provide stronger evidence in future studies. Our sample size was small, and the workers we included might not be representative of their profession across other agencies. Replications with more workers and in other contexts are needed. We cannot be certain about which of our strategies resulted in effective learning. Elucidation of the active ingredients of an intervention and the mediation components that are responsible for change, typically are undertaken after an intervention is proven to be effective. Examination of the effective components of our training strategies would be a future direction for research, and may allow refinement of the programme for broader dissemination. Using a control group would be desirable.

Our evidence-based and evidence generating TTT has offered practical examples of the well-structured development and model based evaluation of capacity building programmes, which should be helpful to others seeking to develop such programmes in diverse communities. Our work has laid good foundations for deeper collaboration between social service organisations and academics in advocating the fusion of the "Best Science" with "Best Practice", and empowering social and related service organisations to integrate scientific practices into their existing and future programmes, and policy formulation.

Table 4.17 Participating Organisations/service units in the TTA

Organisations/service units	
Against Child Abuse Child Protection Institute	防止虐待兒童會保護兒童學院
Association of Baptists for World Evangelism Shing Yan Christian Social Service Centre	萬國宣道浸信會盛恩基督教社會服務中心
Caritas Community Centre-Caine Road	香港明愛堅道社區中心
Caritas Integrated Family Service Centre-Tin Shui Wai	明愛天水圍綜合家庭服務中心
Cheung Sha Wan Integrated Family Service Centre	社會福利署長沙灣綜合家庭服務中心
Christian Action Mong Kok Service Centre	基督教勵行會旺角服務中心
H.K.S.K.H. Holy Nativity Church Neighbourhood. Elderly Centre	香港聖公會福利協會有限公司 香港聖公會主誕堂長者鄰舍中心
H.K.S.K.H. Lady MacLehose Centre Dr. Lam Chik Suen District Elderly Community Centre	香港聖公會麥理浩夫人中心 林植宜博士老人綜合服務中心
Hong Kong Children and Youth Services Jockey Club Heng On Integrated Children and Youth Services Centre	香港青少年服務處 賽馬會恆安綜合青少年服務中心
Hong Kong Family Welfare Society East Kowloon Centre-Yau Tong Integrated Family Service Centre	香港家庭福利會油塘綜合家庭服務中心
Hong Kong Family Welfare Society Women and Family Enhancement Centre	香港家庭福利會婦女及家庭成長中心
Hong Kong Parents Association for the Hearing-impaired	香港聽障人士家長協會

Organisations/service units	
Hong Kong Toi Shan Association Neighbourhood Elderly Centre	仁愛堂香港台山商會長者鄰舍中心
Hong Kong YWCA Butterfly Bay Integrated Social Service Centre	香港基督教女青年會蝴蝶灣綜合社會服務處
International Social Service Hong Kong Branch Shamshuipo (south) Integrated Family Service Centre	香港國際社會服務社
Marycove School	瑪利灣學校
New Life Psychiatric Rehabilitation Association Chuk Yuen Integrated Work Centre	新生精神康復會竹園綜合培訓中心
Open Door Ministries Limited	開心社區服務有限公司
Oxfam Hong Kong	樂施會
Pok Oi Hospital Yuen Yuen Institute Children and Families Development Centre	博愛醫院圓玄學院兒童及家庭發展中心
Retina Hong Kong	香港視網膜病變協會
SAGE Chan Tseng Hsi Kwai Chung Community Centre for the Elderly	耆康會懷熙葵涌長者地區中心
Seventh-day Adventist Church Shan King Integrated Children and Youth Services centre	基督教復臨安息日會山景綜合青少年服務中心
SWD Aberdeen integrated family service centre	社會福利署香港仔綜合家庭服務中心
SWD Central and Islands Integrated Family Service Centre	社會福利署中區及離島綜合家庭服務中心

Organisations/service units	
SWD Family and Child Protective Services Unit (Central Western, Southern and Islands)	社會福利署保護家庭及兒童服務課 (中西南及離島)
SWD Family and Child Protective Services Unit (Eastern and Wanchai)	保護家庭及兒童服務課 (東區及灣仔)
SWD Family and Child Protective Services Unit (Kowloon City and Yau Tsim Mong)	社會福利署保護家庭及兒童服務課 (九龍城及油尖旺)
SWD Family and Child Protective Services Unit (Tai Po and North)	社會福利署 大埔及北區保護家庭及兒童服務課
SWD High Street Integrated Family Service Centre	社會福利署高街綜合家庭服務中心
SWD Kwun Tong District Planning and Coordinating Team	觀塘區策劃及統籌小組
SWD Medical Social Service Units (Queen Mary hospital)	瑪麗醫院醫務社會服務部

CHAPTER 5 DESIGN AND STUDY METHODS OF COMMUNITY-BASED FAMILY INTERVENTION

5.1 Introduction

Based on the strong foundation of the HFK I and HFK II conducted by the FAMILY Project Team in the past years the community-based family intervention of HFKM exerted a greater impact than the previous HFK projects to promote FAMILY Holistic Health. The HFKM was expanded from district level to territory-wide level by engaging both the policy makers and service providers from different sectors. The community-based programmes comprised of the key components of FAMILY Holistic Health, including physical activity, healthy diet, and positive family communication. The holistic health interventions were family-focused, interactive and designed to motivate behavioural changes and thus empower positive and sustainable health actions among family members. The HFKM had the following major contributions:

a. Enriched practice model

HFKM enriched the existing traditional practice by incorporating the concept of FAMILY Holistic Health, in which elements of physical activity and healthy diet were introduced and promoted. Innovative approaches designed by the FAMILY Project Team were implemented in the intervention programmes. This study had made important contributions to both knowledge building and healthcare development. Positive psychology intervention that incorporated both physical activity and healthy diet was an advancement in scientific research and practice.

b. Wider stakeholder engagement

A total of 28 non-governmental organisations, 1 government department, and 7 schools were engaged in this enlarged the network of project partners. Because of the high engagement of the project partners, the implications of this research were widespread.

c. Larger coverage and scope

This intervention was delivered across all 18 districts in Hong Kong so that a large number of beneficiaries from different sectors were covered. Participants of our intervention programmes were expected to spread the knowledge, skills, and experiences acquired to their social networks and thus achieving the territory-wide coverage.

5.2 Conceptual framework

Results from HFK I and HFK II showed that the community-based family intervention programmes were well received by families and significantly improved family communication, FAMILY 3Hs, subjective happiness, and positive family behaviours [14-17]. Based on the results in the HFK projects, the previous conceptual framework was selectively modified for HFKM. Three of the five positive psychology themes, namely, joy, gratitude, and savouring,

had the most beneficial effects in promoting HFK I and HFK II outcomes. Hence, they were retained in the new conceptual framework. Furthermore, physical activity (i.e., ZTEx: simple exercises that require no extra time and can be done while sitting, standing and walking) and healthy diet (focusing on low sugar consumption) were introduced to boost both mental and physical health. Physical activity and healthy diet were incorporated as platforms to promote positive family communication through applying the positive psychology themes. This integration of the elements of FAMILY Holistic Health was expected to ultimately enhance FAMILY 3Hs. The conceptual framework of the community-based family intervention programmes is presented in Figure 5.1. to further improve the feasibility of practicing the theme-specific behaviours, three behavioural indicators were adopted in each positive psychology theme and two behavioural indicators were adopted in each of the physical activity and healthy diet themes.

The participating social service units and schools were required to promote these behavioural indicators among the participants during the intervention programmes and encourage them to practice at home (Table 5.1). Hands-on experiential learning was applied to engage participants in physical activity or healthy diet so that they enjoyed chances to practice positive family communication and experience positive emotions associated with these interactions. These target behaviours were then reinforced through homework assignments and integrated into daily routine.

Two community-based programmes were pilot tested with a total of 56 participants by the HKSKH Lady MacLehose Centre-Family Activity & Resource Centre and The Wellness Centre (Sham Shui Po)-New Life Psychiatric Rehabilitation Association to ensure that the programme content, rundown and duration, interactive game and activity design, target behavioural indicators, and programme evaluation were valid, reliable, feasible, suitable and desirable for families in Hong Kong.

Figure 5.1 Conceptual framework of the community-based family intervention programmes in HFKM

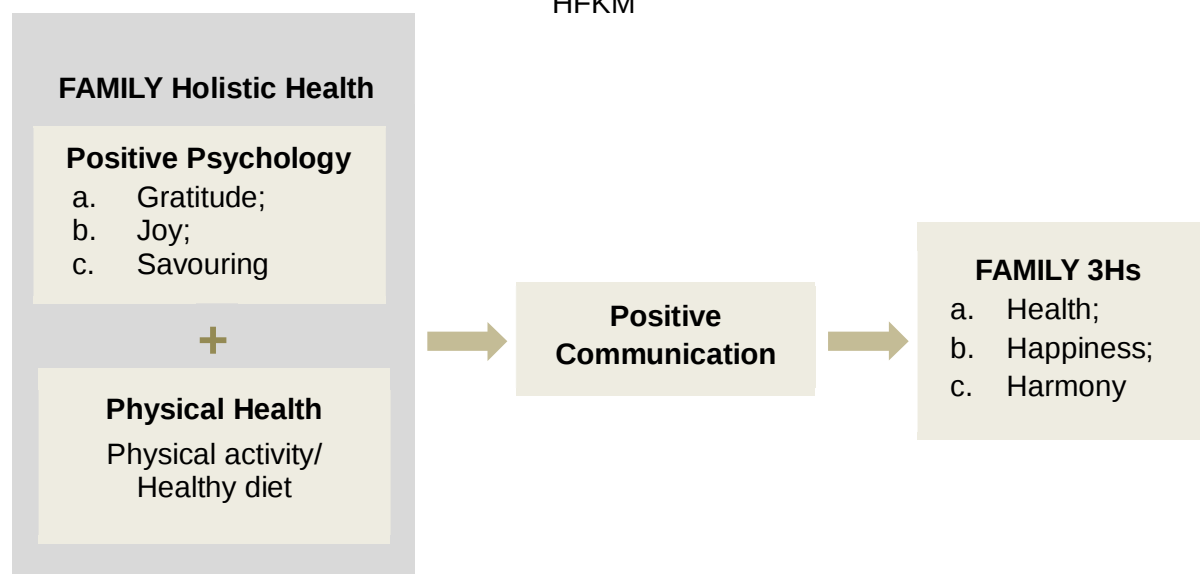


Table 5.1 Theme-specific behavioural indicators in HFKM

Theme	Behavioural Indicators
Gratitude	Appreciate the strengths or virtues of family members during physical activity/healthy diet Express your gratitude to family members by words for doing physical activity/having a healthy diet together Express your gratitude to family members by actions (e.g. giving massage, serving tea) for doing physical activity/having a healthy diet together
Joy	Share your happy physical activity/healthy diet experiences with family members Discover the joy during physical activity/healthy diet Reminisce about a physical activity/healthy diet experience that makes you or your family happy
Savouring	Pay attention to the process of physical activity/healthy diet Use five senses to savour the moment of physical activity/healthy diet Treasure the quality time during physical activity/healthy diet with family members
Physical activity	Do ZTE_x Do ZTE_x with family members
Healthy diet	Consume less sugar Consume less sugar during family meals

5.3 Community-based family intervention programmes

HKCSS and FAMILY Project Team worked closely in the design, implementation and evaluation of the community-based family intervention programmes of HFKM. A total of 54 social service units and schools (from 28 non-governmental organisations, 1 government department, and 7 schools) organised 58 community-based family intervention programmes for about 3,500 individuals from 1,500 families in Hong Kong.

Trained social service workers and teachers from the participating organisations and schools designed and implemented the community-based family intervention programmes by focusing on one of three positive psychology themes (i.e., joy, gratitude, and savouring) and one of two physical health themes (i.e., physical activity and healthy diet). The community programmes were guided by a standardised protocol that aimed to promote the same outcomes of FAMILY 3Hs using physical activity or healthy diet among family members.

The community-based family intervention programmes consisted of a combination of the following sessions depending on the randomisation:

Intervention groups:

- A core session of about 2 hours to deliver the core message on physical activity or healthy diet; and
- A booster session about 1 hour to consolidate the knowledge and skills from the core session.

All 3 groups:

- A follow-up session (not part of the trial) on the missing content of the corresponding group, including physical activity for the healthy diet group, healthy diets for the physical activity group, and both for the control group.

Control group:

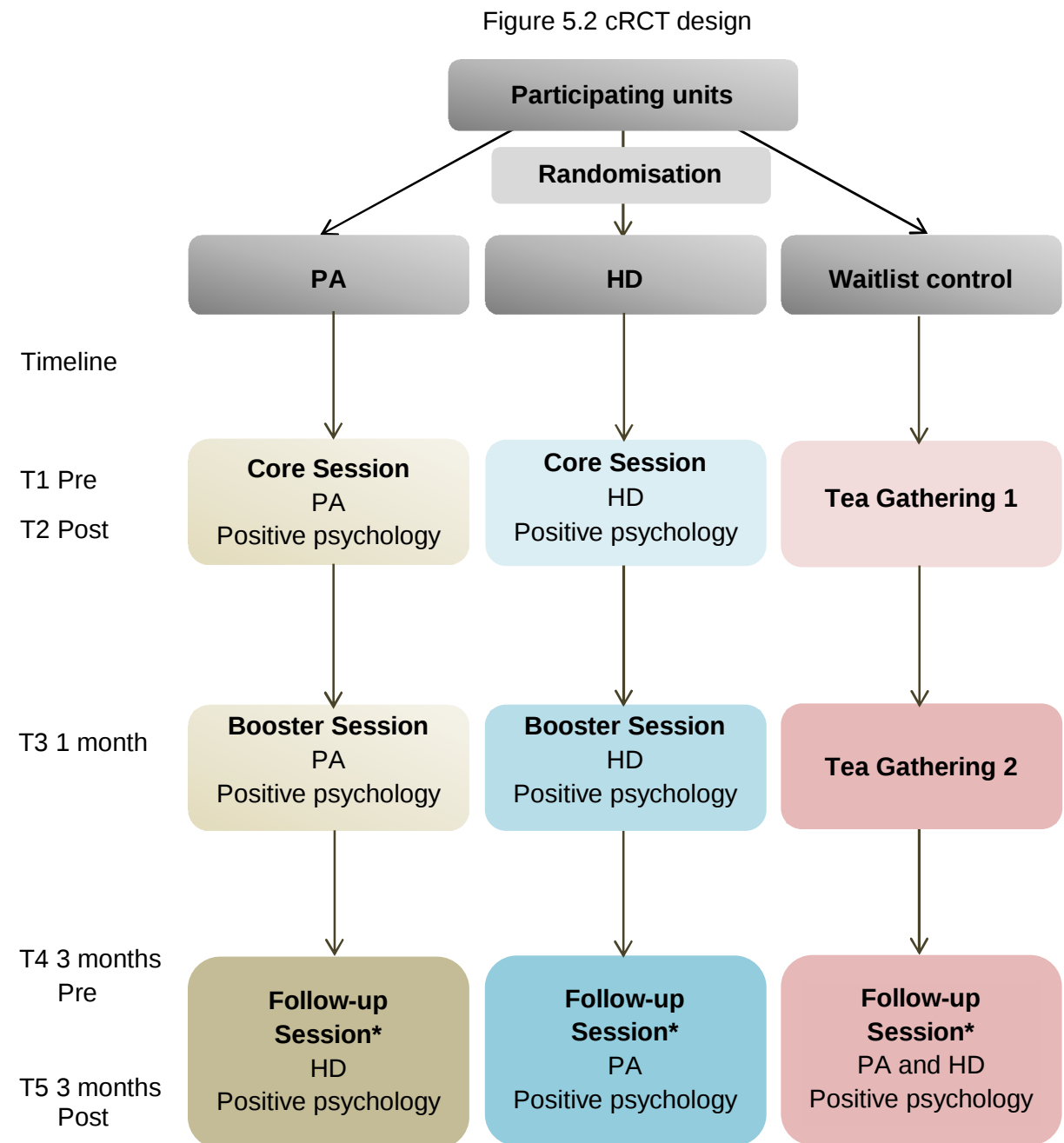
- Tea gathering sessions on activities unrelated to the intervention, such as arts and crafts workshops

5.3.1 cRCT design

The cRCT randomly allocated the institution (cluster) where the participants were recruited into either the Group PA, Group HD, or Group C. This method was appropriate for assessing the effectiveness of the intervention on the primary and secondary outcomes of the study, as allocation of individuals was not practicable and could lead to contamination

The PA intervention consisted of a core session on physical activity, a booster session for reminding the participants of the knowledge and skills that they had gained, followed by a follow-up session on healthy diet. The HD intervention included a core intervention session on healthy diet, a booster session, followed by a follow-up session on physical activity. The control group was a waitlist control, consisted of two tea gathering sessions, followed by a follow-up session on physical activity or healthy diet, as chosen by the trainee. The flow diagram of the

cRCT design is presented in Figure 5.2. The follow-up sessions were not evaluated as part of the cRCT and T5 was not an assessment of cRCT



PA=Physical activity intervention

HD=Healthy diet intervention

*The follow-up sessions were not part of the cRCT and T5 was not part of cRCT assessment

5.3.2 Programme vetting and approval

To ensure the adherence to the guiding principles, so that the consistency and quality of the community-based family intervention programmes were maximised, the participating social service units and schools after their staff had completed the TTT, submitted programme proposals developed following the TTT training deliverables to the project steering committee, received comments and made improvements accordingly. All 58 final proposals were approved with funding granted to implement the proposals. Table 5.2 shows the participating social service units and schools of HFKM and the corresponding implemented community-based family intervention programmes.

Table 5.2 Intervention programmes by participating social service units and schools

Programme code	Social service unit/school	Programme name	Theme	Group
01GB1	The Hong Kong Federation of Youth Groups Parent and Child Mediation Centre (Tai Po and North District) 香港青年協會親子衝突調解中心家庭生活教育組 (大埔及北區)	快樂家庭廚房 全城運動之減少一點甜、家多一點甜	Gratitude	HD
01GB2	The Hong Kong Federation of Youth Groups Parent and Child Mediation Centre (Tai Po and North District) 香港青年協會親子衝突調解中心家庭生活教育組 (大埔及北區)	快樂家庭廚房 全城運動之家庭嚐甜蜜	Gratitude	HD
02GA1	The Hong Kong Federation of Youth Groups, Parent and Child Mediation Centre (Yuen Long District) 香港青年協會親子衝突調解中心家庭生活教育組 (元朗區)	快樂家庭廚房 全城運動之運動兵團	Gratitude	PA

Programme code	Social service unit/school	Programme name	Theme	Group
03SC1	St. James' Settlement Wanchai Integrated Family Service Centre 聖雅各福群會 灣仔綜合家庭服務中心	快樂家庭廚房 全城運動之 有愛一家親	Savouring	C
04JC1	The Church of United Brethren in Christ Yuen Long Social Service Centre 基督教協基會 元朗社會服務中心	快樂家庭廚房 全城運動之 家家動起來	Joy	C
05JB1	The Church of United Brethren in Christ Tuen Mun Integrated Children and Youth Service Centre 基督教協基會 屯門綜合青少年服務中心	快樂家庭廚房 全城運動之親子 低糖甜品活動工 房	Joy	HD
06GA1	Hong Kong Children and Youth Services Hung Hom Integrated Family Service Centre 香港青少年服務處 紅磡綜合家庭服務中心	快樂家庭廚房 全城運動之家家 有喜	Gratitude	PA
07GB1	Hong Kong Children and Youth Services Jockey Club Tin Ping Integrated Children and Youth Services Centre 香港青少年服務處 賽馬會天平綜合青少年服務 中心	快樂家庭廚房 全城運動之食少 D • (讚多) D	Gratitude	HD

Programme code	Social service unit/school	Programme name	Theme	Group
08GA1	Christian Family Service Centre Tsui Ping Community Centre 基督教家庭服務中心 翠屏社區服務處	快樂家庭廚房 全城運動	Gratitude	PA
09GC1	Christian Family Service Centre Family Energizer (Integrated Family Service) 基督教家庭服務中心 活力家庭坊(綜合家庭服務)	快樂家庭廚房 全城運動之 特別開心時間	Gratitude	C
10GB1	Hong Kong Sheng Kung Hui Lady MacLehose Centre Sze Pang Nien Family Mutual Support Centre 香港聖公會麥理浩夫人中心 家庭活動及資源中心及 施彭年家庭互助中心	快樂家庭廚房 全城運動之 讚嘆家溫情	Gratitude	HD
11GC1	SAHK Shek Wai Kok Parents' Resource Centre 香港耀能協會 石圍角家長資源中心	快樂家庭廚房 全城運動之甜蜜 「密」家庭日營 活動	Gratitude	C
12GA1	SAHK On Ting Hostel 香港耀能協會安定宿舍	快樂家庭廚房 全城運動	Gratitude	PA
13JA1	H.K.S.K.H. Tung Chung Integrated Services 香港聖公會東涌綜合服務	快樂家庭廚房 全城運動之 「嚐」・運動三 重奏	Joy	PA

Programme code	Social service unit/school	Programme name	Theme	Group
14GB1	Hong Kong Sheng Kung Hui Holy Carpenter Church Community Centre 香港聖公會 聖匠堂社區中心	快樂家庭廚房 全城運動之有凝 家庭	Gratitude	HD
14JB2	Hong Kong Sheng Kung Hui Holy Carpenter Church Community Centre 香港聖公會 聖匠堂社區中心	快樂家庭廚房 全城運動之有凝 家庭	Joy	HD
15GA1	The Hong Kong Catholic Marriage Advisory Council Grace and Joy Integrated Family Service Centre 香港公教婚姻輔導會 恩悅綜合家庭服務中心	快樂家庭廚房 全城運動	Gratitude	PA
17GC1	Yan Chai Hospital 24th Term Board of Directors Social Service Centre 仁濟醫院第廿四屆 董事局社會服務中心	快樂家庭廚房 全城運動之 親子樂悠遊	Gratitude	C
18JC1	New Life Psychiatric Rehabilitation Association Chuk Yuen Halfway House 新生精神康復會竹園宿舍	快樂家庭廚房 全城運動之 "喜"動快樂家庭	Joy	C
19JC1	Aberdeen Kai-fong Welfare Association Social Service Centre 香港仔坊會 社會服務社區中心	快樂家庭廚房 全城運動之 Love • Action	Joy	C

Programme code	Social service unit/school	Programme name	Theme	Group
20GA1	Chinese YMCA of Hong Kong Kwun Tong Centre 香港中華基督教青年會 觀塘會所	快樂家庭廚房 全城運動	Gratitude	PA
21GB1	The Salvation Army Chuk Yuen Integrated Service Chuk Yuen Children and Youth Centre 救世軍綜合服務 竹園青少年中心	快樂家庭廚房 全城運動之 快樂親子廚房	Gratitude	HD
22JB1	The Salvation Army Tung Chung Family Support Centre 救世軍東涌家庭支援中心	快樂家庭廚房 全城運動之 少甜多趣 123	Joy	HD
22GB2	The Salvation Army Tung Chung Family Support Centre 救世軍東涌家庭支援中心	快樂家庭廚房 全城運動之 少甜多讚	Gratitude	HD
23JC1	The Salvation Army Tai Wo Hau C & Y Centre 救世軍大窩口青少年中心	快樂家庭廚房 全城運動之樂樂聚	Joy	C
23GC2	The Salvation Army Tai Wo Hau C & Y Centre 救世軍大窩口青少年中心	快樂家庭廚房 全城運動之樂樂聚	Gratitude	C

Programme code	Social service unit/school	Programme name	Theme	Group
24JA1	International Social Service Hong Kong Branch Tin Shui Wai (North) Integrated Family Service Centre 香港國際社會服務社 天水圍(北)綜合家庭服務中心	快樂家庭廚房 全城運動之 「零」動樂軍團	Joy	PA
25JC1	International Social Service (Hong Kong Branch) Shamshuipo (South) Integrated Family Service Centre 香港國際社會服務社 深水埗(南)綜合家庭服務中心	快樂家庭廚房 全城運動之 快樂小甜心	Joy	C
26JA1	Hong Kong Christian Service Small Group Home 香港基督教服務處 兒童之家服務	快樂家庭廚房 全城運動之運動 家+樂	Joy	PA
27JA1	Social Welfare Department Family and Child Protective Services Unit (Sham Shui Po) 保護家庭及兒童服務課 (深水埗)	快樂家庭廚房 全城運動之 健康生活新態度	Joy	PA
28GB1	Social Welfare Department Tai Hang Tung IFSC 大坑東綜合家庭服務中心 (深水埗)	快樂家庭廚房 全城運動之食得 健康，活得快樂	Gratitude	HD

Programme code	Social service unit/school	Programme name	Theme	Group
29GC1	Social Welfare Department Tseung Kwan O Integrated Family Service Centre 將軍澳綜合家庭服務中心	快樂家庭廚房 全城運動之 「將」讚美 獻比您	Gratitude	C
30GB1	Social Welfare Department Ma On Shan Integrated Family Service Centre 馬鞍山綜合家庭服務中心	快樂家庭廚房 全城運動之 健美家庭大擁抱	Gratitude	HD
31JC1	Social Welfare Department Shatin (North) Integrated Family Service Centre 沙田(北)綜合家庭服務中心	快樂家庭廚房 全城運動之 家 Fun 掌門人	Joy	C
32GB1	Yan Oi Tong Hong Kong Toi Shan Association Neighbourhood Elderly Centre 仁愛堂香港台山商會 長者鄰舍中心	快樂家庭廚房 全城運動之至營 至美	Gratitude	HD
33SC1	Chinese YMCA Tuen Mun Centre 香港中華基督教青年會 屯門會所	快樂家庭廚房 全城運動之 愛+人三重奏	Savouring	C
34GC1	Hong Kong Children & Youth Services Fanling Integrated Services Centre 香港青少年服務處賽馬會 粉嶺綜合青少年服務中心	快樂家庭廚房 全城運動之 感動家庭樂	Gratitude	C

Programme code	Social service unit/school	Programme name	Theme	Group
35GB1	Hong Kong Children & Youth Services Jockey Club Fong Shu Chuen Integrated Children & Youth Services Centre 香港青少年服務處賽馬會 方樹泉綜合青少年服務中心	快樂家庭廚房 全城運動之家家有「喜」工作坊	Gratitude	HD
36GA1	The Hong Kong Down Syndrome Association Tiptop Training Centre 香港唐氏綜合症協會 卓業中心	快樂家庭廚房 全城運動之 FIT FUN 一家人	Gratitude	PA
37SB1	Hong Kong Christian Service The Hong Kong Jockey Club Community Project Grant: Integrated Service Centre for Local South Asians 香港基督教服務處香港賽馬會社區資助計劃-南天網絡	快樂家庭廚房 全城運動之 Healthy Family	Savouring	HD
38GC1	Hong Kong Playground Association Jockey Club Upper Kwai Chung Integrated Service Centre for Children & Youth 香港遊樂場協會賽馬會上葵涌青少年綜合服務中心	快樂家庭廚房 全城運動	Gratitude	C
39GC1	Evangelical Lutheran Church Hong Kong Shatin District Community Centre for the Golden-Aged 基督教香港信義會 沙田多元化金齡服務中心	快樂家庭廚房 全城運動之 小小甜，多讚美之旅	Gratitude	C

Programme code	Social service unit/school	Programme name	Theme	Group
40GA1	Evangelical Lutheran Church Hong Kong Ma On Shan District Elderly Community Centre 基督教香港信義會 馬鞍山長者地區中心	快樂家庭廚房 全城運動之 「一家一」齊齊 動起來	Gratitude	PA
41JB1	Seventh-Day Adventist Church Shan King Integrated Children and Youth Services Centre 基督復臨安息日會 山景綜合青少年服務中心	快樂家庭廚房 全城運動之 嘗出新生活	Joy	HD
42GA1	Pok Oi Hospital Fung Tak Family Multiple Intelligences Centre (Fung Tak) 博愛醫院 鳳德家庭多元智能中心 (鳳德)	快樂家庭廚房 全城運動之 家家「友」讚賞	Gratitude	PA
43GB1	Jockey Club Riviera Gardens Lutheran Integrated Service Centre 路德會賽馬會 海濱花園綜合服務中心	快樂家庭廚房 全城運動	Gratitude	HD
44GB1	Lutheran Family Life Education Unit (Sha Tin) 路德會家庭生活教育組 (沙田)	快樂家庭廚房 全城運動	Gratitude	HD

Programme code	Social service unit/school	Programme name	Theme	Group
45GC1	Hong Kong Young Women's Christian Association Tuen Mun Integrated Social Service Centre 香港基督教女青年會 屯門綜合社會服務處	快樂家庭廚房 全城運動之 快樂「家」滿 FUN	Gratitude	C
47GC1	Social Welfare Department Sai Kung Integrated Family Service Centre 社會福利署 西貢綜合家庭服務中心	快樂家庭廚房 全城運動之 家庭樂悠悠	Gratitude	C
48GA1	Social Welfare Department Chai Wan Integrated Family Service Centre 社會福利署 柴灣綜合家庭服務中心	快樂家庭廚房 全城運動之 健康家庭大擁抱	Gratitude	PA
49GB1	Social Welfare Department Kai Tak Integrated Family Service Centre 社會福利署 啟德綜合家庭服務中心 (聯同社署馬頭圍綜合家庭服務中心)	快樂家庭廚房 全城運動之「少 少甜」、「多多 趣」	Gratitude	HD
50GA1	San Po Kong Rhenish Nursery 禮賢會新蒲崗幼兒園	快樂家庭廚房 全城運動之 運動家庭樂滿 Fun	Gratitude	PA
51GB1	S.K.H. Chu Oi Primary School 聖公會主愛小學	快樂家庭廚房 全城運動之「嚐 讚美」	Gratitude	HD

Programme code	Social service unit/school	Programme name	Theme	Group
52GC1	S.R.B.C.E.P.S.A. Lee Yat Ngok Memorial School 柏立基教育學院校友會 李一諤紀念學校	快樂家庭廚房 全城運動之 讚出健康來	Gratitude	C
53JC1	ELCHK Hung Hom Lutheran Primary School 基督教香港信義會 紅磡信義學校	快樂家庭廚房 全城運動之 喜樂篇	Joy	C
54GB1	Fuk Tak Education Society Primary School 福德學社小學	快樂家庭廚房 全城運動之「常 感恩、嘗讚美、 愛學習」	Gratitude	HD
55GB1	Free Methodist Mei Lam Primary School 循理會美林小學	快樂家庭廚房 全城運動之「親 親為食@有營 Family」	Gratitude	HD
56GC1	Yan Chai Hospital Law Chan Chor Si Primary School 仁濟醫院羅陳楚思小學	快樂家庭廚房 全城運動之 「我最健康」	Gratitude	C

5.3.3 Intervention evaluation

The structured questionnaires developed to evaluate the effectiveness of the intervention programmes consisted of questions on FAMILY 3Hs as the primary outcomes, and family communication, subjective happiness, satisfaction with life, quality of life, positive family behaviours, physical activity, healthy diet, intention to change, subjective changes, and programme evaluation as the secondary outcomes, and demographics (Table 5.3). The questionnaires were collected at five time points: before the first session (T1) and immediately after the first session (T2), as well as 1 month (T3), immediately pre- (T4) and immediately post-3 months follow-up session (T5). Physical fitness assessments, including single leg stance and seated cycling, were conducted at T1, T3 and T4 to assess potential physical changes over time.

FAMILY 3Hs. Three single item indicators were used to measure family well-being, including health, happiness and harmony [50]. Responses were made on a scale of 0 (not at all) to 10 (very much), with higher scores indicating a healthier, happier and more harmonious family. The family health question was “Do you think your family is healthy?” The family happiness question was “Do you think your family is happy?” The family harmony question was “Do you think your family is harmonious?” This was measured at T1 to T5.

Family communication. The 10-item family communication scale was used to assess the quality of family communication [51]. Responses were made on a scale of 1 (strongly agree) to 5 (strongly disagree), with higher total score indicating more positive communication after reverse coding. An example of the scale is “Family members are satisfied with how they communicate with each other”. The scale was translated into Chinese using the translation/back-translation procedures. This was measured at T1, T3, and T4.

Subjective happiness. The 4-item Subjective Happiness Scale was used to measure subjective happiness [3]. Responses were given on a 7-point scale (e.g. 1=less happy, 7=more happy), with higher total score indicating a higher level of happiness. An example of the scale is “Compared to most of my peers, I consider myself more happy”. The Chinese version of the scale has been previously translated and validated in Hong Kong [52]. This was measured at T1 to T5.

Satisfaction with life. This was assessed using the 5-item Satisfaction With Life scale [53]. Responses were given on a 7-point scale (1=strongly disagree, 7=strongly agree), with a higher total score indicating a higher level of satisfaction with life. An example of the scale is “In most ways my life is close to my ideal”. This was measured at T1, T3, and T4.

Quality of life. The 12-item Short Form Health Survey (SF-12v2) [54] was used to assess quality of life. It consists of mental and physical quality of life. Depending on the question, responses are on a 3-point scale (e.g., 1=yes, limited a lot, 3=no, not limited at all) or a 5-point scale (e.g., 1=not at all, 5=extremely). An example question is “During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?” Mental component summary and physical component summary scores were calculated using the standard scoring algorithms, which involved weighting sums of the domain scale scores with the factor scoring coefficients, as described in the SF-12v2 manual [55]. The Chinese version of the scale has been validated in local populations [54, 56]. This

was measured at T1, T3, and T4.

Positive family behaviours. Three behavioural indicators were used to measure the behavioural outcomes of each of the three positive psychology themes. Responses were made on a scale of 0 (never) to 10 (always), with higher score indicating more of the target behaviour. An example of the gratitude theme is “Praise the strength or goodness of family members during physical activity/healthy diet”. An example of the joy theme is “Share your happy physical activity/healthy diet experiences with family members”. An example of the savouring theme is “Pay attention to the process of physical activity/healthy diet”. This was measured at T1, T3, and T4.

Physical activity. Two single item behavioural indicators were used to measure O. Responses were made on a scale of 0 (never) to 10 (always), with higher score indicating more ZTEx. An example is “In the past 4 weeks, how frequently have you done ZTEx?” This was measured at T1, T3, and T4.

Healthy diet. Two single item behavioural indicators were used to measure low sugar consumption. Responses were made on a scale of 0 (never) to 10 (always), with higher score indicating lower sugar consumption. An example is “In the past 4 weeks, how frequently have you chosen low sugar diet?” This was measured at T1, T3, and T4.

Intention to change. Immediately after the core and follow-up sessions (T2 and T5), participants were asked whether they had intention to perform the target behaviours. Responses were made on a scale of 1 (no intention at all) to 5 (very much intended), with higher score indicating more intention to change. An example is “Do you intend to praise the strength or goodness of family members during physical activity/healthy diet?”

Subjective changes. Participants were asked their subjective changes in target behaviours after participating in the programme. Responses were made on a scale of 1 (a lot less) to 5 (a lot more), with higher score indicating more subjective changes than before participating in the programme. An example is “Compared to before participating in the HFKM programme, how much change have you made in praising the strength or goodness of family members during physical activity/healthy diet?” This was measured at T3 and T4 when participants came back to the booster and follow-up sessions.

Programme evaluation. Immediately after the core and follow-up sessions (T2 and T5), participants were asked to evaluate the programme session using 3 single item indicators. Responses were made on a scale of 0 to 10, with higher score indicating that the programme was useful, enjoyable, and recommendable. The questions were “How useful was this programme?” “How enjoyable was this programme?” “Would you recommend this programme to your family and friends?”

Qualitative data were collected in January 2017 through focus groups among community programme participants and in-depth interviews among community stakeholders for in-depth understanding of the attitudes and behaviours that motivated them towards FAMILY Holistic Health. To ensure the quality of the community interventions, fidelity checks and process evaluations were conducted regularly.

Guided by researchers from FAMILY Project Team, social service workers, teachers and

volunteers were involved in the data collection process. The majority of the questionnaires were self-completed by the participants. Some groups such as the elderly or those who were mentally challenged received assistance from social service workers, teachers, volunteers or FAMILY Project Team to ensure the quality of the collected data. After the data collection, the participating social service units and schools entered the data from their respective participants into an online data entry system. Data analysis was done by FAMILY Project Team.

Table 5.3 Questionnaire contents at 5 time points

		Pre	Post	1 month	3 months pre Immediately	3 months post Immediately
		T1	T2	T3	T4	T5
1	FAMILY 3Hs	✓	✓	✓	✓	✓
2	Family communication	✓		✓	✓	
3	Subjective happiness	✓	✓	✓	✓	✓
4	Satisfaction with life	✓		✓	✓	
5	Quality of life	✓		✓	✓	
6	Positive family behaviours	✓		✓	✓	
7	Physical activity	✓		✓	✓	
8	Healthy diet	✓		✓	✓	
9	Intention to change		✓			✓
10	Subjective changes			✓	✓	
11	Programme evaluation		✓			✓
12	Demographics	✓	✓	✓	✓	✓

*T5 was not part of the cRCT assessment

5.4 Participant recruitment

The community-based family intervention programmes aimed to recruit 1,500-2,000 families (3,000-4,000 individuals) from 18 districts in Hong Kong. The sample size was calculated based on a small effect size ($d=0.30$), with a statistical power of 0.80, a type I error of 0.05, and an expected dropout rate of 10%. The inclusion criteria of the participants were: (a) Cantonese speaking; (b) intact verbal and hearing abilities for interpersonal communication; (c) reading and writing abilities for questionnaire completion; (d) aged 6 and above for participation in the intervention programme or aged 12 and above for participation in the intervention evaluation; and (e) participate with one or more family members. A total of 3,419 eligible participants from 1,420 eligible families were recruited during July 2015 to October 2016 to attend the community programmes (Table 5.4). Written consent was obtained from each participant prior to the intervention. In the case of children enrolled in the study, written consent was obtained from the adult next of kin, caretakers, or guardians on their behalf. Participation was completely voluntary and participants had the right to withdraw at any time without consequences. As an incentive for completing all the questionnaires, each participating family was given a total of two HK\$50 gift vouchers at the end of the study. CONSORT flow diagram is presented in Figure 5.3.

Table 5.4 Enrolment and attendance of intervention programmes

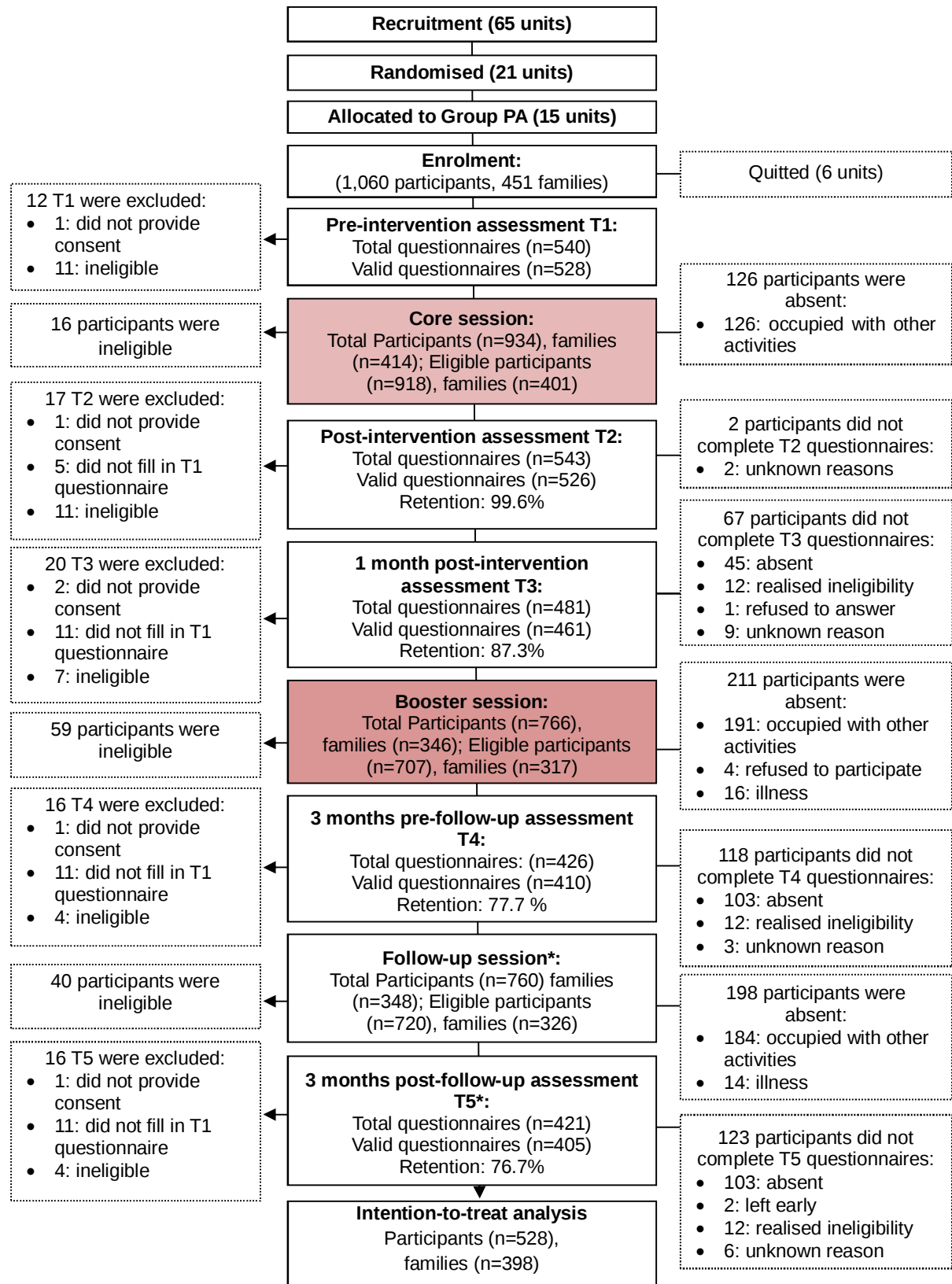
Programme code	Total number of people enrolled	Total number of family enrolled	Total number of people attended (eligible for research purpose)	Total number of family attended (eligible for research purpose)
01GB1	65	30	52	26
01GB2	76	30	53	22
02GA1	45	18	41	17
03SC1	73	28	64	25
04JC1	103	36	94	34
05JB1	80	34	74	32
06GA1	79	32	79	32
07GB1	54	22	50	20
08GA1	75	31	64	27
09GC1	84	33	63	25

Programme code	Total number of people enrolled	Total number of family enrolled	Total number of people attended (eligible for research purpose)	Total number of family attended (eligible for research purpose)
10GB1	91	32	85	30
11GC1	60	22	28	9
12GA1	67	31	67	31
13JA1	74	35	68	34
14GB1	72	28	58	27
14JB2	74	28	66	27
15GA1	41	15	37	14
17GC1	68	29	68	29
18JC1	76	37	67	31
19JC1	83	33	74	33
20GA1	93	32	84	29
21GB1	67	27	42	16
22JB1	53	21	53	21
22GB2	93	34	74	27
23JC1	89	30	64	25
23GC2	56	19	39	14
24JA1	87	31	68	26
25JC1	71	29	69	28
26JA1	73	32	59	25
27JA1	96	35	62	26
28GB1	50	31	19	9

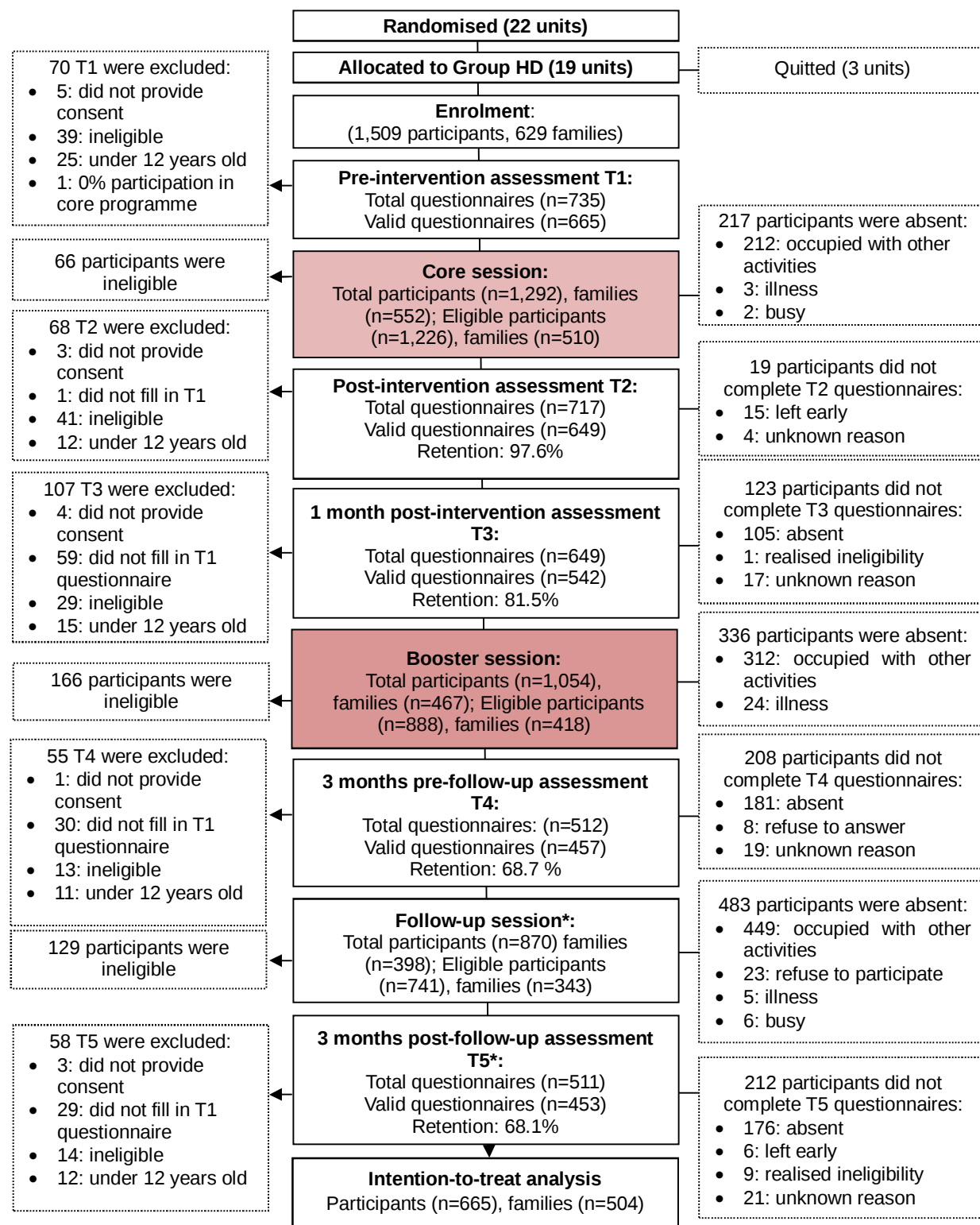
Programme code	Total number of people enrolled	Total number of family enrolled	Total number of people attended (eligible for research purpose)	Total number of family attended (eligible for research purpose)
29GC1	109	38	74	25
30GB1	87	33	68	28
31JC1	94	35	41	7
32GB1	61	30	60	30
33SC1	69	26	34	14
34GC1	93	36	78	33
35GB1	59	28	47	23
36GA1	60	31	60	30
37SB1	53	21	47	18
38GC1	94	36	83	32
39GC1	71	34	55	26
40GA1	68	33	62	31
41JB1	33	13	26	10
42GA1	60	30	56	27
43GB1	86	28	59	19
44GB1	65	23	60	22
45GC1	37	16	35	15
47GC1	87	34	83	33
48GA1	70	29	45	19
49GB1	66	29	59	25
50GA1	72	36	66	33

Programme code	Total number of people enrolled	Total number of family enrolled	Total number of people attended (eligible for research purpose)	Total number of family attended (eligible for research purpose)
51GB1	60	30	58	29
52GC1	52	21	24	10
53JC1	99	42	77	32
54GB1	102	47	77	36
55GB1	62	30	39	15
56GC1	61	30	61	27
Total	4198	1724	3419	1420

Figure 5.3 CONSORT flow diagram of participants in HFKM

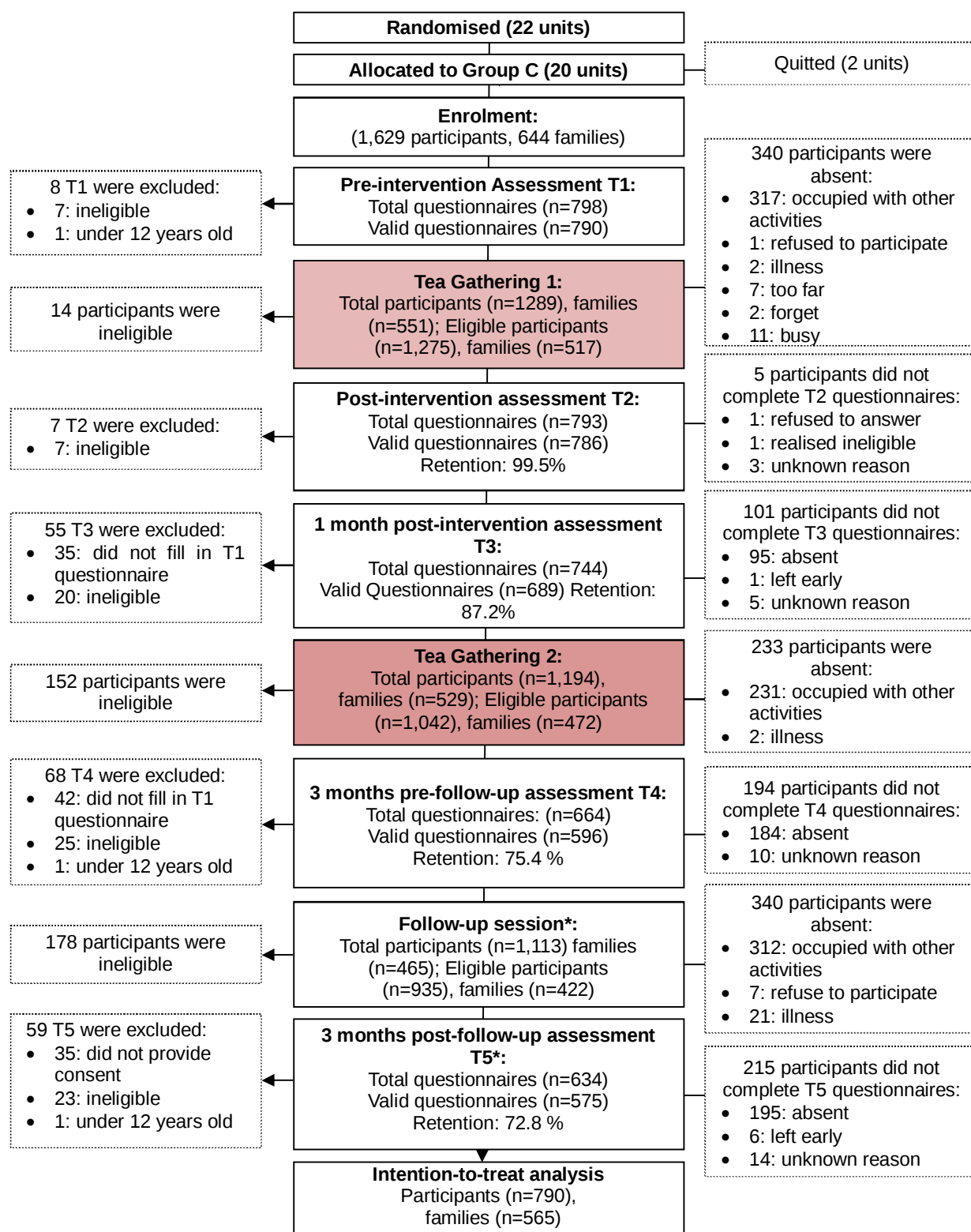


*Follow-up session and T5 were not part of cRCT
PA=Physical activity



*Follow-up session and T5 were not part of cRCT

HD=Health diet



*Follow-up session and T5 were not part of cRCT

Total number of families: included participants from both complete families and incomplete families.

Eligible participants: residents, service users or students, who aged 6 years or above.

Eligible family: 2 or more participants attended the programme, all of the members were aged 6 or above and at least 1 of them must be older than 18.

Realised ineligibility: participants who were too young, too old or mentally challenged.

Figure 5.3 shows the CONSORT flow diagram of the HFKM in each randomised group. The project recruited 65 social service units and schools at the beginning. After randomisation, 11 service units withdrew from the project and the remaining 54 service units and schools were randomly allocated into 3 groups, i.e. Group PA, Group HD and Group C, containing 15 units, 19 units and 20 units respectively. Service units and schools in Groups PA, HD and C then recruited participants from eligible families to participate in their programmes. The detailed recruiting process of each group is shown below.

5.4.1 Participant retention in Group PA

The 15 service units and schools in Group PA recruited 1,060 participants from 451 families. According to the programme design for Group PA, a core session was organised first, followed by a booster session 1 month after and a follow-up session 3 months after the core session.

A total of 934 participants from 414 families attended the core session while 126 participants were absent. By the project criterion that the “eligible family” should have at least 2 family members, 918 eligible participants from 401 eligible families were included. After excluding 1 attendee who did not provide consent and 11 attendees who completed the T1 questionnaire but were aged less than 12, 528 valid T1 questionnaires were included.

Among the 934 participants who attended the core session, 543 participants completed the immediate post-intervention assessment (T2) after the core session. Furthermore, 17 attendees who completed the T2 questionnaire were excluded due to not providing consent (n=1), not filling in T1 questionnaire (n=5), or ineligibility (n=11). A total of 526 valid T2 questionnaires were included with a retention rate of 99.6%.

At the booster session, 766 participants from 346 families attended while 211 participants were absent. By the “eligible family” criterion, 707 eligible participants from 317 eligible families were included. After excluding 67 attendees who failed to complete the 1 month follow-up assessment (T3), 481 questionnaires were collected. Furthermore, 20 participants who completed the T3 questionnaire were excluded due to not providing consent (n=2), not filling in T1 questionnaire (n=11); or ineligibility (n=7). A total of 461 valid T3 questionnaires were included with a retention rate of 87.3%.

At 3 months after the core session, 760 participants from 348 families attended the follow-up session while 198 participants were absent. By the “eligible family” criterion, 720 eligible participants from 326 eligible families were included. After excluding 118 participants who failed to complete the 3 months pre-follow-up assessment (T4), 426 T4 questionnaires were obtained from the attendees. Furthermore, 16 participants who completed the T4 questionnaire were excluded due to not providing consent (n=1), not filling in T1 questionnaire (n=11), or ineligibility (n=4). A total of 410 valid T4 questionnaires were included with a retention rate of 77.7%.

Among the 760 participants who attended the follow-up session, 421 participants completed the 3 months post-follow-up assessment (T5). Furthermore, 16 attendees who completed the T5 questionnaire were excluded due to not providing consent (n=1), not filling in T1 questionnaire (n=11), or ineligibility (n=4). A total of 405 valid T5 questionnaires were included with a retention rate of 76.7%.

5.4.2 Participant retention in Group HD

A total of 19 social service units and schools were randomly allocated into Group HD and they recruited 1,509 participants from 629 families. According to the programme design for Group HD, the core session was organised at first, followed by a booster session and a follow-up session.

A total of 1,292 participants from 552 families attended the core session while 217 participants were absent. By the “eligible family” criterion, 1,226 eligible participants from 510 eligible families were included. After excluding 70 attendees who completed the pre-intervention assessment (T1) due to not providing consent (n=5), ineligibility (n=39), being under 12 years old (n=25); and not participating in the core session of the programme (n=1), 665 valid T1 questionnaires were included.

Among the 1,292 participants who attended the core session, 717 participants completed the immediate post-intervention assessment (T2) after the core session. Furthermore, 68 attendees who completed the T2 questionnaire were excluded due to not providing consent (n=3), not filling in T1 questionnaire (n=1), ineligibility (n=41), or being under 12 years old (n=23). A total of 649 valid T2 questionnaires were included with a retention rate of 97.6%.

At the booster session conducted 1 month after the core session, 1,054 participants from 467 families attended while 336 participants were absent. By the “eligible family” criterion, 888 eligible participants from 418 eligible families were included. After excluding 107 attendees who failed to complete the 1 month follow-up assessment (T3), 649 questionnaires were collected. Furthermore, 107 participants who completed the T3 questionnaire were excluded due to not providing consent (n=4), not filling in T1 questionnaire (n=59), ineligibility (n=29), or being under 12 years old (n=15). A total of 542 valid T3 questionnaires were included with a retention rate of 81.5%.

At 3 months after the core session, 870 participants from 398 families attended the follow-up session while 483 participants were absent. By the “eligible family” criterion, 741 eligible participants from 343 eligible families were included. After excluding 211 participants who failed to complete the 3 months pre-follow-up assessment (T4), 512 T4 questionnaires were obtained from the attendees. Furthermore, 55 participants who completed the T4 questionnaire were excluded due to not providing consent (n=1), not filling in T1 questionnaire (n=30), ineligibility (n=13), or being under 12 years old (n=11). A total of 457 valid T4 questionnaires were included with a retention rate of 68.7%.

Among the 870 participants who attended the follow-up session, 511 participants completed the 3 months post-follow-up assessment (T5). Furthermore, 58 attendees who completed the T5 questionnaire were excluded due to not providing consent (n=3), not filling in T1 questionnaire (n=29), ineligibility (n=14), or being under 12 years old (n=12). A total of 453 valid T5 questionnaires were included with a retention rate of 68.1%.

5.4.3 Participant retention in Group C

A total of 20 social service units and schools were randomly allocated into Group C and they recruited 1,629 participants from 644 families. According to the programme design for Group C, 2 tea gathering sessions were organised at the beginning and 1 month later respectively, followed by a follow-up session 3 months after the first tea gathering session.

A total of 1,289 participants from 551 families attended the first tea gathering session while 340 participants were absent. By the “eligible family” criterion, 1,275 eligible participants from 517 eligible families were included. After excluding 8 attendees who completed the pre-intervention assessment (T1) due to ineligibility ($n=7$), or being under 12 years old ($n=1$), 790 valid T1 questionnaires were included.

Among the 1,289 participants who attended the first tea gathering session, 793 participants completed the immediate post-intervention assessment (T2). Furthermore, 7 attendees who completed the T2 questionnaire were excluded due to ineligibility ($n=7$). A total of 786 valid T2 questionnaires were included with a retention rate of 99.5%.

At 1 month after the first tea gathering session, 1,194 participants from 529 families attended the second tea gathering session while 233 participants were absent. By the “eligible family” criterion, 1,042 eligible participants from 472 eligible families were included. After excluding 101 attendees who failed to complete the 1month follow-up assessment (T3), a total of 744 questionnaires were collected. Furthermore, 55 participants who completed the T3 questionnaires were excluded due to not filling in T1 questionnaire ($n=35$), or ineligibility ($n=20$). A total of 689 valid T3 questionnaires were included with a retention rate of 87.2%.

At the follow-up session organised 3 months after the first tea gathering session, 1113 participants from 465 families attended. By the “eligible family” criterion, 935 eligible participants from 422 eligible families were included. After excluding 194 participants who failed to complete the 3 months pre-follow-up assessment (T4), 664 T4 questionnaires were received. Furthermore, 68 participants who completed the T4 questionnaires were excluded due to not filling in T1 questionnaire ($n=42$), ineligibility ($n=25$); or being under 12 years old ($n=1$). A total of 596 valid T4 questionnaires were included with a retention rate of 75.4%.

Among those who attended the follow-up session, after excluding 215 attendees who failed to complete the 3 months post-follow-up assessment (T5), 634 T5 questionnaires were received. Furthermore, 59 attendees who completed the T5 questionnaires were excluded due to not filling in T1 questionnaire ($n=35$), ineligibility ($n=23$), or being under 12 years old ($n=1$). A total of 575 valid T5 questionnaires were included with a retention rate of 72.8%.

5.5 Statistical analysis

Quantitative data were analysed using SPSS 24.0 [57]. The demographic characteristics of the participants were described using frequencies and percentages, and the baseline scores of outcome variables were described using means and standard deviations. To examine whether the cluster randomisation resulted in comparability among the groups, Pearson's chi-square tests and general linear model were conducted to compare the demographic

characteristics and baseline scores among the groups. To examine the effectiveness of the community programmes, mixed linear models were carried out with group allocation as a fixed effect, clustering effects of individuals in the same family and the same programme as random effects, outcomes of interest as dependent variables, and age, sex, education level and baseline values as covariates. This analytical procedure was adopted to assess whether there were differences in the outcome changes between Group PA and Group C and between Group HD and Group C. The principle of intention-to-treat (ITT) analysis [58] was adopted through imputing missing observations from lost to follow-up or decline to complete follow-up questionnaires using the baseline values (i.e., assuming no changes). Sensitivity analysis using the expectation-maximization method to treat missing observations [59] yielded consistent results; thus only the results from baseline replacement by ITT are presented. An effect size (Cohen's *d*) of 0.2 was considered as a small effect, 0.5 as a medium effect, and 0.8 or above as a large effect [46].

CHAPTER 6 RESULTS OF HFKM COMMUNITY-BASED FAMILY INTERVENTION

6.1 Demographic characteristics of the programme participants

As shown in Table 6.1, most participants in each group were female (72.9%, 77.0% and 75.5% in Groups PA, HD and C, respectively), aged 20 to 59 years (73.6%, 76.8% and 78.8% in Groups PA, HD and C, respectively), had secondary education level (57.8%, 62.5% and 58.0% in Groups PA, HD and C, respectively), were married (73.7%, 77.1% and 77.4% in Groups PA, HD and C, respectively), and were housewives (41.2%, 44.9% and 43.8% in Groups PA, HD and C, respectively). No statistically significant difference was detected among Groups PA, HD and C on age ($p=0.16$), sex ($p=0.26$), marital status ($p=0.59$), and employment status ($p=0.61$). Significant group differences were only found in education level ($p=0.001$), with more participants being at primary education level or below (25.2%) and fewer participants being at college level or above in Group PA (17.0%).

Table 6.1 Demographic characteristics of the programme participants

Characteristic	Group PA (n=528)	Group HD (n=665)	Group C (n=790)	p-value ^a
	n (%)	n (%)	n (%)	
Sex				
Male	143 (27.1)	149 (23.0)	171 (24.5)	0.26
Female	385 (72.9)	500 (77.0)	528 (75.5)	
Age group (years)				
12-19	33 (6.7)	45 (7.5)	37 (5.6)	0.16
20-39	149 (30.5)	240 (40.1)	251 (37.7)	
40-59	211 (43.1)	220 (36.7)	273 (41.1)	
≥60	96 (19.6)	94 (15.7)	104 (15.7)	
Marital status				
Not married	59 (12.1)	56 (9.3)	73 (10.9)	0.59
Married	358 (73.7)	464 (77.1)	518 (77.4)	
Widower/widow	22 (4.5)	25 (4.2)	30 (4.5)	
Divorced/separated	44 (9.1)	54 (9.0)	47 (7.0)	

Characteristic	Group PA (n=528)	Group HD (n=665)	Group C (n=790)	p-value ^a
	n (%)	n (%)	n (%)	
Education				
Primary or below level	123 (25.2)	91 (15.3)	124 (18.7)	0.001**
Secondary level	282 (57.8)	372 (62.5)	384 (58.0)	
Tertiary or above level	83 (17.0)	132 (22.1)	154 (23.3)	
Employment status				
Student	33 (6.7)	43 (7.2)	36 (5.5)	0.61
Employed	186 (37.6)	219 (36.7)	252 (38.3)	
Housewife	204 (41.2)	268 (44.9)	288 (43.8)	
Retired/seeking job	72 (14.5)	67 (11.2)	82 (12.5)	

^a p-values from Pearson's chi-square test: ** $p < 0.01$

6.2 Baseline scores of outcome variables

As shown in Table 6.2, no statistically significant difference were detected among Groups PA, HD and C on the baseline scores of self-reported FAMILY Health and Harmony ($p=0.11$; $p=0.13$, respectively), family communication ($p=0.16$), subjective happiness ($p=0.29$), satisfaction with life ($p=0.28$), mental quality of life ($p=0.76$), gratitude behaviours ($p=0.39$), savouring behaviours ($p=0.38$), ZTE_x alone and with family members ($p=0.76$; $p=0.95$, respectively), and seated cycling ($p=0.94$). Significant difference were only observed for the baseline scores of self-reported FAMILY Happiness ($p=0.003$), joy behaviour ($p=0.03$), low sugar consumption alone and with family members ($p=0.04$; $p=0.04$, respectively), and single leg stance ($p=0.01$). Participants from Group HD scored higher on self-reported FAMILY Happiness ($M=7.45$, $SD=1.93$), joy behaviours ($M=6.01$, $SD=1.96$), and low sugar consumption alone and with family members ($M=6.00$, $SD=2.59$; $M=5.78$, $SD=2.54$, respectively), while participants from Group C scored higher on single leg stance ($M=91.29$, $SD=41.34$). There was a marginally significant difference in physical quality of life ($p=0.09$), while participants from Group C ($M=46.19$, $SD=8.59$) scored slightly higher than Group PA ($M=45.09$, $SD=8.94$).

Since most of the demographic characteristics and baseline scores were similar, the cluster randomisation resulted in some but not complete comparability among the three groups.

Table 6.2 Baseline scores of outcome variables

	Group PA (n=528)	Group HD (n=665)	Group C (n=790)	p-value ^a
	Mean (SD)	Mean (SD)	Mean (SD)	
Primary outcome				
Self-reported FAMILY Health (0-10)	7.02 (2.04)	7.27 (2.05)	7.20 (2.07)	0.11
Self-reported FAMILY Happiness (0-10)	7.08 (2.00)	7.45 (1.93)	7.16 (1.99)	0.003**
Self-reported FAMILY Harmony (0-10)	7.20 (2.12)	7.44 (2.02)	7.28 (2.06)	0.13
Secondary outcome				
Family communication (10-50)	37.33 (6.79)	37.35 (6.33)	36.75 (6.58)	0.16
Subjective happiness (1-7)	4.69 (0.92)	4.77 (0.85)	4.75 (0.89)	0.29
Satisfaction with life (1-7)	4.64 (1.35)	4.76 (1.30)	4.73 (1.28)	0.28
Mental quality of life (0-100)	44.55 (8.94)	44.41 (8.25)	44.75 (8.56)	0.76
Physical quality of life (0-100)	45.09 (8.94)	45.89 (8.24)	46.19 (8.59)	0.09 [†]
Gratitude behaviours (0-10)	5.86 (2.13)	5.99 (1.90)	6.06 (2.01)	0.39
Joy behaviours (0-10)	5.40 (2.25)	6.01 (1.96)	5.35 (2.37)	0.03*
Savouring behaviours (0-10) ^b	-	6.23 (2.38)	5.68 (2.33)	0.38
Doing ZTE _x (0-10) ^c	4.90 (2.73)	-	4.96 (2.72)	0.76
Doing ZTE _x with family members (0-10) ^c	3.46 (2.74)	-	3.47 (2.48)	0.95

	Group PA (n=528)	Group HD (n=665)	Group C (n=790)	p-value ^a
	Mean (SD)	Mean (SD)	Mean (SD)	
Low sugar consumption (0-10) ^d	-	6.00 (2.59)	5.65 (2.67)	0.04*
Low sugar consumption with family members (0-10) ^d	-	5.78 (2.54)	5.43 (2.68)	0.04*
Single leg stance (0-120 seconds)	83.73 (40.74)	86.92 (41.34)	91.29 (41.34)	0.01*
Seated cycling (0-120 seconds)	68.91 (34.18)	69.18 (38.86)	68.47 (37.48)	0.94

^a p-values from general linear model: * $p < 0.05$; ** $p < 0.01$

^b There was no savouring theme in Group PA

^c ZTE_x was not assessed in Group HD

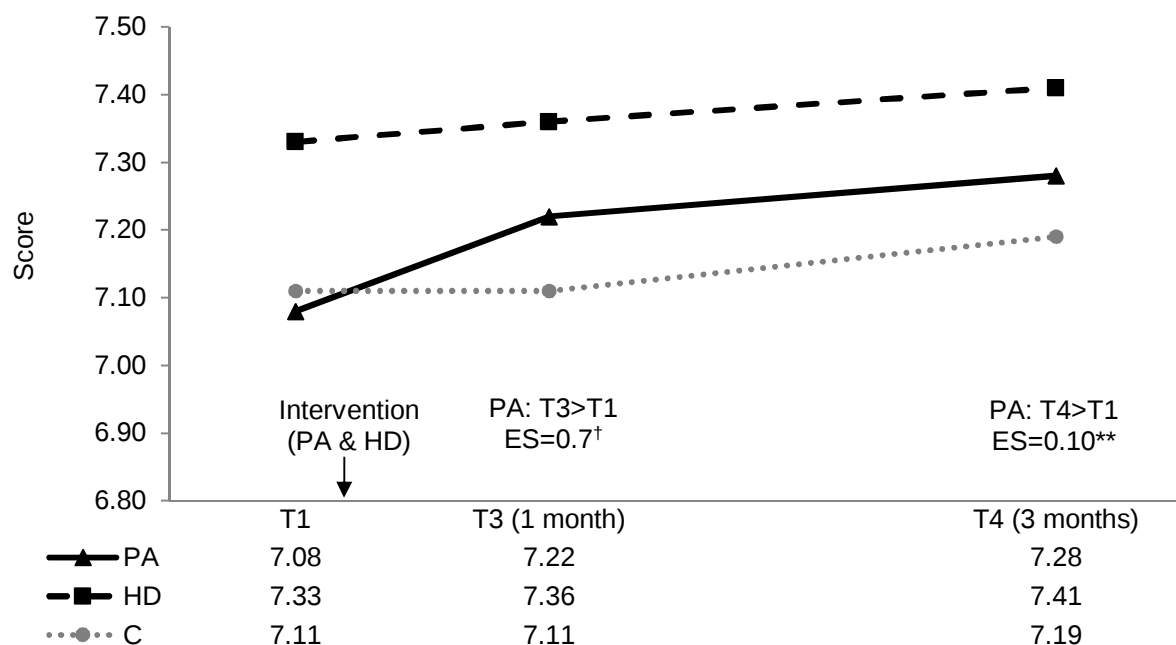
^d Low sugar consumption was not assessed in Group PA

6.3 Effectiveness of community-based family intervention

6.3.1 Self-reported FAMILY Health

Figure 6.1 shows no significant difference in the changes between Groups PA and C and between Groups HD and C at T3 and T4. However, significant improvements were observed in Group PA over time, in which self-reported FAMILY Health increased marginally significantly at T3 (ES=0.07, $p=0.05$) and significantly at T4 (ES=0.10, $p=0.004$) compared to baseline. By contrast, there were no significant improvements in Groups HD and C on FAMILY Health at T3 and T4.

Figure 6.1 Self-reported FAMILY Health (0-10)



[†] $p<0.10$; ^{**} $p<0.01$

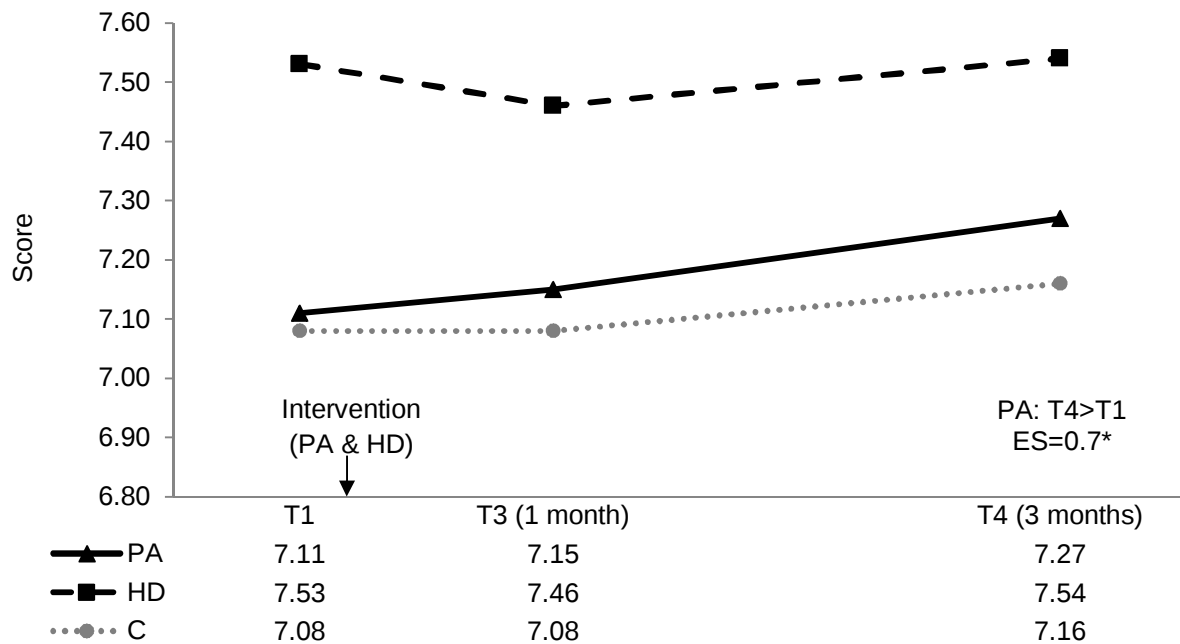
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=very unhealthy/unhappy/disharmonious" to "10=very healthy/happy/harmonious"

6.3.2 Self-reported FAMILY Happiness

Figure 6.2 shows no significant difference in the changes of self-reported FAMILY Happiness between Groups PA/HD and C at T3 and T4. However, a significant improvement was observed in Group PA only at T4 with very small effect size ($ES=0.07$, $p=0.02$). Groups HD and C showed no significant improvement at T3 and T4.

Figure 6.2 Self-reported FAMILY Happiness (0-10)



* $p<0.05$

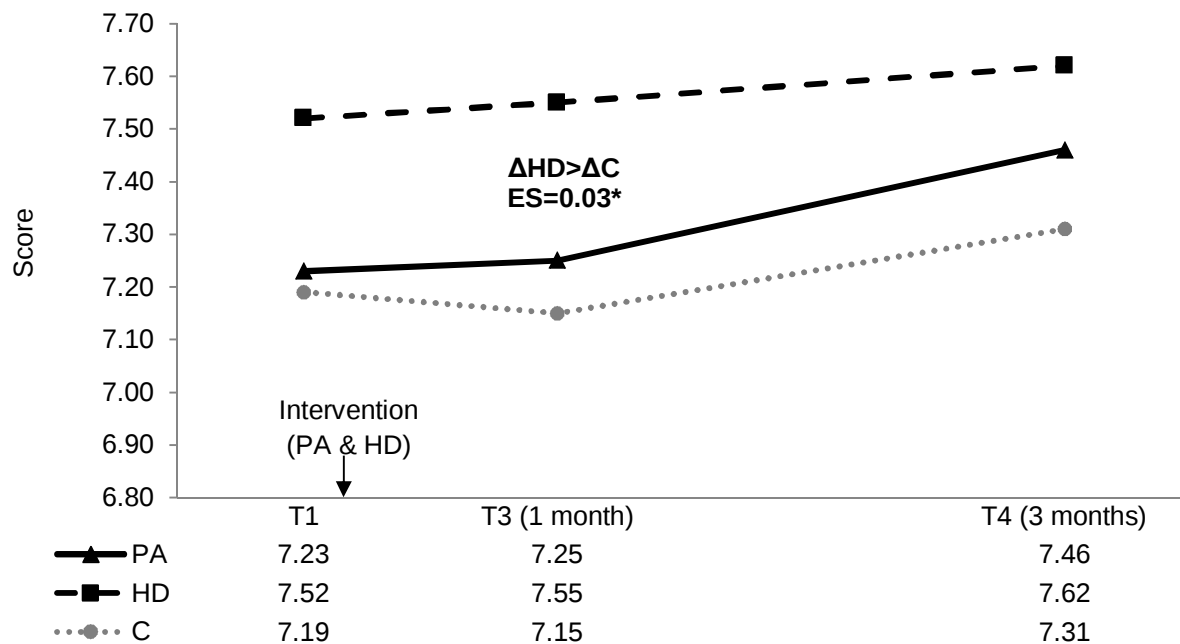
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=very unhealthy/unhappy/disharmonious" to "10=very healthy/happy/harmonious"

6.3.3 Self-reported FAMILY Harmony

Figure 6.3 shows that the improvement in self-reported FAMILY Harmony at T3 was significantly greater in Group HD than Group C ($ES=0.03$, $p=0.04$), indicating effectiveness of HD intervention with very small effect size. However, it did not significantly differ between Groups PA and C at T3 and T4.

Figure 6.3 Self-reported FAMILY Harmony (0-10)



* $p < 0.05$

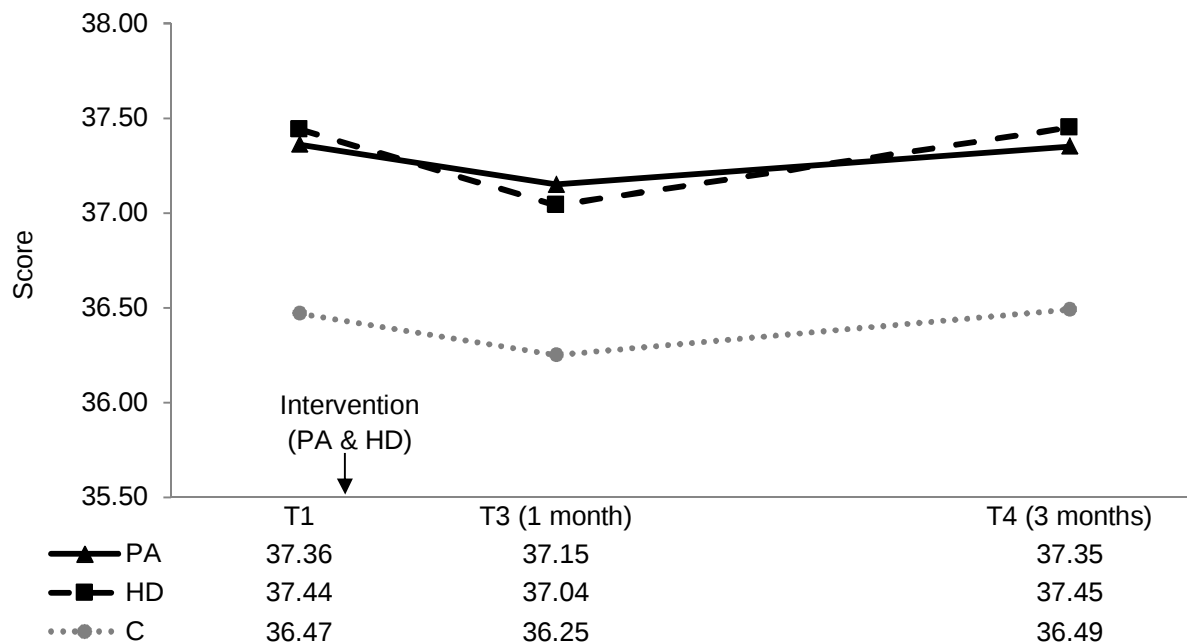
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=very unhealthy/unhappy/disharmonious" to "10=very healthy/happy/harmonious"

6.3.4 Family communication

Figure 6.4 shows no significant difference in family communication between Groups PA/HD with C at T3 and T4.

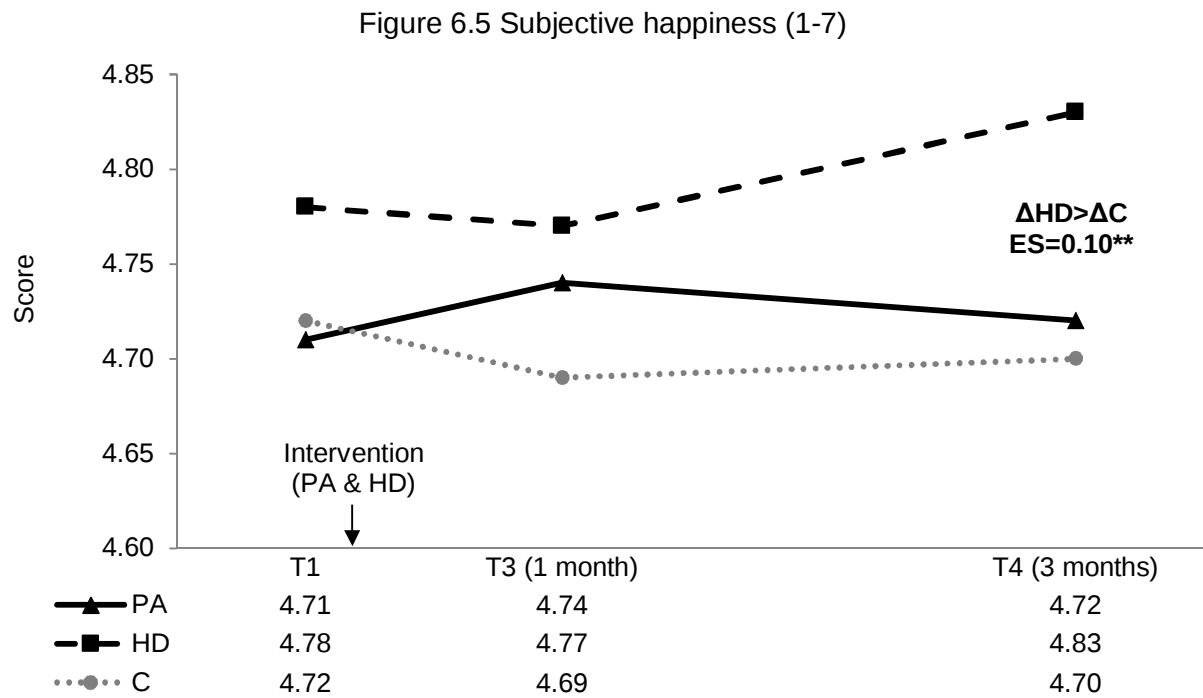
Figure 6.4 Family communication (10-50)



Note. Family communication is made up of 10 items, using 5-point Likert scale: "1=strongly agree " to "5=strongly disagree"

6.3.5 Subjective happiness

Figure 6.5 shows that the improvement in subjective happiness at T4 was significantly greater in Group HD than Group C ($ES=0.10$, $p=0.01$), indicating effectiveness of HD intervention with small effect size. However, it did not significantly differ between Groups PA and C at T3 and T4.



$** p < 0.01$

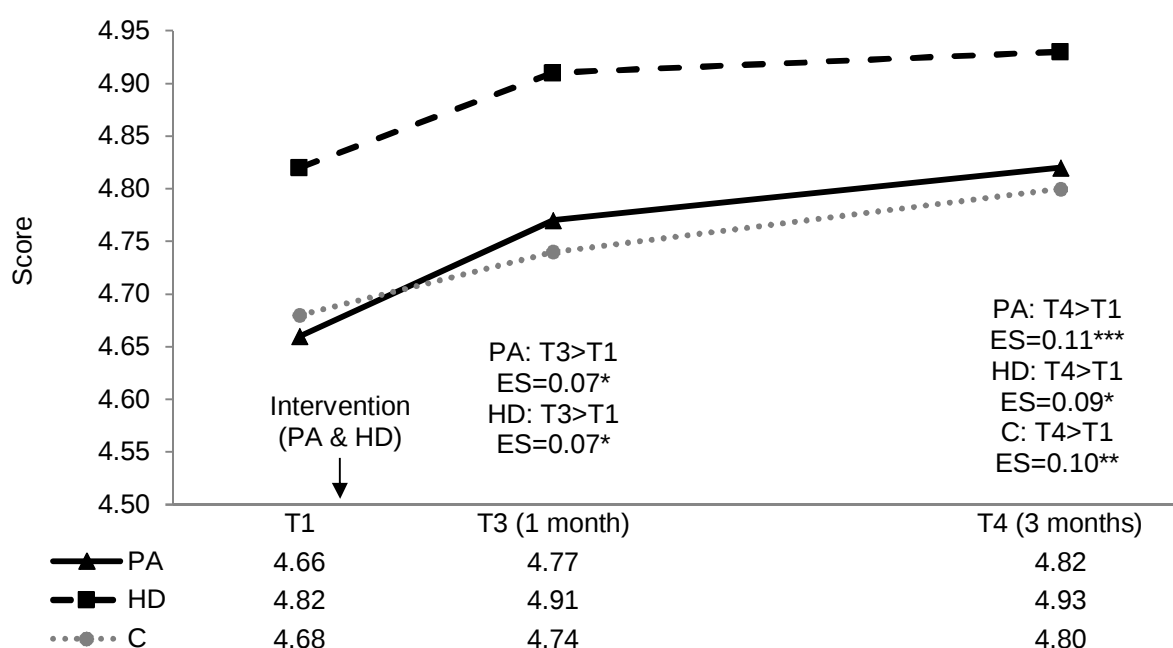
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

7-point Likert scale: "1=less happy" to "7=more happy"

6.3.6 Satisfaction with life

Figure 6.6 shows no significant difference in the changes in satisfaction with life between Groups PA/HD and C at T3 and T4. However, significant improvements were observed in Group PA at T3 (ES=0.07, $p=0.02$) and T4 (ES=0.11, $p<0.001$), Group HD at T3 (ES=0.07, $p=0.03$) and T4 (ES=0.09, $p=0.01$), and Group C only at T4 (ES=0.10, $p=0.001$), with small effect size.

Figure 6.6 Satisfaction with life (1-7)



* $p<0.05$; ** $p<0.01$; *** $p<0.001$

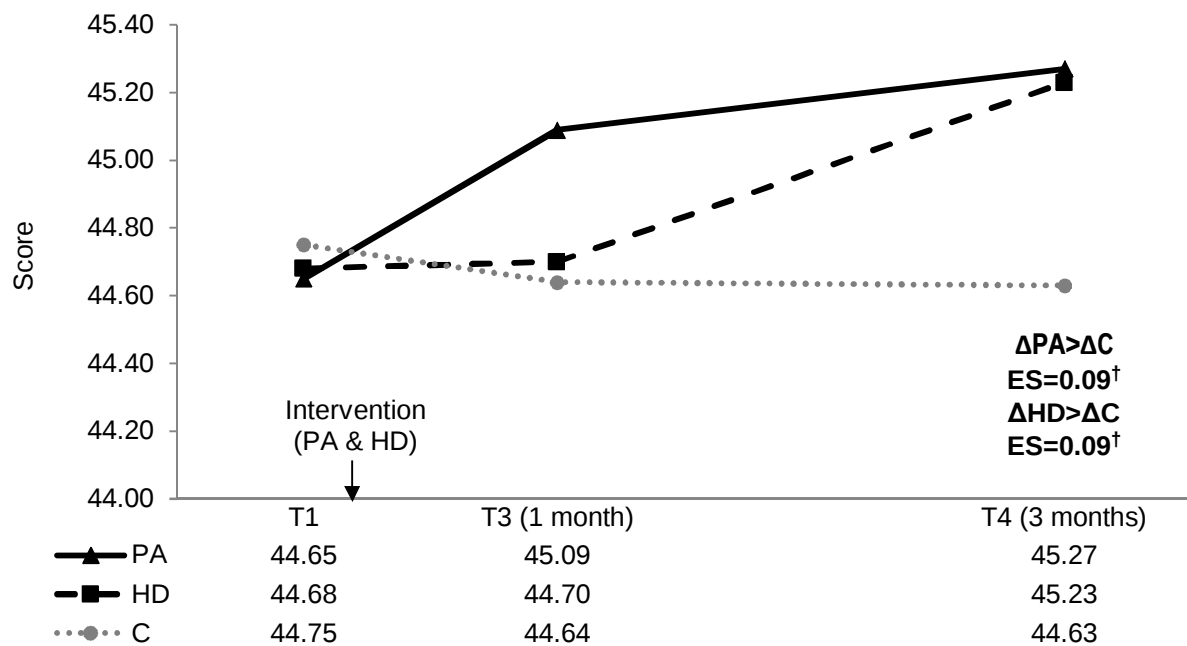
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

7-point Likert scale: "1=strongly disagree" to "7=strongly agree"

6.3.7 Mental quality of life

Figure 6.7 shows that the improvement in mental quality of life at T4 was marginally significantly greater in Groups PA and HD than Group C (ES=0.09, $p=0.08$ and ES=0.09, $p=0.08$, respectively), with small effect size.

Figure 6.7 Mental quality of life (0-100)



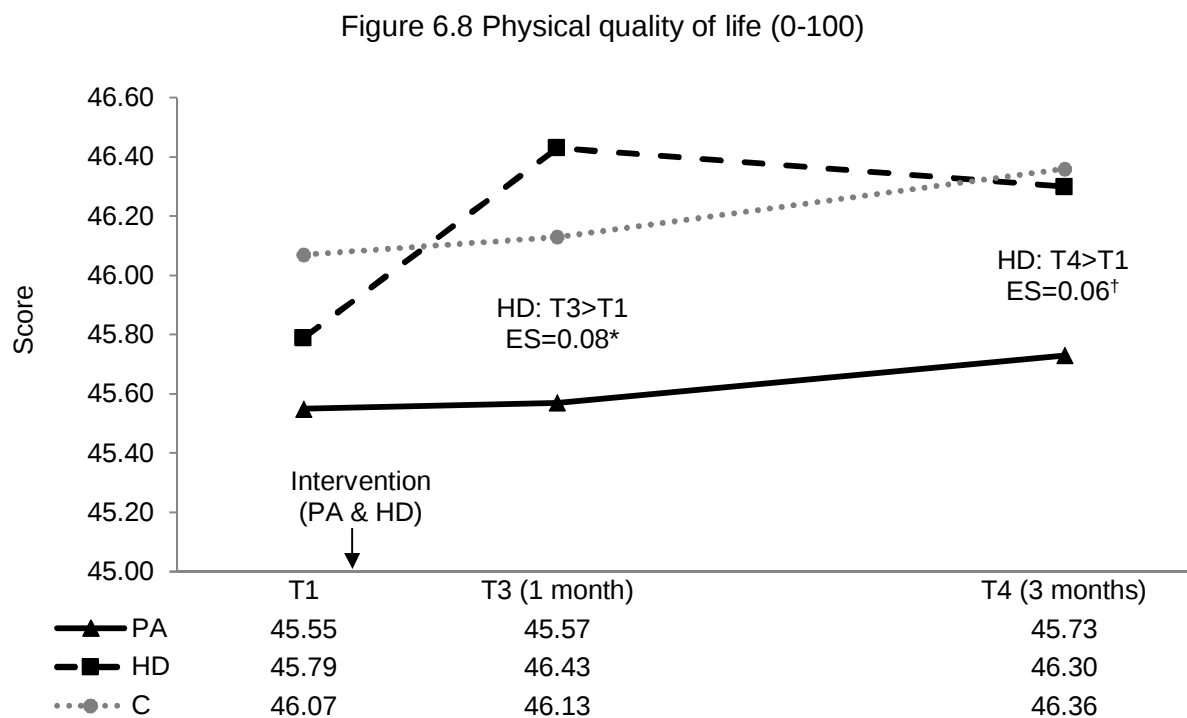
* $p < 0.05$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Note. Mental quality of life is made up of 12 items, using either 3-point Likert scale: "1=yes" to "3=no" or 5-point scale: "1=not at all" to "5=extremely"

6.3.8 Physical quality of life

Figure 6.8 shows no significant difference in the changes in physical quality of life between Groups PA/HD and C at T3 and T4. However, a significant improvement was observed in Group HD at T3 (ES=0.08, $p=0.03$) and a marginally significant improvement at T4 (ES=0.06, $p=0.09$), with small effect size. Groups PA and C showed no significant improvement in physical quality of life at T3 and T4.



[†] $p<0.10$; * $p<0.05$

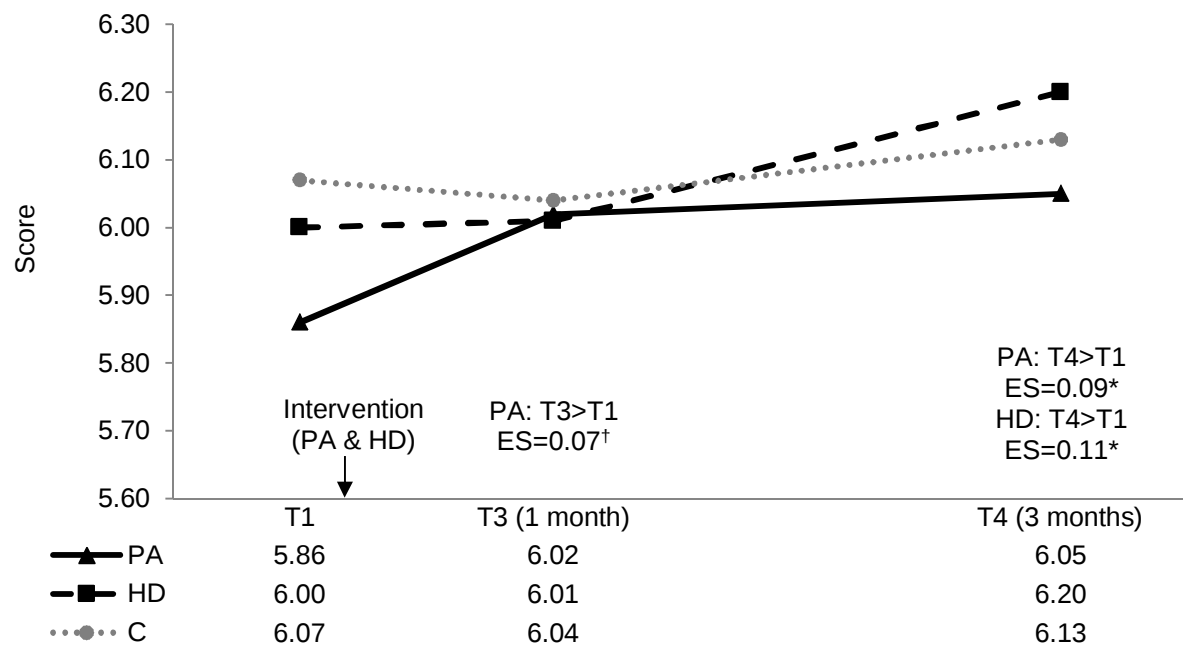
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

Note. Mental quality of life is made up of 12 items, using either 3-point Likert scale: "1=yes" to "3=no" or 5-point scale: "1=not at all" to "5=extremely"

6.3.9 Gratitude behaviours

Figure 6.9 shows no significant difference in the changes in gratitude behaviours between Groups PA/HD and C at T3 and T4. However, a marginally significant increase was observed in Group PA at T3 (ES=0.07, $p=0.09$) and significant increase at T4 (ES=0.09, $p=0.05$) as well as significant increase in Group HD at T4 (ES=0.11, $p=0.02$), with small effect size. Group C showed no significant increase in gratitude behaviours at T3 and T4.

Figure 6.9 Gratitude behaviours (0-10)



† $p<0.10$; * $p<0.05$

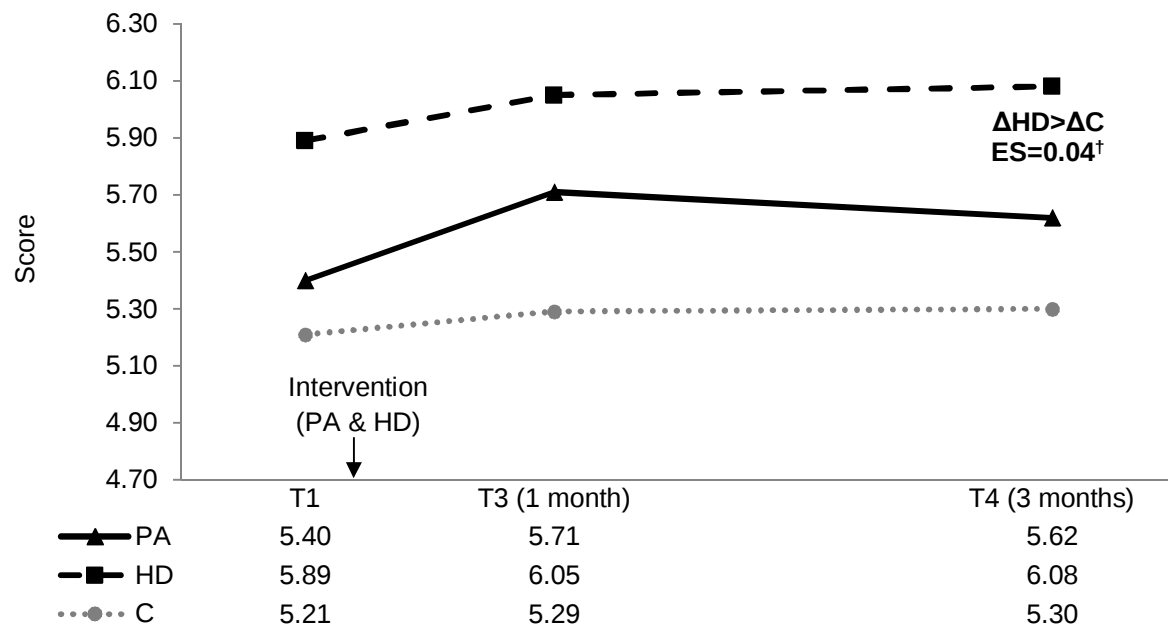
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=never" to "10=always"

6.3.10 Joy behaviours

Figure 6.10 shows that increase in joy behaviours at T4 was marginally significantly greater in Group HD than Group C with very small effect size ($ES=0.04$, $p=0.05$). However, Groups PA and C showed no significant difference within and between group at T3 and T4.

Figure 6.10 Joy behaviours (0-10)



$^\dagger p < 0.10$

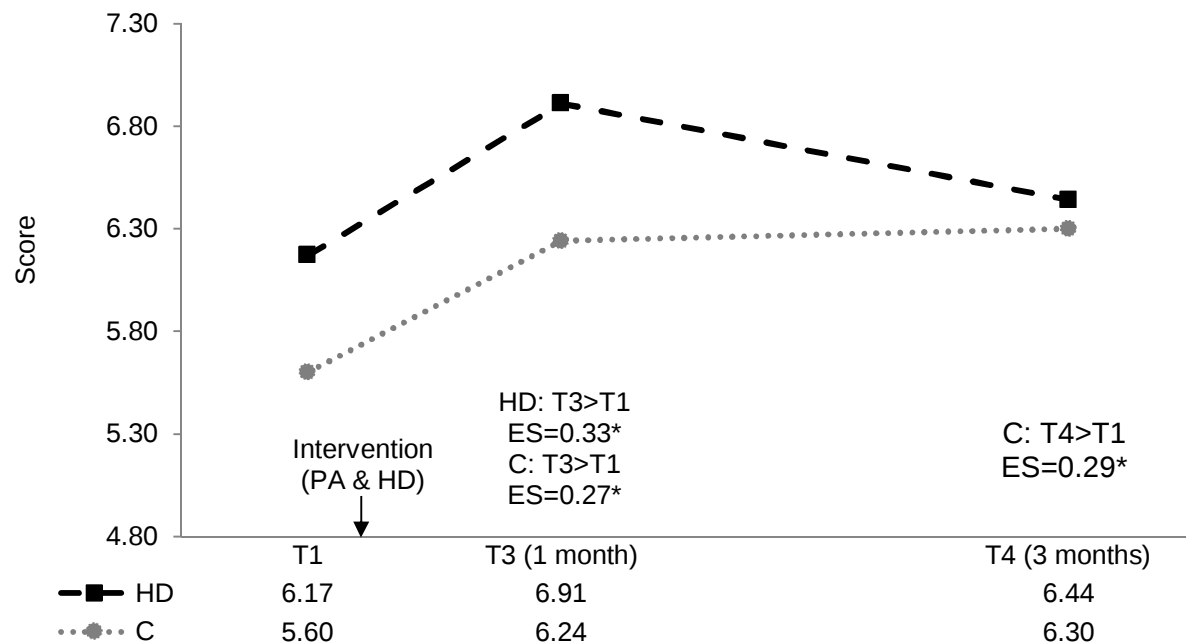
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=never" to "10=always"

6.3.11 Savouring behaviours

Figure 6.11 shows no significant difference in the change in savouring behaviours between Groups PA/HD and C at T3 and T4. However, significant improvements were observed in Group HD at T3 (ES=0.33, $p=0.01$) and Group C at T3 and T4 (ES=0.27, $p=0.04$ and ES=0.29, $p=0.03$, respectively), with small effect size.

Figure 6.11 Savouring behaviours (0-10)



p -values were generated from t-test due to small sample size ($n=75$): * $p<0.05$

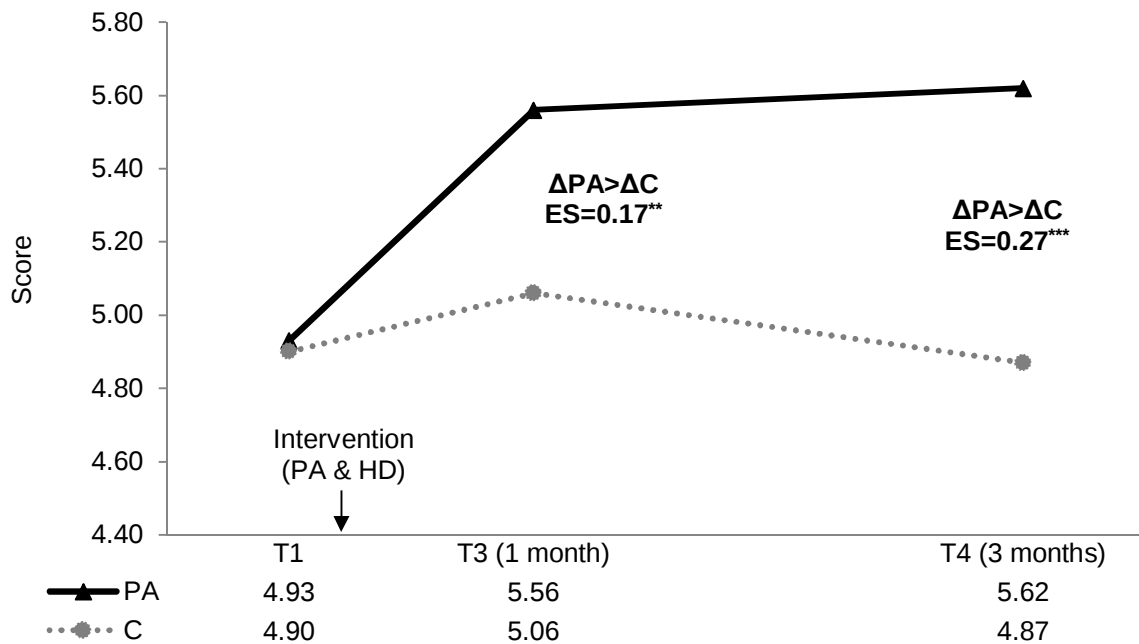
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=never" to "10=always"

6.3.12 Doing Zero-time Exercise

Figure 6.12 shows the increase in doing ZTEx at T3 (ES=0.17, $p=0.01$) and T4 (ES=0.27, $p<0.001$) was significantly greater in Group PA than Group C, indicating effectiveness of PA intervention with small effect size.

Figure 6.12 Doing ZTEx (0-10)



** $p<0.01$; *** $p<0.001$

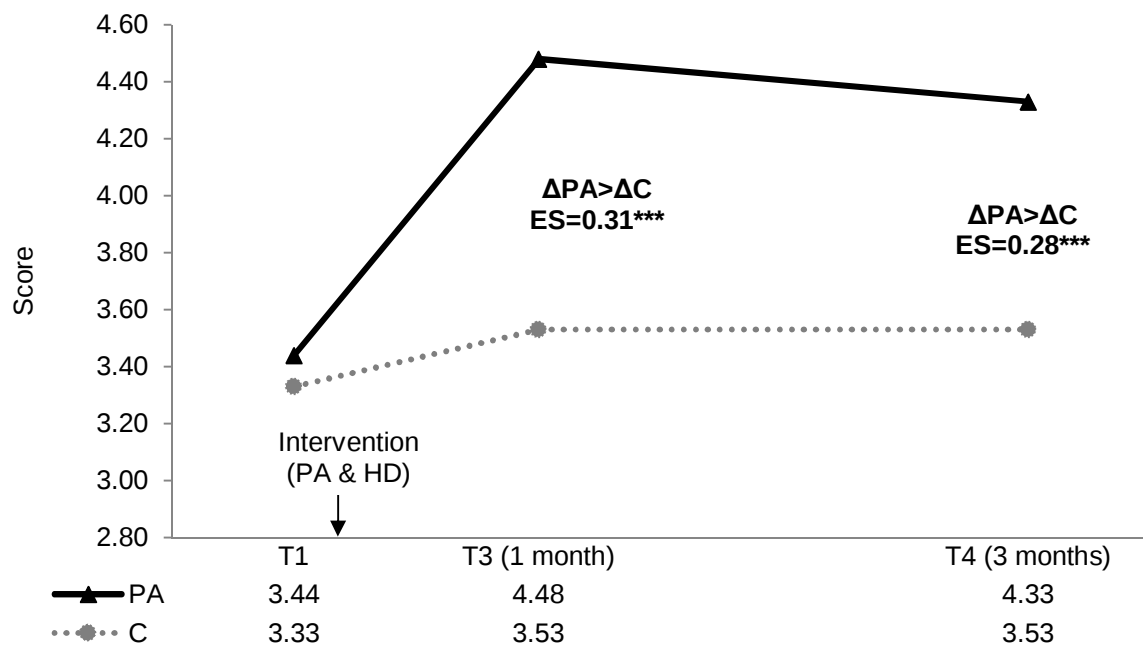
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=never" to "10=always"

6.3.13 Doing ZTE_x with family members

Figure 6.13 shows the increase in doing ZTE_x with family members at T3 (ES=0.31, $p<0.001$) and T4 (ES=0.28, $p<0.001$) was significantly greater in Group PA than Group C, indicating effectiveness of PA intervention with small effect size.

Figure 6.13 Doing ZTE_x with family members (0-10)



*** $p<0.001$

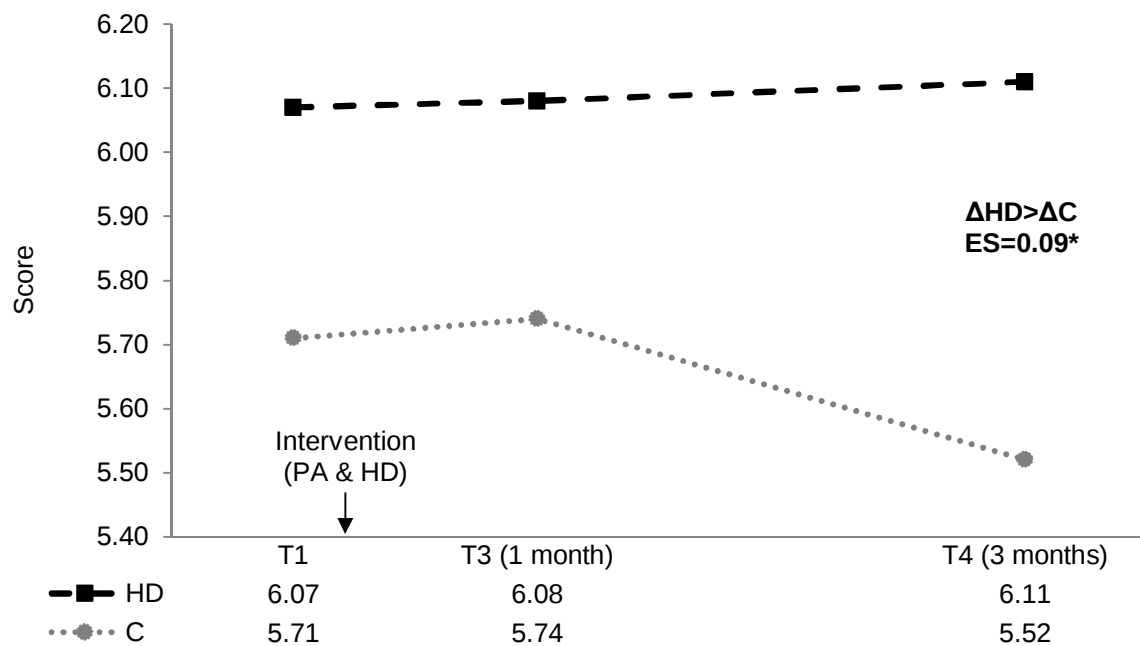
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=never" to "10=always"

6.3.14 Low sugar consumption

Figure 6.14 shows the increase in the consumption of low sugar diet was significantly greater only at T4 in Group HD than Group C ($ES=0.09$, $p=0.01$) with a small effect size, which was mainly due to the decrease in Group C.

Figure 6.14 Low sugar consumption (0-10)



* $p < 0.05$

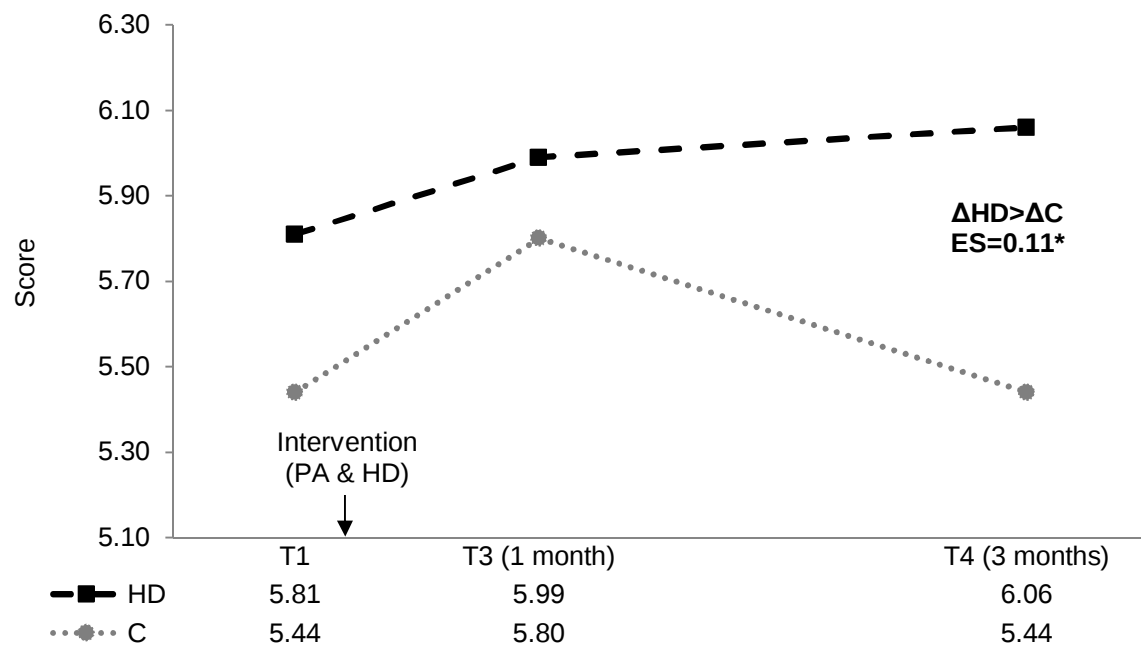
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=never" to "10=always"

6.3.15 Low sugar consumption with family members

Figure 6.15 shows the increase in low sugar consumption with family members was significantly greater at T4 only in Group HD than Group C ($ES=0.11$, $p=0.01$) with a small effect size, mainly due to the decrease in Group C.

Figure 6.15 Low sugar consumption with family members (0-10)



* $p < 0.05$

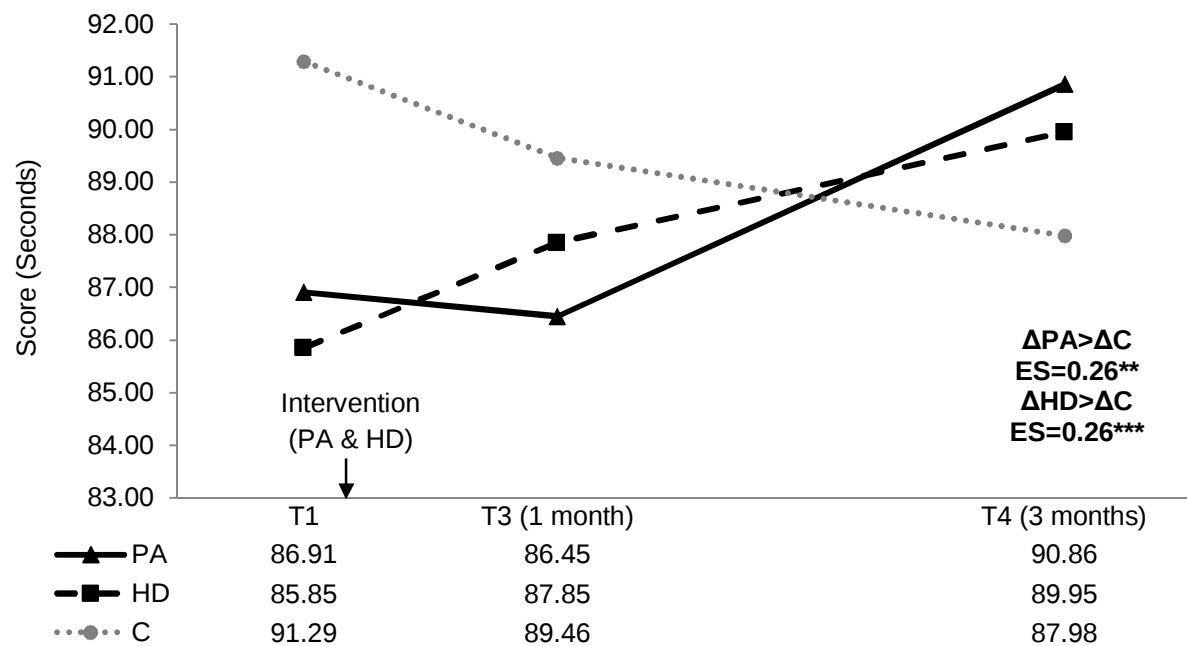
ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

10-point Likert scale: "0=never" to "10=always"

6.3.16 Single leg stance

Figure 6.16 shows the improvement in single leg stance was significantly greater only at T4 in Groups PA and HD than Group C (ES=0.26, $p=0.001$ and ES=0.26, $p<0.001$, respectively). Some of the between group difference was due to the decline in Group C.

Figure 6.16 Single leg stance (0-120)



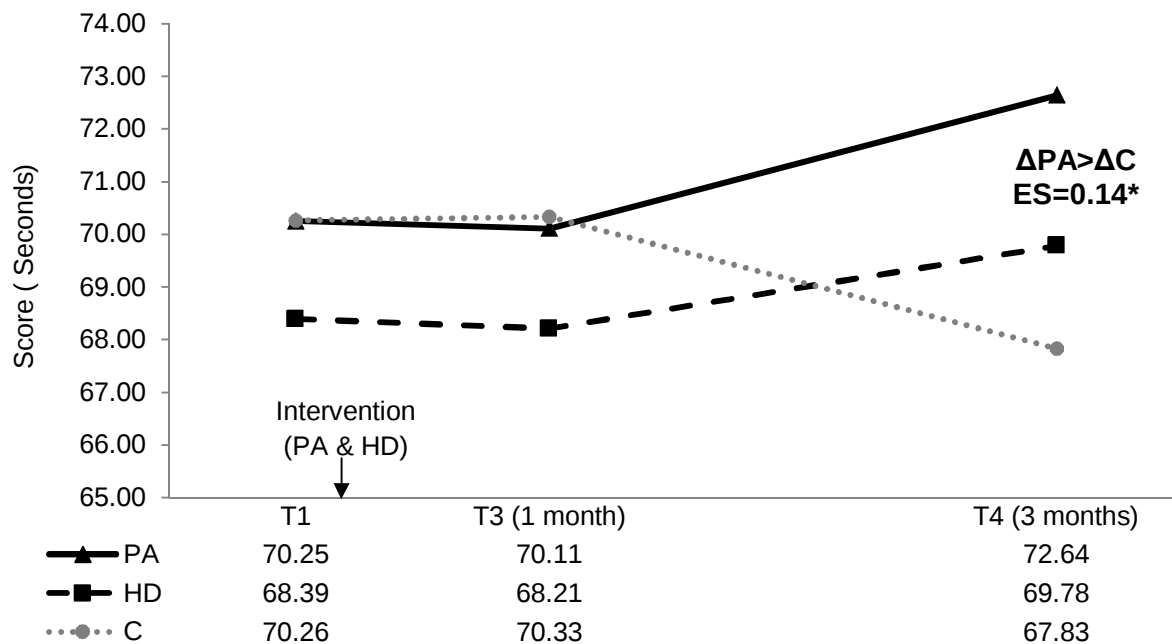
** $p<0.01$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

6.3.17 Seated cycling (foot pedalling)

Figure 6.17 shows the improvement in seated cycling was significantly greater at T4 only in Group PA than Group C ($ES=0.14$, $p=0.03$). Some of the between group difference was due to the decline in Group C. However, Group HD and C showed no significant difference between group.

Figure 6.17 Seated cycling (0-120)



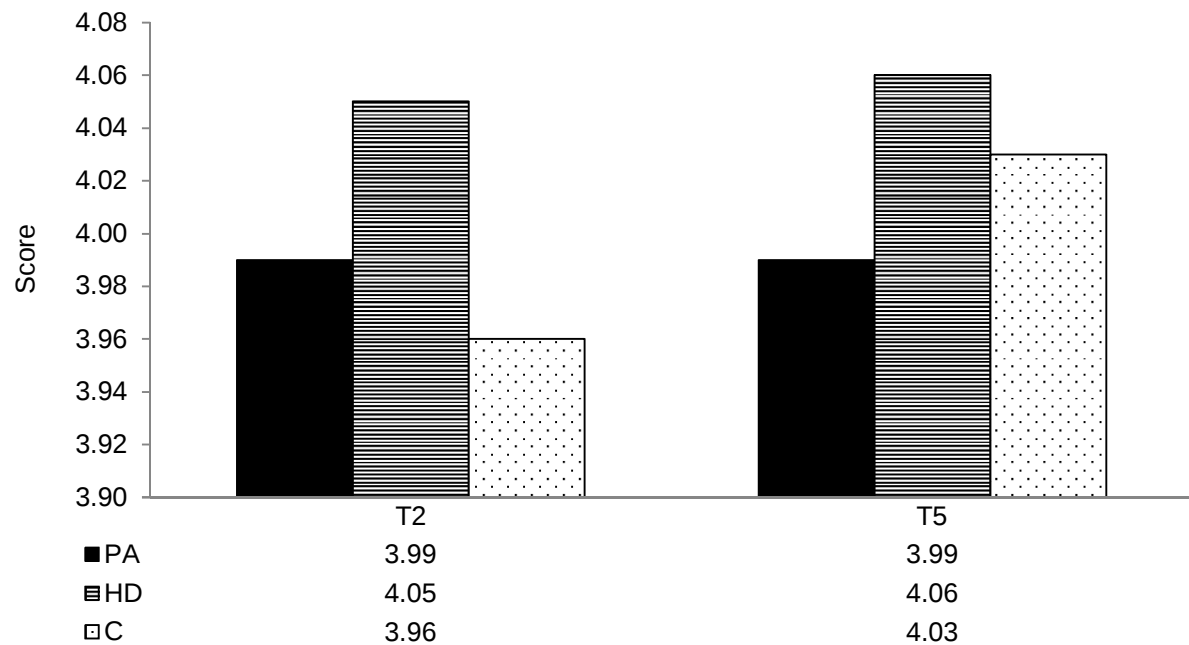
* $p < 0.05$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

6.3.18 Intention to practise gratitude behaviours

Figure 6.18 shows no significant difference between Group PA/HD and Group C at T2 and T5.

Figure 6.18 Intention to practise gratitude behaviours (1-5)



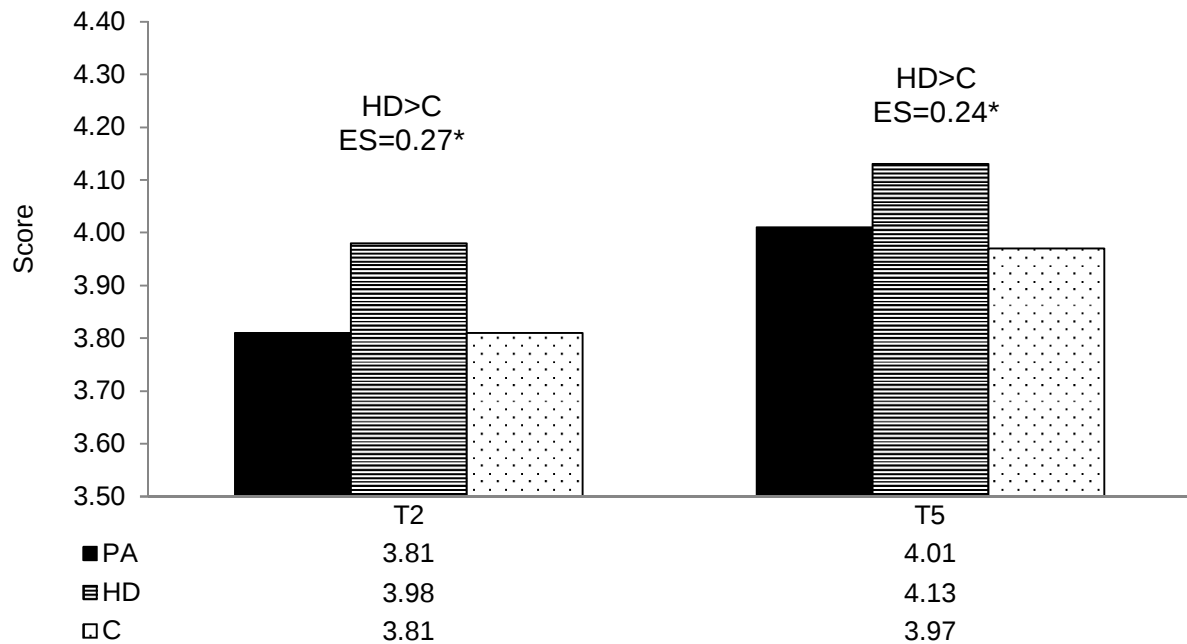
5-point Likert scale: "1=no intention at all" to "5=very much intended"

Note. Intention to change was not measured at T1

6.3.19 Intention to practise joy behaviours

Figure 6.19 shows the intention to practise joy behaviours at T2 and T5 was significantly greater in Group HD than Group C (ES=0.27, $p=0.03$ and ES=0.24, $p=0.05$, respectively) with small effect size, indicating effectiveness of HD intervention. However, Groups PA and C showed no significant difference between groups.

Figure 6.19 Intention to practise joy behaviours (1-5)



* $p<0.05$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

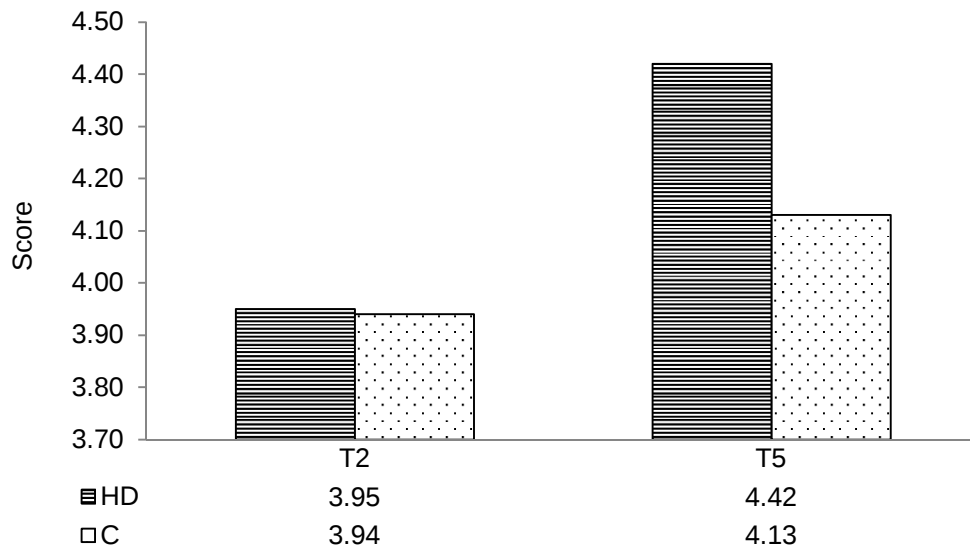
5-point Likert scale: "1=no intention at all" to "5=very much intended"

Note. Intention to change was not measured at T1

6.3.20 Intention to practise savouring behaviours

Figure 6.20 shows no significant difference on intention to practise savouring behaviours between Groups HD and C at T2 and T5.

Figure 6.20 Intention to practise savouring behaviours (1-5)



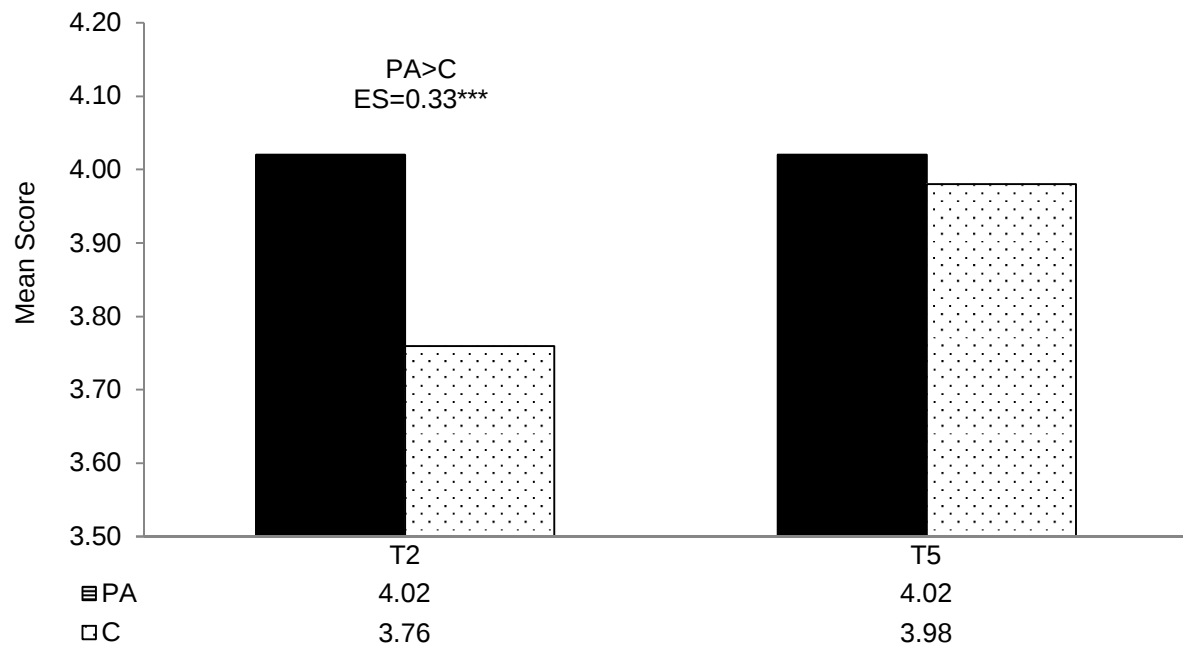
5-point Likert scale: "1=no intention at all" to "5=very much intended"

Note. Intention to change was not measured at T1

6.3.21 Intention to practise ZTEx

Figure 6.21 shows the intention to practise ZTEx was significantly greater at T2 only in Group PA than that Group C ($ES=0.33$, $p<0.001$), but not at T5, indicating short-term effectiveness of PA intervention with small effect size.

Figure 6.21 Intention to practise ZTEx (1-5)



*** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

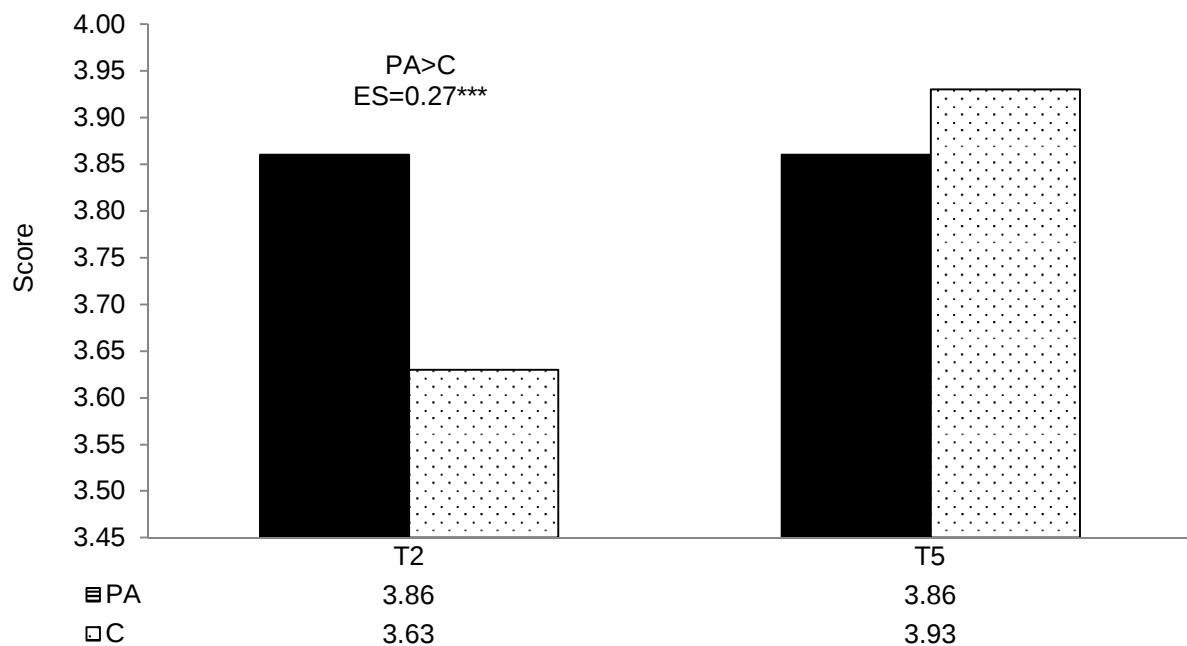
5-point Likert scale: "1=no intention at all" to "5=very much intended"

Note. Intention to change was not measured at T1

6.3.22 Intention to practice ZTE_x with family members

Figure 6.22 shows the intention to practice ZTE_x with family members at T2 was significantly greater only at T2 in Group PA than Group C (ES=0.27, $p<0.001$), indicating short-term effectiveness of PA intervention with small effect size

Figure 6.22 Intention to practice ZTE_x with family members (1-5)



*** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

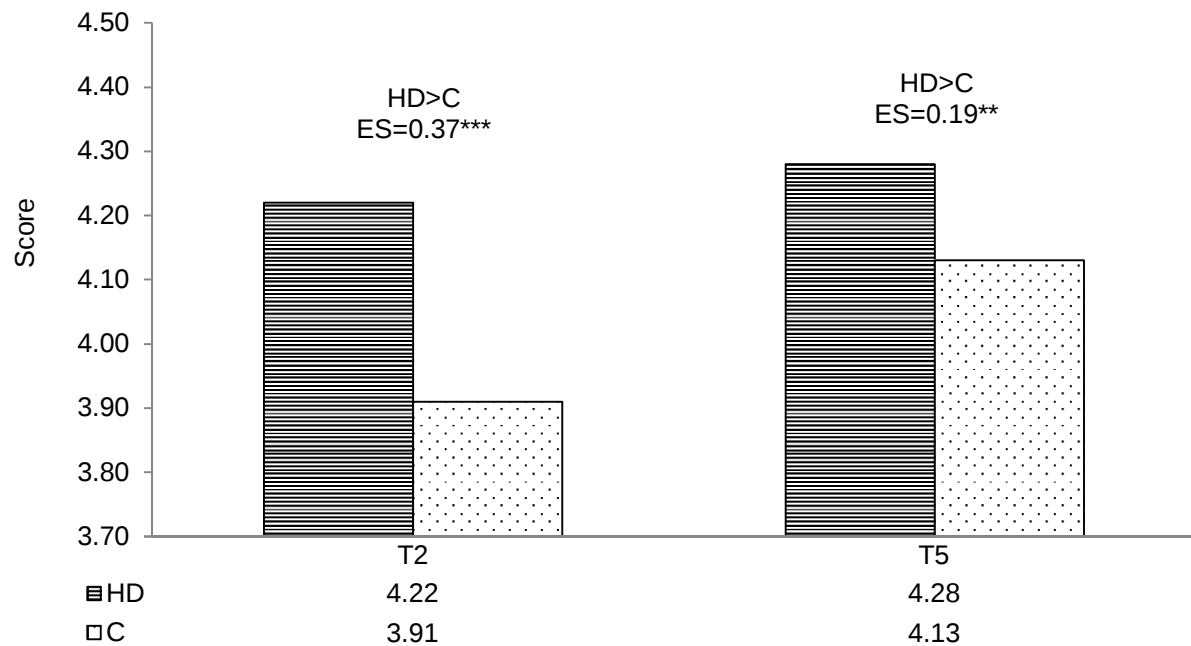
5-point Likert scale: "1=no intention at all" to "5=very much intended"

Note. Intention to change was not measured at T1

6.3.23 Intention to practice low sugar consumption

Figure 6.23 shows the intention to practice low sugar consumption at T2 and T5 was significantly greater in Group HD than Group C (ES=0.37, $p<0.001$ and ES=0.19, $p=0.01$, respectively), indicating effectiveness of HD intervention with small effect size.

Figure 6.23 Intention to practice low sugar consumption (1-5)



** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

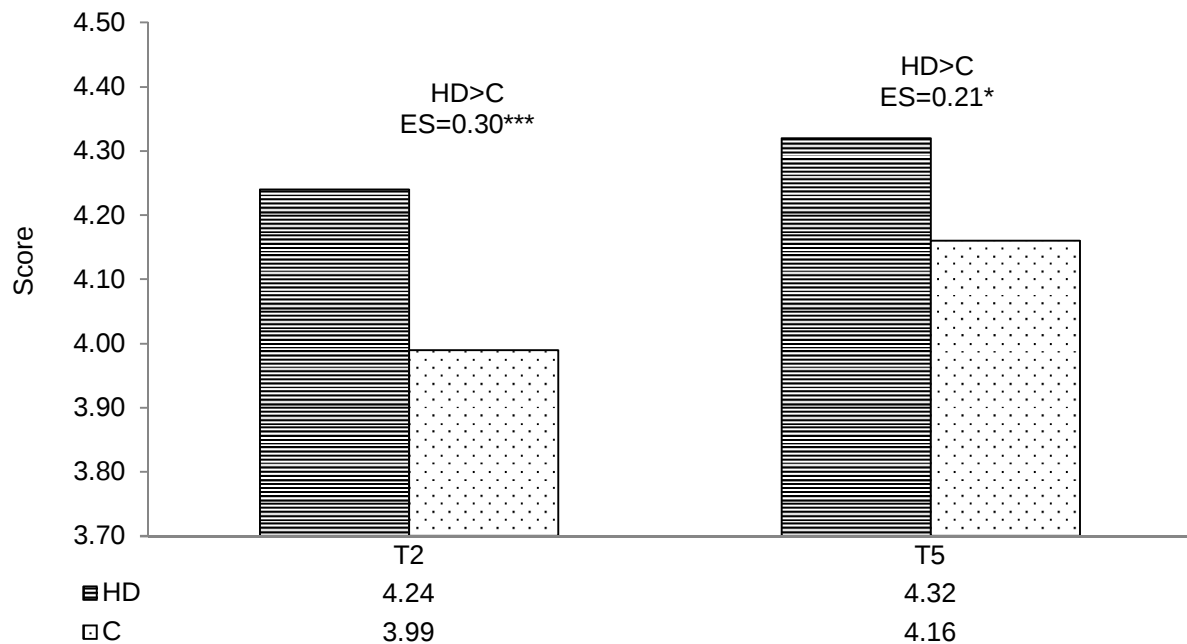
5-point Likert scale: "1=no intention at all" to "5=very much intended"

Note. Intention to change was not measured at T1

6.3.24 Intention to practice low sugar consumption with family members

Figure 6.24 shows intention to practice low sugar consumption with family members at T2 and T5 was significantly greater in Group HD than Group C (ES=0.30, $p<0.001$ and ES=0.21, $p=0.01$, respectively), indicating effectiveness of HD intervention with small effect size.

Figure 6.24 Intention to practice low sugar consumption with family members (1-5)



* $p<0.05$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

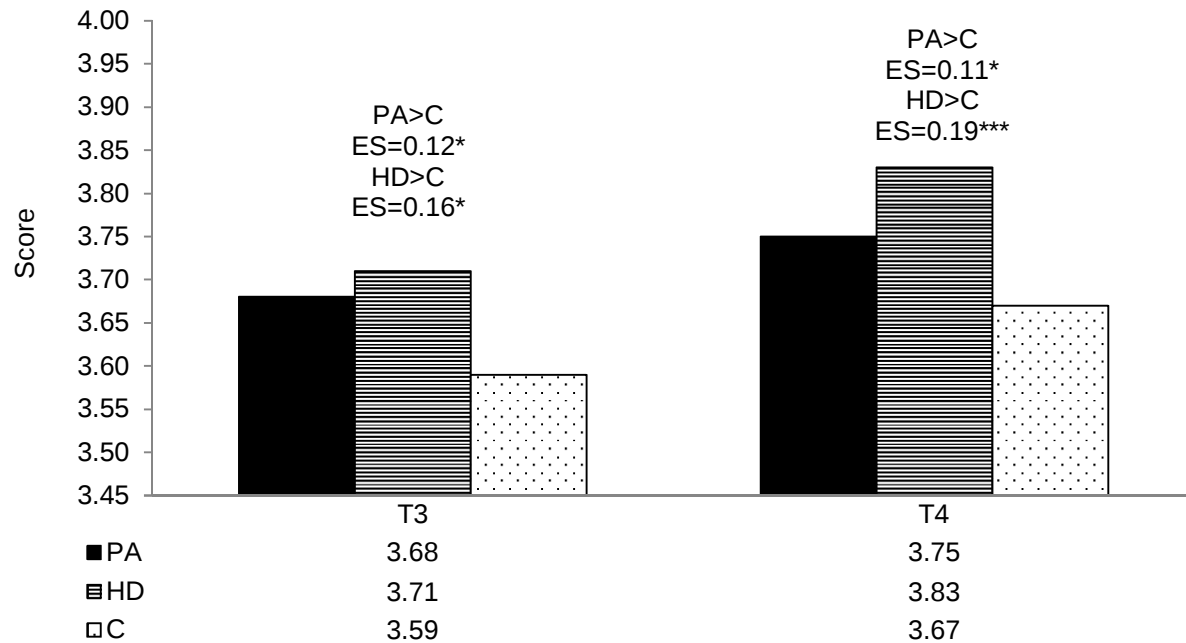
5-point Likert scale: "1=no intention at all" to "5=very much intended"

Note. Intention to change was not measured at T1

6.3.25 Subjective changes in FAMILY health

Figure 6.25 shows the subjective changes in FAMILY health at T3 and T4 were significantly greater in Groups PA (ES=0.12, $p=0.04$ and ES=0.11, $p=0.02$, respectively) and HD (ES=0.16, $p=0.01$ and ES=0.19, $p<0.001$) than Group C, indicating effectiveness of PA and HD interventions with small effect size.

Figure 6.25 Subjective changes in FAMILY health (1-5)



* $p<0.05$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

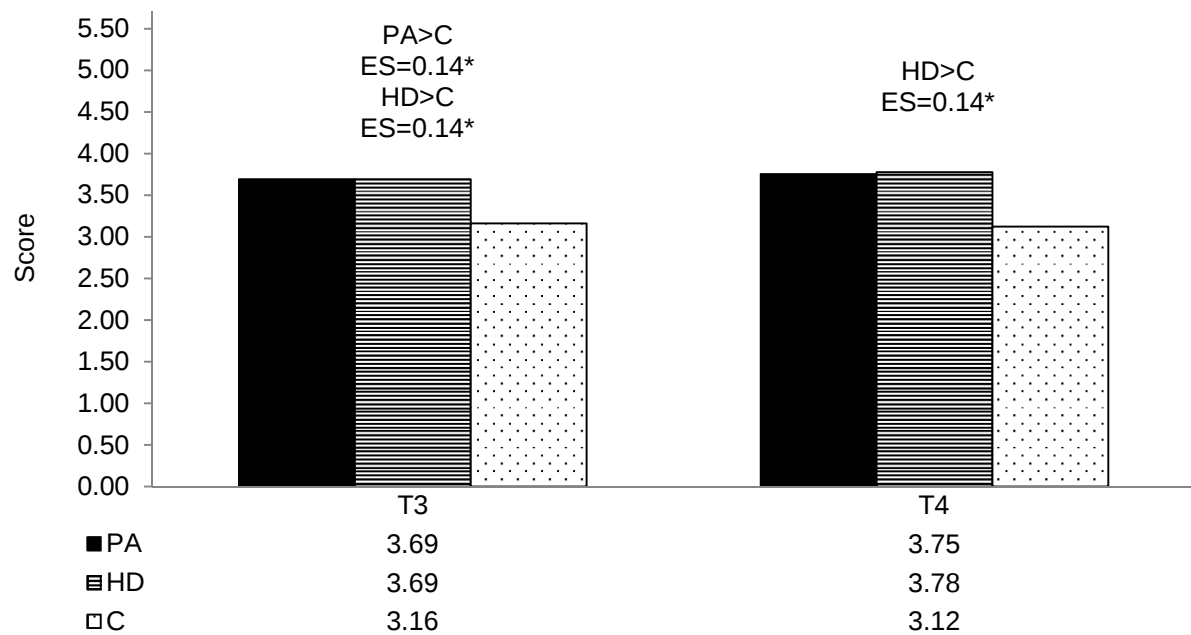
5-point Likert scale: "1=a lot less" to "5=a lot more"

Note. Subjective changes were not measured at T1

6.3.26 Subjective changes in FAMILY happiness

Figure 6.26 shows the subjective changes (improvements) in FAMILY happiness were significantly greater in Groups PA only at T3 (ES=0.14, $p=0.04$) but not T4, and HD at T3 and T4 (ES=0.14, $p=0.04$ and ES=0.14, $p=0.02$, respectively) than Group C, indicating effectiveness of PA (short-term) and HD intervention with small effect size.

Figure 6.26 Subjective changes in FAMILY happiness (1-5)



* $p<0.05$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

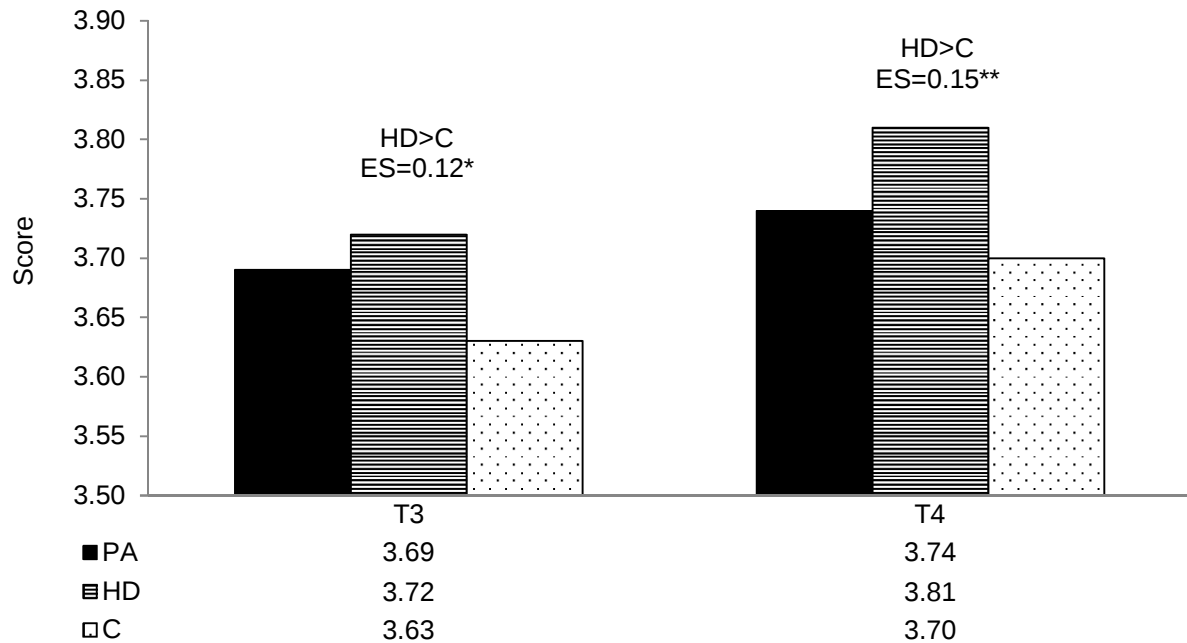
5-point Likert scale: "1=a lot less" to "5=a lot more"

Note. Subjective changes were not measured at T1

6.3.27 Subjective changes in FAMILY harmony

Figure 6.27 shows subjective changes in FAMILY harmony at T3 and T4 were significantly greater in Group HD than Group C (ES=0.12, $p=0.05$ and ES=0.15, $p=0.002$, respectively), indicating effectiveness of HD with small effect size. However, Groups PA and C showed no significant difference at T3 and T4.

Figure 6.27 Subjective changes in FAMILY harmony (1-5)



* $p<0.05$; ** $p<0.01$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

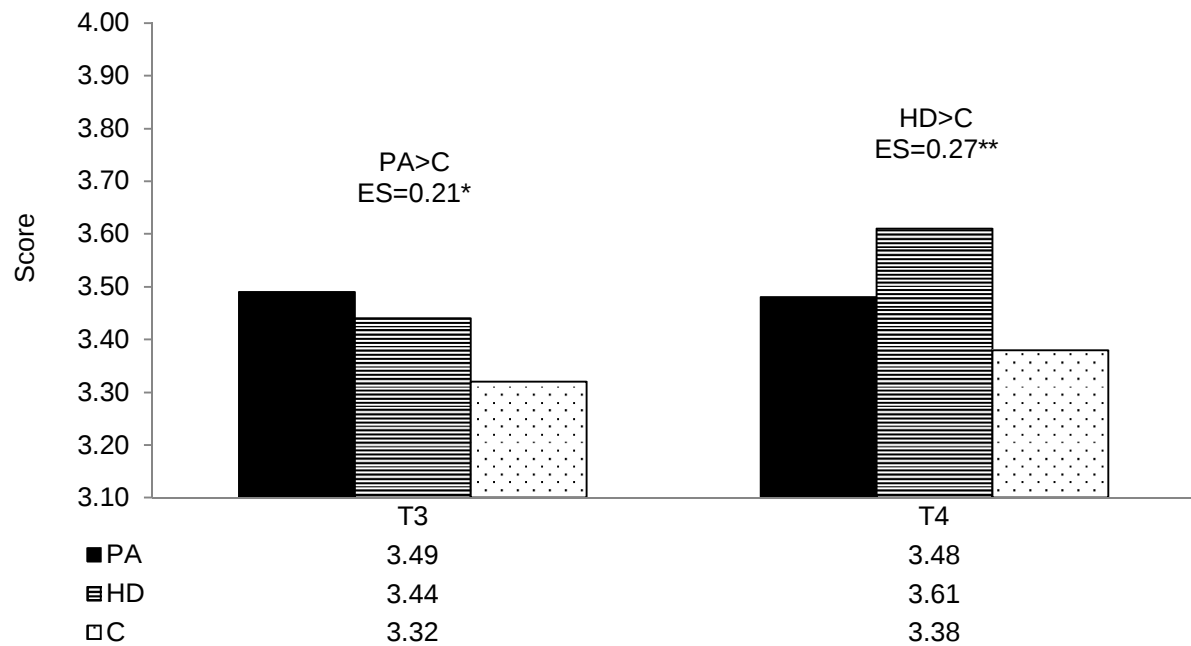
5-point Likert scale: "1=a lot less" to "5=a lot more"

Note. Subjective changes were not measured at T1

6.3.28 Subjective changes in gratitude behaviours

Figure 6.28 shows the subjective changes in gratitude behaviours were significantly greater in Group PA only at T3 (ES=0.21, $p=0.03$), but not T4 and Group HD only at T4 (ES=0.27, $p=0.001$), but not T3, than that in Group C, indicating effectiveness of PA (short-term) and HD (long-term) intervention, with small effect size.

Figure 6.28 Subjective changes in gratitude behaviours (1-5)



* $p<0.05$; ** $p<0.01$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

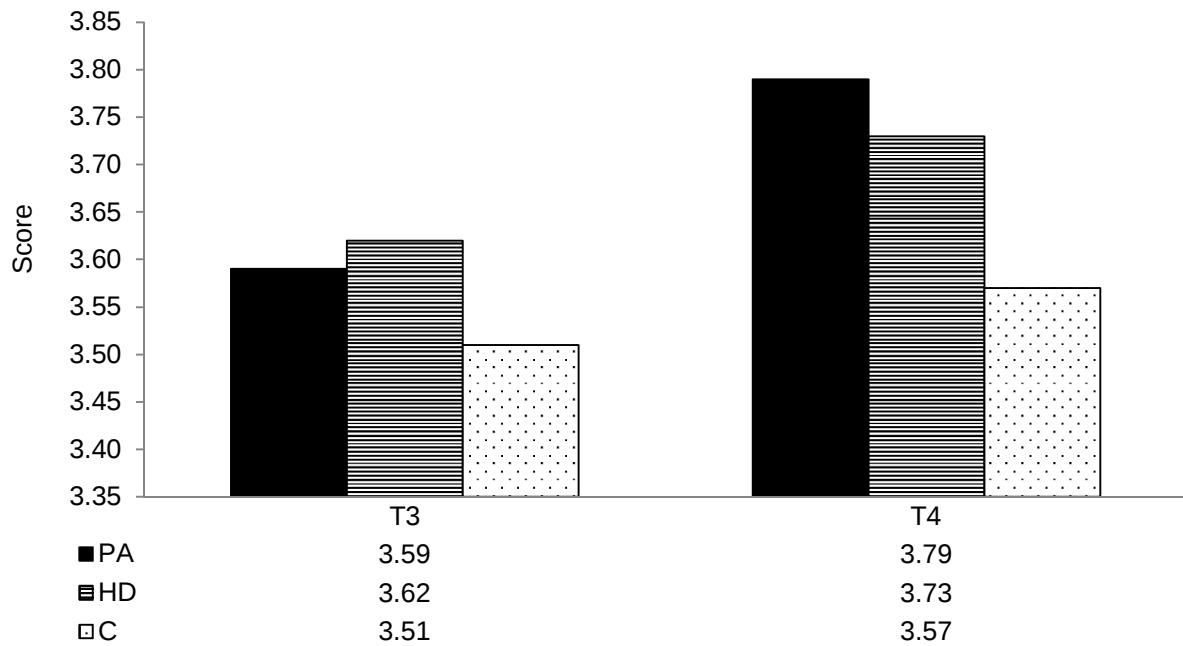
5-point Likert scale: "1=a lot less" to "5=a lot more"

Note. Subjective changes were not measured at T1

6.3.29 Subjective changes in joy behaviours

Figure 6.29 shows no significant difference in subjective changes in joy behaviours between Groups PA/HD and C at T3 and T4.

Figure 6.29 Subjective changes in joy behaviours (1-5)



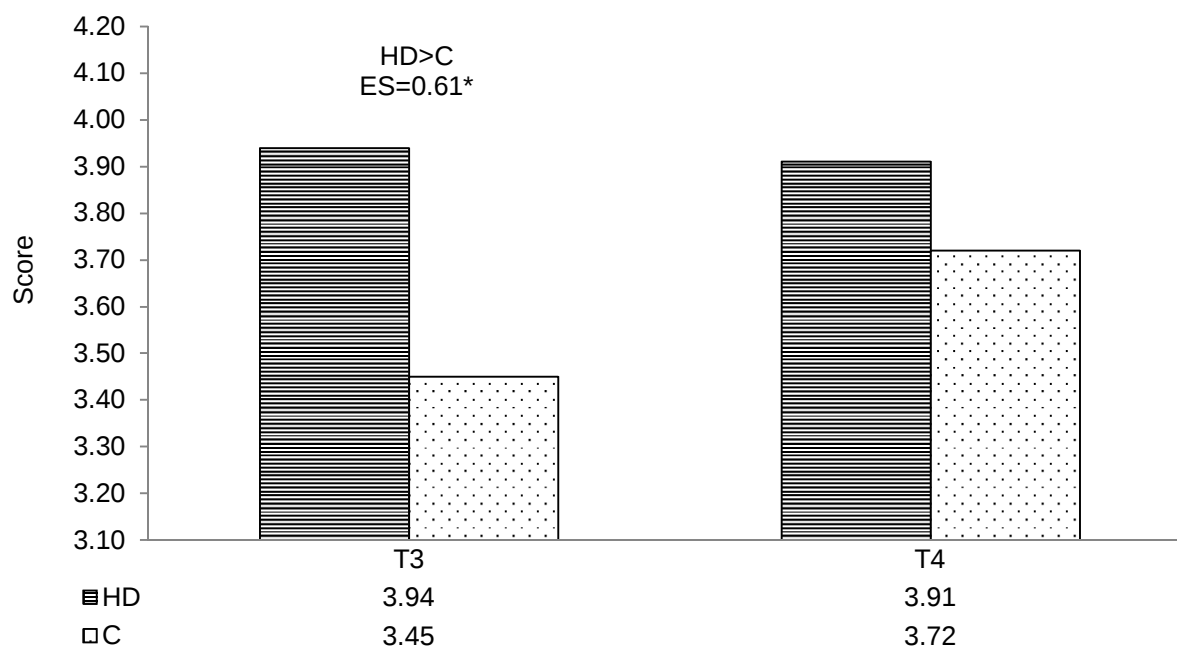
5-point Likert scale: "1=a lot less" to "5=a lot more"

Note. Subjective changes were not measured at T1

6.3.30 Subjective changes in savouring behaviours

Figure 6.30 shows subjective changes in savouring behaviours only at T3 were significantly greater in Group HD than Group C ($ES=0.61$, $p=0.04$), indicating effectiveness of HD (short-term) intervention, with small effect size.

Figure 6.30 Subjective changes in savouring behaviours (1-5)



* $p<0.05$; ** $p<0.01$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

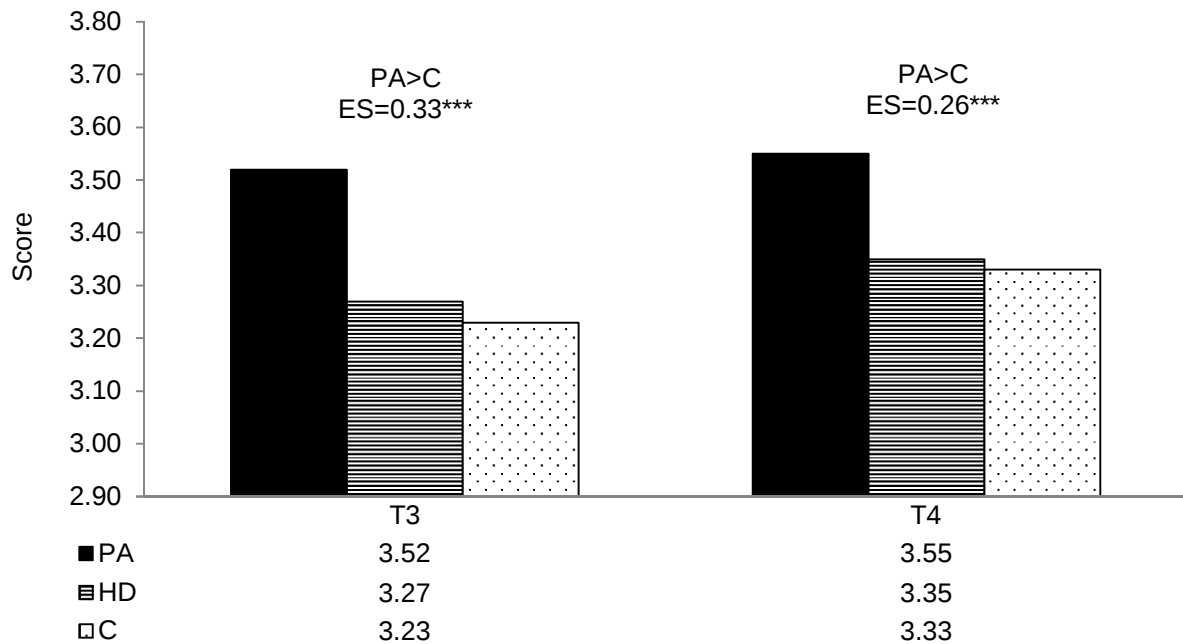
5-point Likert scale: "1=a lot less" to "5=a lot more"

Note. Subjective changes were not measured at T1

6.3.31 Subjective changes in doing ZTE_x

Figure 6.31 shows subjective changes in doing ZTE_x at T3 and T4 were significantly greater in Group PA than Group C (ES=0.33, $p<0.001$ and ES=0.26, $p<0.001$, respectively), indicating effectiveness of PA intervention, with small effect size. Groups HD and C showed no significant difference at T3 and T4.

Figure 6.31 Subjective changes in doing ZTE_x (1-5)



*** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

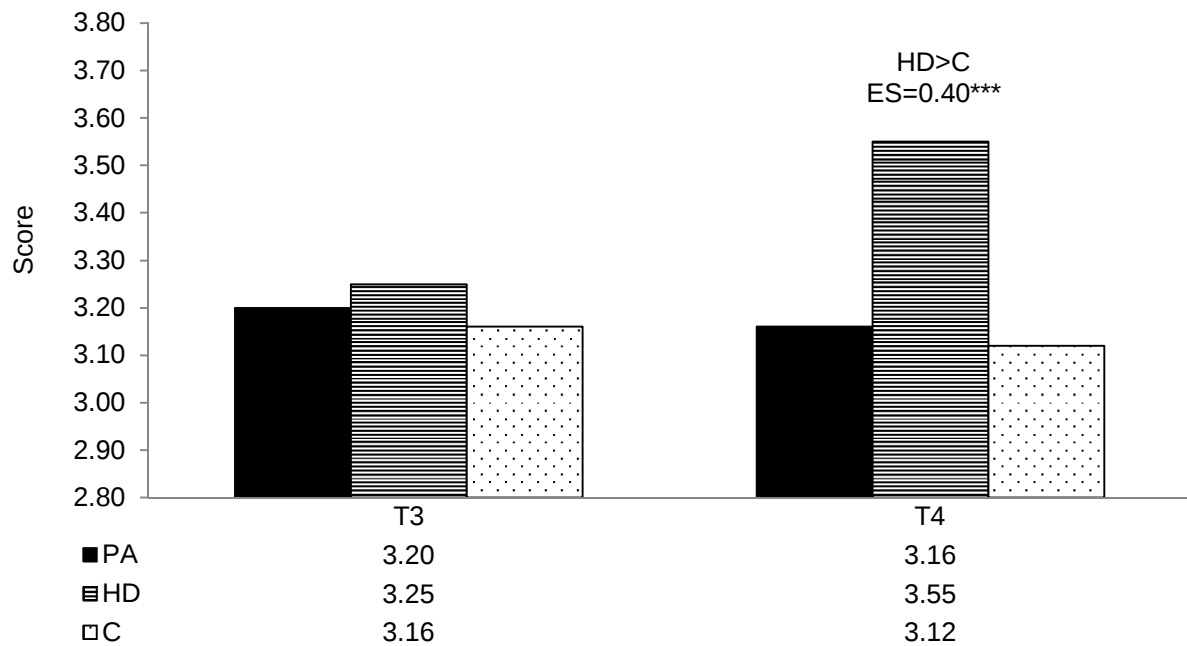
5-point Likert scale: "1=a lot less" to "5=a lot more"

Note. Subjective changes were not measured at T1

6.3.32 Subjective changes in low sugar consumption

Figure 6.32 shows subjective changes in low sugar consumption were significantly greater only at T4 in Group HD than Group C (ES=0.40, $p<0.001$), indicating effectiveness of HD intervention with small effective size. Groups PA and C showed no significant difference at T3 and T4.

Figure 6.32 Subjective changes in low sugar consumption (1-5)



*** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

5-point Likert scale: "1=a lot less" to "5=a lot more"

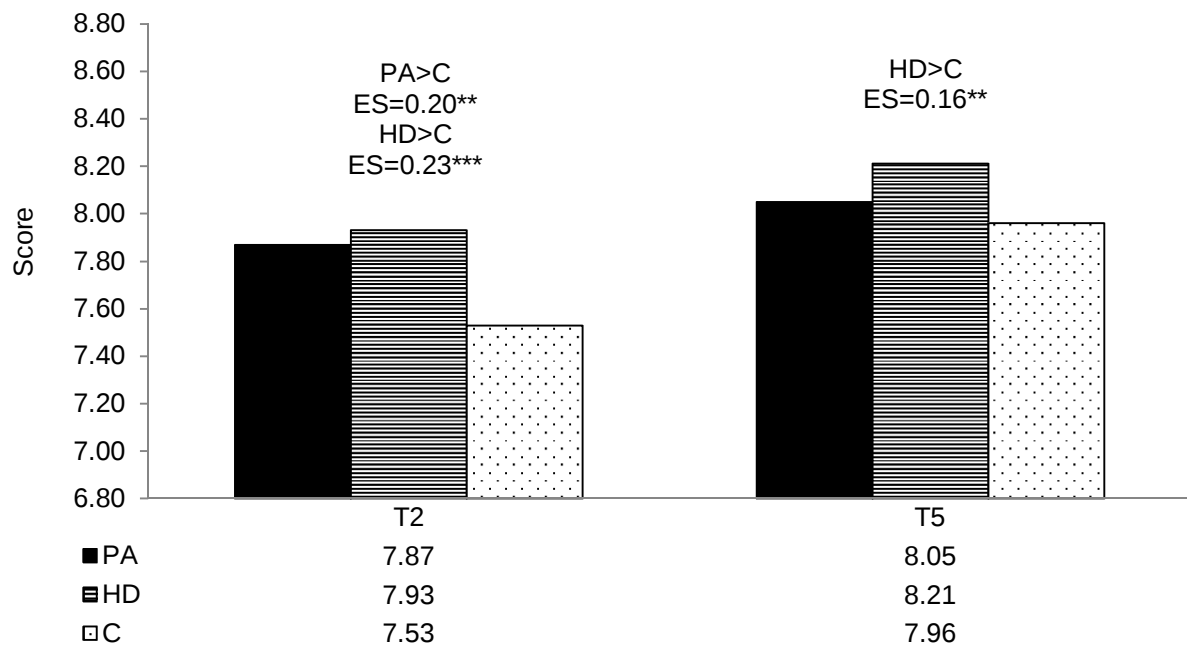
Note. Subjective changes were not measured at T1

6.4 Programme evaluation

6.4.1 Usefulness of the programme

Figure 6.33 shows the usefulness score of the programme were high for the 3 groups. The score was significantly greater in Group PA only at T2 (ES=0.20, $p=0.01$), and Group HD at T2 and T5 (ES=0.23, $p<0.001$ and ES=0.16, $p=0.004$, respectively) than Group C, with small effect size.

Figure 6.33 Usefulness of the programme



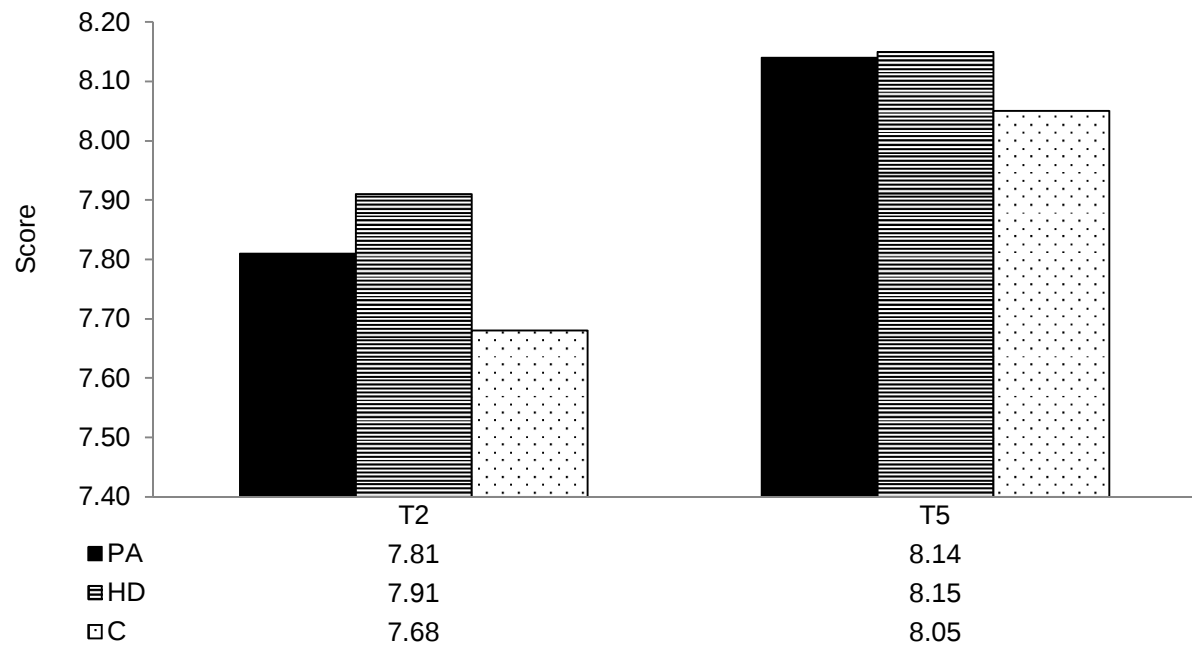
** $p<0.01$; *** $p<0.001$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

6.4.2 Enjoyment from the programme

Figure 6.34 shows high scores on enjoyment from the programme in all 3 groups. 3 groups showed no significant difference.

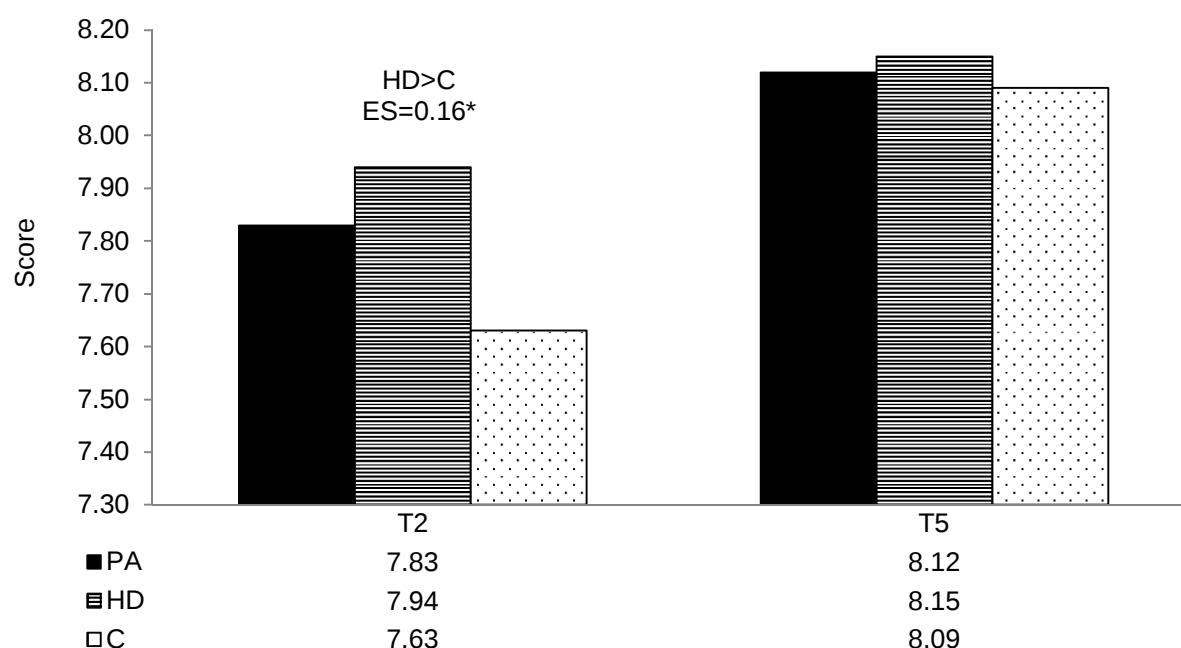
Figure 6.34 Enjoyment from the programme



6.4.3 Recommendation of the programme to family and friends

Figure 6.35 shows high scores on the recommendation of the programme to family and friends in all 3 groups. Score was significantly greater in Group HD than Group C at T2 only with small effect size ($ES=0.16$, $p=0.02$). Groups PA and C showed no significant difference at T2 and T5.

Figure 6.35 Recommendation of the programme to family and friends



* $p<0.05$

ES=effect size (Cohen's d): small=0.20; medium=0.50; large=0.80

6.5 Summary of quantitative results

By comparing Group PA with Group C, the results showed that the intervention was effective in improving mental quality of life at T4 ($ES=0.09$, $p=0.08$) and increasing ZTE_x at T3 ($ES=0.17$, $p=0.01$) and T4 ($ES=0.27$, $p<0.001$) and ZTE_x with family members at T3 ($ES=0.31$, $p<0.001$) and T4 ($ES=0.28$, $p<0.001$). In addition, Group PA performed better on single leg stance at T4 ($ES=0.26$, $p=0.001$) and seated cycling at T4 ($ES=0.14$, $p=0.03$) compared with Group C, showing that the intervention was effective in improving their balance and endurance. Effectiveness was also found for higher intention to practice ZTE_x at T2 ($ES=0.33$, $p<0.001$) and ZTE_x with family members at T2 ($ES=0.27$, $p<0.001$), and subjectively perceived a higher level of change (i.e. greater improvement) in FAMILY health at T3 ($ES=0.12$, $p=0.04$) and T4 ($ES=0.11$, $p=0.02$) and happiness at T3 ($ES=0.14$, $p=0.04$), gratitude behaviours at T3 ($ES=0.21$, $p=0.03$), and ZTE_x at T3 ($ES=0.33$, $p<0.001$) and T4 ($ES=0.26$, $p<0.001$).

For Group HD, the intervention was effective in improving FAMILY harmony at T3 ($ES=0.03$, $p=0.04$), subjective happiness at T4 ($ES=0.10$, $p=0.01$), and mental quality of life at T4 ($ES=0.09$, $p=0.08$), and increasing joy behaviours at T4 ($ES=0.04$, $p=0.05$), low sugar

consumption at T4 ($ES=0.09$, $p=0.01$), and low sugar consumption with family members at T4 ($ES=0.11$, $p=0.01$). In addition, Group HD performed better on single leg stance than that of Group C at T4 ($ES=0.26$, $p<0.001$), showing that the intervention was effective in improving their balance. Effectiveness was also found for higher intention to practice joy behaviours at T2 ($ES=0.27$, $p=0.03$) and T5 ($ES=0.24$, $p=0.05$), low sugar consumption at T2 ($ES=0.37$, $p<0.001$) and T5 ($ES=0.19$, $p=0.01$), and low sugar consumption with family members at T2 ($ES=0.30$, $p<0.001$) T5 ($ES=0.21$, $p=0.01$), and perceived a higher level of change (i.e. greater improvements) in FAMILY Health at T3 ($ES=0.16$, $p=0.01$) and T4 ($ES=0.19$, $p<0.001$), Happiness at T3 ($ES=0.14$, $p=0.04$) and T4 ($ES=0.14$, $p=0.02$) and Harmony at T3 ($ES=0.12$, $p=0.05$) and T4 ($ES=0.15$, $p=0.002$), gratitude behaviours T4 ($ES=0.27$, $p=0.001$), savouring behaviours at T3 ($ES=0.61$, $p=0.04$), and low sugar consumption at T4 ($ES=0.40$, $p<0.001$).

However, there were no significant difference between Groups PA and C as well as Groups HD and C in family communication, intention to practice gratitude and savouring behaviours, and subjective changes in joy behaviours. Note that both groups received the same interventions on these outcomes, which did not show effectiveness.

For programme process evaluation, all 3 groups gave high scores on utility, enjoyment, and recommendation to others. The core sessions were found to be more useful in Groups PA and HD than in Group C. Furthermore, it was more likely that Group HD was more likely to recommend the programme to family and friends after the first session than in Group C. All three groups equally enjoyed the first session and follow-up session was found to be more useful in Group HD than Group C.

6.6 Qualitative evaluation of intervention programmes

6.6.1 Objectives of the focus groups

To substantiate the quantitative findings, semi-structured focus groups were conducted on the intervention programme participants after completing all community programmes and follow-up sessions. The qualitative components provided more in-depth insights into the participants' experiences, underlying motivations, thoughts and feelings associated with their behavioural, emotional and attitudinal changes, or lack of change, during and after participating in the intervention programme. The information would be useful to evaluate programme effectiveness, explain and interpret the quantitative findings, and improve the development and implementation of future community-based intervention projects. The specific objectives of the focus groups are as follows:

- To explore the extent to which the community-based family intervention programmes had promoted behavioural changes among the participating families, including family communication, gratitude behaviours, joy behaviours, savouring behaviours, ZTE_x, and low sugar consumption;
- To explore whether the intervention programmes had improved FAMILY 3Hs;
- To identify the challenges and barriers to practice positive family behaviours and health-related activities recommended in the intervention programmes; and
- To identify the suggestions and recommendations for future community-based family intervention programmes.

6.6.2 Participants of the focus groups

Purposive sampling was used to recruit focus group participants from those who had participated in the HFKM programmes. The inclusion criteria of the participants were: (a) participated in the core and booster sessions for Groups PA and HD or tea gathering sessions for Group C; (b) aged 12 years or above; (c) Cantonese speaking; (d) intact verbal and hearing abilities for interpersonal communication; and (e) a maximum of two members from each family. Overall, 11 focus groups consisting of 92 participants were conducted from March to September 2016. Each group had 6 to 10 participants. Details of group composition are shown in Table 6.3. A total of 4 focus groups were conducted for Group PA, 5 for Group HD, and 2 for Group C. Table 6.4 shows that the majority of the participants were aged 30 to 39 years, female (82.4%), had secondary education (53.3%), married (84.4%), and were housewives (53.8%).

Table 6.3 Composition of the focus groups

Programme Code	Theme	Group	Number of families	Number of participants
06GA1	Gratitude	PA	8	8
13JA1	Joy	PA	7	7
40GA1	Gratitude	PA	6	9
50GA1	Gratitude	PA	9	9
14JB2	Joy	HD	10	10
41JB1	Joy	HD	5	7
43GB1	Gratitude	HD	8	8
44GB1	Gratitude	HD	6	9
35GB1	Gratitude	HD	9	9
23GC2	Gratitude	C	6	6
39GC1	Gratitude	C	8	10

Table 6.4 Demographic characteristics of focus group participants

Characteristic	n (%)
Sex	
Male	16 (17.6)
Female	75 (82.4)
Age group (years)	
18-19	1 (1.1)
30-39	33 (36.7)
40-49	31 (34.4)
50-59	5 (5.6)
≥60	20 (22.2)
Marital status	
Not married	3 (3.3)
Married	76 (84.4)
Widower/widow	4 (4.4)
Divorced/separated	7 (7.8)
Education	
Primary or below level	24 (26.7)
Secondary level	48 (53.3)
Tertiary or above level	18 (20)
Employment status	
Employed	30 (33.0)
Housewife	49 (53.8)
Retired/seeking job	12 (13.2)

6.6.3 Procedures of the focus groups

Participation in the focus group interview was completely voluntarily after obtaining written consent. A questionnaire on demographic characteristics was completed before starting. Semi-structured interview guidelines and prompts were developed according to the standard focus group protocol [60] to cover a range of key issues related to the research questions. Led

by a moderator with the help of a note-taker, the focus groups were conducted with flexibility to allow unanticipated themes to emerge. A HK\$50 gift voucher was given to each participant as an incentive. The group discussions, which were audio recorded, lasted for about 60 minutes in a quiet venue arranged by the social service units and schools.

6.6.4 Data analysis of the focus groups

To ensure the reliability of the qualitative data, audio records were transcribed verbatim into Chinese. At least 10% of the transcripts were double-checked against the audio recordings for accuracy. Thematic analysis was used to identify, analyse and report patterns (themes) within the qualitative data [61]. First, the transcripts were read in detail, and broad themes were noted. Then an in-depth analysis was conducted using a process of constant comparisons, in which differences and similarities were analysed to identify main themes and sub-themes. To ensure objectivity during the analysis, a panel of researchers performed the coding analysis. In the event that researchers differed in their coding decision, themes were reanalysed and checked against other coded data until a consensus was reached. Finally, the transcripts were reviewed to validate the thematic analysis and to ensure that all meaningful interview data had been analysed.

6.6.5 Results from the focus groups

The main themes generated from the focus groups include “general impression”, “behavioural changes after participation”, “perceived positive outcomes”, “challenges and barriers”, and “suggestions and recommendations”. The main themes, subthemes, and categories relevant to the research questions in Chinese are illustrated below with translated quotations in English.

Theme	Subtheme	Quotes
General impression	/	<u>A good platform to build relationship in family</u> “我見佢(活動)呢個都好似好吸引嘅題目...嗰時未接觸過嘅，都吸引嘅。係啦...咁都想借住呢啲時間同佢(小朋友)接觸呀，去溝通呀...” (媽媽，中年，06GA1 5A) “The activities appeared to be an attractive topic... I had no such exposure, but it's attractive. Thus, I want to make good use of this opportunity to get along with, and to communicate with him/her (my child).” (A mother, middle-aged, 06GA1 5A) “因為平時呢爸爸都好忙，咁我哋好少同小朋友一齊出街玩...咁呢個活動呢就我可以多啲同我子女...即係有溝通...” (媽媽，中青，50GA1 31B) “Because (my child's) father is very busy, we seldom hang out and play with children. This activity let me ... communicate more with my children.” (A mother, young adult, 50GA1 31B) “個...親密度，咪有個相處嘅機會，個合...合拍呀。” (媽媽，中青，41JB1 12B) “The...intimacy, it was a chance for us to get together... the synchronization.” (A mother, young adult, 41JB1 12B) <u>A chance to expand social network</u> “我覺得(個活動)幾好呀，又可以同啲小朋友活動吓咁樣，又同啲家長又熟絡吓咁樣，傾吓計咁樣，運動又多咗。” (媽媽，中青，50GA1 33B) “I think the programme was quite good, it provided an opportunity for me to play with children, to build a relationship with other parents through chit-chat, and (I) exercised more.” (A mother, young adult, 50GA1 33B) “係啦係啦，你可以見多啲其他人，佢又可以同其他小朋友玩，就有個互動嘅度囉，唔單止自己一家人囉。” (佚名，13JA1) “I can meet more people; the child can play with others. There is an interaction which is not limited to my own family.” (Unknown, 13JA1)

Theme	Subtheme	Quotes
		“小朋友可能識多啲，識咗好多朋友仔呀，啲家長呀。” (媽媽，中青，14JB2 19A) “Children can meet more friends and their parents.” (A mother, young adult, 14JB2 19A) <u>Motivate us to stay healthy and live well</u> “我都覺得呢個活動幾好嘅...以前飲嘢嘅時候我都唔知原來係飲咗咁多糖份落去自己個身體到。咁另外我都覺得因為你哋介紹咗健康飲食啦，咁同啲小朋友亦都會留意吓呢個健康標籤呀，之後就一齊分享，咁其實係屋企裡面嘅和諧生活呢就會比較溝通多啲。” (媽媽，中青，35GB1 14A) “I think the programme was nice... I didn't realise the surprisingly high amount of sugars I have consumed through drinks. On the other hand, the programme introduced healthy eating, which enabled us to get into the habits of reading food labels and sharing. It enhanced communication in a harmonious family life.” (A mother, young adult, 35GB1 14A) “(我)學識留意多啲健康，標籤呀，放味啲嘢，點煮呀，少甜少鹽呀，或者平時呀仔講咩都唔同你講嘅，咁呢次就唔同咗㗎啦。” (媽媽，中年，14JB2 21A) “I noticed more about health, food label, flavouring, cooking methods, and lower-sugar and salt diet. It also improved the communication between my son and me, he seldom talked to me in the past.” (A mother, middle-aged, 14JB2 21A) “我們因為也是提醒我們要時刻都關注自己的健康，我們都多做運動。” (媽媽，中青，13JA1 7A) “It reminds us to pay close attention to our health, thus we work out more.” (A mother, young adult, 13JA1 7A)
Behavioural changes after participation	Improvement in family communication	<u>Increase communication in family</u> “多啲溝通囉我覺得，因為係屋企有時佢（子女）又係入面做功課嘛，做得耐，有幾何同佢講嘢即係（星期）一至五啲嘢，即係係少啲真係，你星期六日有時佢有啲朋友仔約佢係公園度玩，你又唔使跟住去㗎嘛，咁變咗呢啲遊戲咪可以同佢一齊去，可以傾吓計咁樣。” (佚名，13JA1) “More communication, I think. On weekdays, the

Theme	Subtheme	Quotes
		children spent a lot of time on their homework, we don't talk much. On the weekends, they sometimes hanged out with friends in the park by themselves. Thus, this kind of activity provided us a platform to play and chat together." (Unknown, 13JA1) “都幾好呀，特別呢個細呢，好多嘢講，融洽啲囉...因為佢細細個呢係嫻嫻湊，啲思想唔係好一致嘅，依家都好咗少少，即係同你傾吓。”(媽媽，中青，43GB1 3C) “Quite good, especially for my younger daughter who talks more and became more harmonious now. Her thinking was different from us (parents) because she brought up by her grandma when she was little. But now, it is getting better, at least (she) is willing to talk to me.” (A mother, young adult, 43GB1 3C) “傾多啲計囉，同啲孫講多啲。有時問吓你食乜嘢呀邊啲食多啲邊啲食少啲，有益，對身體有益啲啲食多啲，對身體無益啲啲盡量減少食少啲。”(祖母，老年，44GB1 21A) “(I) talk more...with my grandchildren. Sometimes I asked about what they prefer to eat, what they should eat more and less. Those beneficial to health should be eaten more and less on unhealthy ones.” (A grandmother, old-aged, 44GB1 21A) <u>Easy to open up a conversation</u> “我同我呀媽（都會研究吓個營養標籤）2個一齊睇。都會（令大家嘅交流多啲）大家個話題多咗囉。”(媽媽，中年，44GB1 22B) “Mum and I read (the food labels) together...which created more topics for us.” (A mother, middle-aged, 44GB1 22B) “我想話我哋屋企關係...有陣時（丈夫）見到我係屋企坐係到攤係到大字形咁係到睇電視啦，即係唔郁隻腳...「係呀郁吓隻腳啦」咁即係其實...Eh 即係多咗話題...”(媽媽，中年，50GA1 26B) “I want to say, it is about our family relationship...sometimes he caught me laying on the couch with bad posture sedentarily at home when watching TV, (my husband) would remind me with “stretching your legs”. That is, we have more talking-points...” (A mother, middle-aged, 50GA1 26B)

Theme	Subtheme	Quotes
		“傾傾有無做運動，第一句就問佢有無做運動。”(祖母，老年，40GA1 1A) “(We) talked about the initiative in physical activity. The first thing that I ask is, ‘did you do exercise?’” (A grandmother, old-aged, 40GA1 1A)
	Increase in gratitude	<u>Cultivate gratitude in life</u> “之前不𨵿都係我讚佢（兒子）先㗎...佢（兒子）依家係搶住呢讚我哋先，我哋再讚佢，（個活動）幾特別，小朋友吸收到呢啲正面嘅欣賞。”(媽媽，中青，43GB1 14B) “Previously, I was always the one who gave compliments on him (son) first... but now he took the initiative to praise us before we did. (The programme) was quite special, in which children could learn about the positive appreciation.” (A mother, young adult, 43GB1 14B) “有時想鬧我個仔，佢比較百厭㗎。我會調番轉頭諗，阿我讚吓你會唔會好啲呢，咁都...奏效嘅有時，我見都...可以用係佢身上嘅。我又覺得 er...原來我讚咗佢佢會覺得好開心，佢會鬆毛鬆翼好開心，咁算啦，我就會繼續落去咁樣囉...係屋企。”(媽媽，中青，06GA1 21A) “Sometimes when I want to scold my son for his inappropriate behaviours, I would think in this way instead, ‘if I praise him, would it be better?’. It ... works sometimes. I can see...the compliments on him did help and I found that...if I praised him he would be happy and delighted. So, I will keep doing this at home.” (A mother, young adult, 06GA1 21A) “即係我個細女就比較...大改變囉。改變得仲快過我。即係之後佢會話去...去找啲書睇睇，比較正面啲書，即係成日都嚟住我笑，咁我咪記得（要讚）囉，提返醒我。”(媽媽，中年，06GA1 3A) “My younger daughter has a bigger change; she changed faster than I do. After the activity, she said she looked for some books about positive-thinking. And she always smiled at me and reminded me to praise her.” (A mother, middle-aged, 06GA1 3A) “（我學到）多啲讚囉...多啲用 positive 嘅嘢去諗人先囉，唔好吓吓都即係係 negative 方面去...去諗。”(媽媽，中青，43GB1 12A)

Theme	Subtheme	Quotes
		“(I learnt) to praise more... to think more positively towards people, and try not to think in a negative way all the time” (A mother, young adult, 43GB1 12A) “咁以前作為家長淨係會講佢唔啱做錯咗嘅地方，呀原來讚個效果反而咁好嘅，係呀，開心㗎。不過因為呢個讚賞呢，其實都令我間接同個仔關係好咗...咁如果佢做得好嘅就讚賞吓佢，好明顯真係有改善到。Uhmm...無頂你頂得咁甘囉” (媽媽，中年，06GA1 5A) “In the past, I, as a parent, had been focusing on children’s mistakes. I found out the effect of compliments was incredibly good. I am so happy with that. Because of this, the relationship between my son and me has been improved indirectly. ... If he behaves well, I would praise him, which obviously improves our relationship. Uhmm... he doesn’t rebel as hard as he would.” (A mother, middle-aged, 06GA1 5A) <u>Keep a gratitude journal and write thank-you note</u> “佢之前咪有呢啲單張俾我哋返屋企填吓幾時讚嘅，起碼呢我就自己令到自己諗吓今日我仔邊樣值得我去讚呢，因為平時我真係...讚少嘅，即係...係淨係捉住你邊一樣嘢唔乖呀，咁樣樣嘅，咁起碼有個張紙我要寫嘛，咁我咪要諗你今日有咩值得我讚呢...起碼有呢啲囉，即係平時好少嘅。” (媽媽，中年，06GA1 25A) “I was given with a worksheet for recording when I show my appreciation at home, it reminded me to think about what my son did on the day is worth praising for. I seldom praise him at ordinary times but only put more emphases on the bad side. (This programme) has therefore provided me an opportunity, to recall and mark the good of my son every day, which I seldom expressed in the past.” (A mother, middle-aged, 06GA1 25A) “譬如有時嫲嫲呢煮嘢食俾佢（女兒），佢會識得寫張紙仔...嫲嫲多謝你，你煮得好叻...佢真係好...即好體貼見到好感動囉...咁嫲嫲好心甜呀真係好心甜...嘩你好叻啲咁樣。” (媽媽，中年，35GB1 19B) “For instance, sometimes when grandma cook for her (my daughter), and then she would write a little thank you note to grandma saying ‘Thank you grandma! Your cooking is fantastic’...she is really...thoughtful and makes people moved...Grandma was touched and (said) ‘you are brilliant’ (to my daughter).” (A

Theme	Subtheme	Quotes
		mother, middle-aged, 35GB1 19B) <u>Expression of gratitude through action</u> “(行為上嘅稱讚)我鍾意攞住佢嘅。我見佢乖係到做功課呢，因為佢之前好 hea 㗎，無乜做功課㗎，呢輪乖咗，自己乖咗，積極咗，咁佢乖我就過去攞吓佢。咁佢又受㗎㗎，佢好似感覺呀媽認同佢，讚佢乖。雖然無言語上，但係其實一個行為，一個溫馨嘅攞呢。”(媽媽，中年，06GA1 5A) “I like hugging him (my child) (as praise) when I saw him doing homework. Because in the past, he always slacked off, but now he behaves better and is more active. When he behaves, I give him a hug. He likes it and he acknowledged it as my identification for as a good kid. Although it was just a body gesture, not in verbal, this hug is in warmth.” (A mother, middle-aged, 06GA1 5A) “即係可能我響度...響呢個位啦，咁可能佢係個角落頭做緊一啲嘢而見到佢做得咁呢...sip sip 跟住就飛個叻...咁我可能我又過唔切去呀嘛，咁咪唯有即刻 sip 佢飛個叻俾佢等佢知道其實呢一樣 appreciation 囉...再做得好啲嘅，真係再出聲讚佢囉”(媽媽，中年，50GA1 26B) “When we were far apart and I saw him (my kid) did something good, I would catch his attention and gave him a thumb-up in the air. You know...it is hard to give an immediate compliment, especially when I am not staying by his side. This is to let him knows a thumb-up in the air is also a praise. If he does it even better, I would say it out loud.” (A mother, middle-aged, 50GA1 26B)

Theme	Subtheme	Quotes
	Increase in joy	<u>Enjoyable experiences with family members</u> “就是會想到我們參加活動的時候，就開心一點，就稍比原先單單這樣看電視要開心。”(媽媽，中青，13JA1 7A) “We were happy when we reminisced the time when having ZTEEx. It (doing exercise and watching TV simultaneously) was more enjoyable than simply watching TV.” (A mother, young adult, 13JA1 7A) “我有同小朋友玩零時間運動呀嘛，做運動嗰時好開心嘅。因為我會笑吓佢啲豬腩肉，佢又笑吓我啲豬腩肉，跟住士啤軟咁樣，咁好輕鬆，有時扮輸啦...咁我個仔贏啦，佢開心，即係輕鬆啲囉，開心囉。咁呢同佢傾計。”(媽媽，中年，13JA1 14A) “I did ZTEEx with my children and it was delighted. We were so relaxing because we would laugh at each other's belly, or I pretended to lose in the competition. If my son wins, he is happy and has lots of laughter, which facilitated our communication.” (A mother, middle-aged, 13JA1 14A)
	Increase in ZTEEx	<u>Do exercise with family members</u> “就變咗佢運動又帶埋我哋去運動，平時我哋都好少做運動。同埋玩啲遊戲又係，平時我哋都好少同啲細路仔玩，通常都叫佢自己玩，唔會自己參與。”(媽媽，中年，13JA1 14A) “It (physical activity) becomes part of the family activities to get ourselves active. We seldom do exercise and play games with my child before. I usually let them play on their own and I don't get involved.” (A mother, middle-aged, 13JA1 14A) “咁亦都無諗過將一啲運動可以融合落去做親子嘅，因為不嬲都成日覺得運動都係自己，除非你打波啦，打羽毛球你就可以對打啦，你做 gym 啲啲其實真係自己對住部機做㗎咋嘛，咁但係無諗過原來佢啲啲嘅動作 (sit up) 係可以俾你搵個小朋友企喺度，你就可以原來你做 sit up 都可以錫到佢嘅。”(媽媽，中年，50GA1 26B) “I have never thought that these exercises (ZTEEx) could be blended with parent-child activity. I would usually think of workout is a solo activity, unless racket sport like badminton that you play against an opponent. Gym is about machine workouts. I would never have thought of asking my children to stand in front of me (when I do sits-ups), so that I can kiss him/her when you do sit-ups.” (A mother, middle-aged,

Theme	Subtheme	Quotes
		50GA1 26B) “我就同個細女去 gym 個度做啲運動。跑步呀啲啲，跑步機啲啲。” (媽媽，中年，06GA1 3A) “I popped into gym centre to do exercise with my younger daughter. We run, the treadmill run.” (A mother, middle-aged, 06GA1 3A) <u>Look for opportunities to do exercise</u> “同埋真係會學到有一啲即係可能你平時可能真係睇緊電視會做到嘅嘢啦，或者你真係等車呀，或者你真係無聊嘅時候可以做，即係原來我哋都無諗過啲啲係運動嘅一種啦。” (媽媽，中年，50GA1 26B) “I really learnt something...something (ZTEx) that I can do when I watch TV, wait for bus, or feel bored, which I have never considered it as an exercise.” (A mother, middle-aged, 50GA1 26B) “即係無諗過呢...會爭取到時間囉...譬如平時做緊其他嘢（可以）遞高隻腳...香港人真係甚少運動㗎嘛。” (媽媽，中年，06GA1 5A) “I had never thought of (ZTEx) can save time...for instance (I can) lift my leg up while working on something else...People in Hong Kong are truly inactive.” (A mother, middle-aged, 06GA1 5A) “沒有參加這活動之前，我和我先生不會看電視做運動...然後現在有時做零運動（零時間運動）的時候，我們就是因為電視，電視還照能看，但是我們會做一些，就是單腳站立呀，可能做一些手臂的一些轉動呀。” (媽媽，中青，13JA1 7A) “Before joining the programme, we didn't exercise and watch TV simultaneously...But now, when we do ZTEx we are still able to watch TV, we would do single leg stance or arms circles.” (A mother, young adult, 13JA1 7A) <u>Innovative approach to do exercise</u> “學到做運動囉...如果唔來呢到，我都唔知道坐喺度可以做到運動！” (祖母，老年，40GA1 9B) “I learnt more about exercising...If I didn't join this programme, I wouldn't know that we can exercise

Theme	Subtheme	Quotes
		while sitting!” (A grandmother, old-aged, 40GA1 9B) “零時間嘅運動呢，都比我一個新嘅意念。因為以前呢，即係參加其他活動，無咁樣樣，去話你可能做緊某樣嘢嘅時候，其實你同時間都可以做運動，咁呢個對我來講，都係一個新嘅睇法囉。” (媽媽，中年，06GA1 13A) “ZTE has provided me with a new insight. Because I have never come across this in any other programmes before...it encouraged me to exercise while I am doing something else at the same time. To me, this is a new perspective for me.” (A mother, middle-aged, 06GA1 13A) “一般來講我覺得參加依啲運動應該比較嚴肅啲，但係原來參加咗之後覺得好輕鬆囉，好好玩呀...因為笑多啲呀嘛。” (媽媽，中青，50GA1 23B) “In general, I thought joining these activities would be serious, but it turned out to be relaxing and fun...because we laughed more.” (A mother, young adult, 50GA1 23B) “知道原來有一啲運動係平時都可以做，即係唔係真係要特登落去跑步呀，咁原來一啲等車呀，啲閒時嘅時候都可以同小朋友喺屋企一齊做吓呀，或者...喺街度等緊車都可以做到。係幾好玩嘅，因為平時好少機會接觸依啲嘢。” (媽媽，中年，50GA1 26B) “Knowing there are some exercises that I can do anytime, it is not like going to jog intentionally, but while waiting for bus. It can also be done with kids when free at home. It is fun, as I had little chance to come across with this kind of thing.” (A mother, middle-aged, 50GA1 26B)
	Increase in healthy diet	<u>Keep an eye on healthy eating</u> “參加咗呢個活動之後，個仔，比較明顯我個仔，佢有時食一個營養早餐「媽咪，呢個健唔健康？呢一樣嘢食咗之後會點㗎？會唔會咩？」，會問呢啲...以前係，唔...唔...唔會話呢問樣嘢，唔會好奇呢樣嘢，依家佢會...佢會有呢個概念話咩健康咁樣囉。” (媽媽，中青，14JB2 29A) “After joining this programme, my son had obvious change, sometimes when he is eating a nutritious breakfast he would ask like, ‘Mommy, is this healthy?’ ‘What will happen if I eat this? How will I become?’ He wouldn’t do that before and wouldn’t be curious about

Theme	Subtheme	Quotes
		this, but now he has the concept of health.” (A mother, young adult, 14JB2 29A) “因為你平時唔會睇個咩標籤，咩多納呀咩啲啲都唔會睇㗎，平時佢哋鍾意食咩咪買咩囉，咁依家都會睇吓囉，係呀，都會少糖囉，即係煮嘢方面都，諗吓，因為學咗呀嘛，你個一段時間都會話「嗯，唔好落咁多雞粉啦」，會咁樣諗㗎。” (媽媽，中青，14JB2 27A) “I normally wouldn't look at the food labels, such as high-sodium content...etc. Usually, I just bought whatever they (my family) like to eat, but now I look at (the food labels), and think about cooking with less sugar...because we have learned that, and I would always keep in mind and remind myself not to add too much chicken stock powder into the dishes.” (A mother, young adult, 14JB2 27A) “佢比我仲多咗去留意幾多糖，買啲啲飲嘢啲啲，含糖幾多...認識到咩叫健康乜嘢叫唔健康囉...佢會提我囉，佢，即係以前我哋唔會去睇，真係唔睇標籤嘅，唔會睇糖份咩嘅，就會同啲同學仔傾計呢個糖多呀，即係佢記住個腦囉。” (媽媽，中青，14JB2 5A) “He (my son) paid more attention than I do in reading the sugar content (shown on the food label) in drinks. We have learnt about the standard of health. He reminds me. We really wouldn't read the label, the sugar content. (He now) will talk over this topic with his classmates, which means that he bears it in mind.” (A mother, young adult, 14JB2 5A) “咁參加咗呢次活動呢咁就得益最大呢係我個女呀。以前呀女呢好鍾意食朱古力架㗎，咁依家佢就食一粒之後呢你請佢食佢都唔食喇。呢個就佢好注重個健康，低糖。” (媽媽，中年，35GB1 19B) “My daughter has benefited the most from this activity. She liked chocolate very much, but now she only takes one even though you give her more. She now aware about health and lower-sugar.” (A mother, middle-aged, 35GB1 19B) <u>Pick up meals low in sugars, salt, and fat</u> “同埋對於少鹽呀少糖呀啲啲飲食多咗啲囉，因為以前可能唔參加啲時買嘢呀買飲嘢呀啲啲，可能自己鍾意食甜嘢，會選擇甜。依家參加咗之後呢，即係買嘢飲可能都係少糖好啲咁樣，即係個腦入面有啲戒言走出來囉，就唔會似以前咁樣求其自己鍾意咩就咩，依家可能

Theme	Subtheme	Quotes
		戒言係個腦到，少糖啲啦，唔好買糖啦。”(媽媽，中年，14JB2 5A) “(We) had more low salt and low sugar diet. Before joining the programme, I tend to pick up sugary drink, because I like sweet, when shopping. After joining the programme, I would prefer low-sugar drinks as in a motto popped up in my mind. Unlike before, we don't buy what we feel like to, as a motto of “low sugar and don't buy candy” has been rooted in my mind.” (A mother, young adult, 14JB2 5A) “以前我通常炒菜呢...我都要樣樣嘢都要落啲糖呀，咁依家我個仔呢...聽埋我個仔話「哎呀媽咪...你唔好聽完又唔記得，唔好放糖㗎。」係呀，即係食太多嘢...啲嘢有糖嘅嘢呢好容易生病㗎，又唔健康㗎。即係買飲料都好...我個大仔呢就鍾意買啲飲料，我大仔就鍾意飲甜嘅，汽水嘅。我細仔就跟住話「哥哥唔好買呢啲啦，好多糖架。」”(媽媽，中年，35GB1 21A) “I used to add sugar in stir fried vegetables. Now, I listen to my son when he reminds me ‘Ah...Mum, you forgot again; don't add sugar.’ People get sick easily when consume too much sweetened foods, and it is unhealthy. It's the same for buying drinks. My elder son prefers sugary and fizzy drinks. My younger son would ask his brother not to buy as it contains a lot of sugar.” (A mother, middle-aged, 35GB1 21A)
Perceived positive outcomes	Health	<u>Improve general health</u> “其實喺身體素質上我覺得係好啲囉，我之前真係會好劬囉爬樓梯我會好劬一定停呀，唔會好似之前咁樣呀好喘呀。”(媽媽，中青，50GA1 31B) “Indeed, I feel like I am getting stronger physically. In the past, I got tired easily and had to stop when I climbed the stairs. I used to breathe heavily, but it is not the same anymore.” (A mother, young adult, 50GA1 31B) “健康應該好架...因為最起碼食少咗糖同埋煎炸啦”(媽媽，中年，41JB1 12B) “Should be healthier...as (we) eat less sugary and fried food.” (A mother, middle-aged, 41JB1 12B)

Theme	Subtheme	Quotes
		<u>Get away from technology and get around together</u> “小朋友開心帶佢哋出嚟玩，即係都係小朋友玩得開心就即係多啲活動囉，係啦，即係唔使成日喺屋企呀嘛，你知啦依家啲小朋友成日喺屋企就手機呀，電腦呀，無停嚟啦，有呢啲活動就一定要佢出呢，就唔會話成日揸住個手機...即係可以識得一啲咁嘅小朋友” (媽媽，中青，14JB2 22A) “Children have great fun if you go out with them. If they have fun, they will be more willing to participate. They no longer stay at home all day playing electronic devices, such as mobile phone and computer, at home, as they won't stop. Participating in these activities, they would stop playing with their mobile phone all day...get a chance to meet more people at their age” (A mother, young adult, 14JB2 22A) “參加個活動就有啲動力（令到屋企人可以聚埋一齊），要盡量三次都去囉，咁就會個個就住嗰日，盡量安排可以一齊去。如果平時無活動咁樣安排參加呢，可能瞓到好晏，跟住就無咩好做，可能飲餐茶去公園散吓步，一個假期就完咗喇。” (佚名，13JA1) “Participated in this programme motivated us (the family) (to get together). We tried our best to alter our schedules so that we could attend all three sessions together. If we don't have plan, we would wake up very late and then have nothing specific to do, perhaps go for Yum Cha, have a walk in the park, and called it a holiday.” (Unknown, 13JA1) “我帶啲細路哥出來...認識吓呢個。係呀，因為佢平時好似佢話齋，都係匿係屋企架” (媽媽，中青，14JB2 27A) “It was a chance for me to bring them out and explored (on this programme), because...just like he said, we often hide out at home.” (A mother, young adult, 14JB2 27A)
	Happiness	<u>Rewarding experiences with family and friends</u> “小朋友好開心囉，咁我哋（家長）就係到傾計啲小朋友就玩得好開心，呢個活動可以集埋幾個家庭一齊，小朋友有小朋友一堆，佢哋全部又識架啲，我哋大人又可以好似一個聚會咁樣呢，幾好玩。” (媽媽，中青，13JA1 7A) “The kids were very happy and we (parents) chatted

Theme	Subtheme	Quotes
		while they were playing happily. This activity had gathered a few families together, children are friends themselves, we, the adults, are like having a gathering, it is enjoyable.” (A mother, young adult, 13JA1 7A) “因為兩個係仔，所以佢哋成日嗌交呀，但係佢玩嘅時候投入咗同其他人一齊就會少啲囉，少啲爭拗。同埋出面戶外嘅時候可能心情會好啲，佢哋個人都會開放啲，就唔會話為少少嘢發脾氣呀之類咁樣。” (媽媽，中年，13JA1 14A) “I have two sons who always quarrel with each other. But when they were throwing themselves in playing with others, they wrangle less. Besides, when we were getting in the outdoor, they tend to be in a better mood, more opened, and less likely to lose their temper easily.” (A mother, middle-aged, 13JA1 14A) “做運動可以多咗親子時間咁佢會好開心囉。” (媽媽，中青，50GA1 23B) “Exercising gives us more parental time which makes him quite happy.” (A mother, young adult, 50GA1 23B) “佢（我先生）覺得都開心嘅，佢鍾意同啲仔一齊玩嘅，一齊玩吓，參加吓呢度啲活動呀。” (媽媽，中青，13JA1 32A) “He (my husband) is also happy. He likes playing with kids and participating in such programme in here.” (A mother, young adult, 13JA1 32A)
	Harmony	<u>More love and care between family members</u> “本身我先生係一個好要面嘅人囉，比較內向怕醜...好少會主動錫小朋友呀，就真係...對小朋友好呀佢都好似好嚴肅嘅感覺俾人哋...即係嗰啲叫做咩表情呀...叫做...木口木面嗰種感覺囉。但嗰次玩嗰時候佢會主動咁錫小朋友，所以我鍾意依個囉。” (媽媽，中青，50GA1 23B) “My husband is rather introverted and shy...he seldom kisses kids on his own initiative. When he is trying to show kindness to children, he wears a serious impression. It's...the expressionless face. But that time when they were playing a game (in the session) he proactively kissed our child so I like it (the project).” (A mother, young adult, 50GA1 23B) “其實我真係幾鍾意...好想多啲呢啲呀...咁樣佢爸爸呢

Theme	Subtheme	Quotes
		即係可以關心吓我哋囉問候吓我哋囉...真係幾好...即係咁樣見到你 Eh...「你乜唔乜呀？我幫你搽吓骨。」”(媽媽，中青，50GA1 31B) “I really like it... (I) want more activities like this... it is a chance for his father shows his care for us ... which is good... Like when he sees you... (he asks) ‘Are you tired? Let me give you a massage.’” (A mother, young adult, 50GA1 31B) “咁你出去玩...活動，參加呢啲活動呢，就會同其他人相處，咁等佢哋...細路仔就算唔識啲細路仔都會同人一齊玩㗎啦，都會一齊開心，個人會開放咗...開心啲囉。咁我成日都會叫佢，咁我先生愛家人多咗啦，即係會多啲時間抽出呢餸我哋玩囉。”(媽媽，中年，13JA1 14A) “When joining a programme like this, there is a chance for the children to meet and interact with other people, they can easily get along and have fun even if they don't know each other. They became relaxed and joyful. I always asked him (my husband) to join. He has shown more love to family, he squeezed more time to play with us.” (A mother, middle-aged, 13JA1 14A) <u>Increase bonding with family members</u> “我哋呢都係煮嘢食整嘢食個 part 玩得特別深刻。整咗啲蛋糕呀...平時小朋友喺屋企無咁嘅機會俾佢接觸嘅...依個活動俾佢玩吓...佢好開心囉，咁我哋都可以增加親子關係。”(媽媽，中青，06GA1 9C) “The cooking part is especially impressive to us. (We) baked some cakes... which are rare for kids at home. This activity provided an opportunity for him to try, he/she is contended and it also strengthened our parent-child relationship.” (A mother, young adult, 06GA1 9C) “其實都會難同你一家人咁樣去玩一啲咁樣嘅活動㗎啦，咁但係我話喂去呢啲活動，咁樣都可以聯合到我哋，大女，細仔，先生同我，我哋一家人一齊去活動咁樣囉。係囉，其實 Er 呢啲活動我諗再大啲可能佢哋各自玩嘅機會少...多咗呀，而一家人咁樣嘅形式會少咗囉。依家咁樣起碼始終有個機會，或者一個楔機咁樣囉。”(媽媽，中青，43GB1 26A) “In fact we seldom have a chance to join in such activity as a whole family. When I asked them to, we managed to have my older daughter, younger son, my

Theme	Subtheme	Quotes
		husband and I to attend together. I guess when they grow older, they are likely to be on their own, so the chance to have family gathering like this becomes less. So, this programme gave us a chance, a great chance.” (A mother, young adult, 43GB1 26A) “平時都係各有各忙啦...有自己嘅活動。咁但係參加咗幾次活動(大家)都好開心囉...有多啲時間一齊見面呀,一齊合作來玩,(即係兩個小朋友)都好開心。”(媽媽, 中青, 06JA1 3A) “We were busy with our own business. But after participating in several sessions, we were all very happy... We have spent more time together and have collaborated in games, (my two kids) were very happy.” (A mother, young adult, 06JA1 3A) “我個情況就...我有我忙,我(個仔)有我個仔忙啦。咁就玩完之後呢我哋有三日就都 OK 嘅個關係好咗三日...係好咗三日嘅。因為可能佢未見過我做運動嗰一面...即係親密咗囉大家...平時係疏離啲呀,眼神接觸又少。”(爸爸, 中年, 50GA1 4C) “In my case, both my son and I were busy with our own business. After joining the programme we had a better relationship for three days...for three days. Perhaps he hasn't seen me doing exercise before...We were closer...We were distant and only little eye contact at ordinary times.” (A father, middle-aged, 50GA1 4C) “家庭和諧真係有,真係做到。小朋友真係你好難控制到佢,細個好難控制啦,大個啲佢有佢自己思想獨立,難溝通啲,咁我就發覺與其改變唔到仔仔,不如自己改變啦,咁發覺原來自己改變咗呢,你個情緒平靜咗,你唔鬧佢,佢係睇到嘅...佢係睇到之餘之後呢,都會感應到你呢,佢都會,即係佢自己脾氣都會收斂咗嘅...佢既然收斂咗脾氣呢,大家自然多咗溝通呢,即係做成咗個家庭和諧咗。”(媽媽, 中年, 06GA1 5A) “It's really helpful in family harmony. It is hard to control children when they are little. When they grow older, they have their own thought and thus hard to communicate with them. Then I realised it might be better if I changed myself rather than changing my son. And I found that when I calmed myself down, stopped scolding him, he knows and he became less moody. As a result, we had more communication which led to a more harmonious family.” (A mother, middle-aged, 06GA1 5A) “運動之餘好似玩咁樣樣囉。咁會令到個氣氛好...即係

Theme	Subtheme	Quotes
		會融洽啲啦。同埋大家都會...即係...係囉開心好多囉。” (媽媽，中年，50GA1 23B) “Exercising like game makes the atmosphere better, which is more harmonious. And we are...happier.” (A mother, middle-aged, 50GA1 23B)
Challenges & barriers	Resources	<u>Limited space</u> “我鍾意係...成 team 人一樣嘢個種感覺會好啲囉，唔好分兩個 group...係啦。好似佢講嘅空間太窄。大啲呀咁個啲囉。個主持永遠都向個邊講嘅，唔會同呢邊講，所以我唔鍾意咁樣囉。” (媽媽，中青，50GA1 23B) “I prefer... having one team instead of two. Perhaps it is limited by the cramped space. The venue could be larger. With limited space, the speaker always faced to one side and ignored the other. I didn't like it.” (A mother, young adult, 50GA1 23B) “我諗最主要個環境，佢分兩組就因為依家個地域上面嘅限制，所以分兩組啦。因為始終有第二節個環節時候啲運動個動作比較大，咁所以有陣時啲小朋友唔知呢會互相有碰撞。咁如果可以畫得到啲位置就會容易啲去安排，減少危險囉。咁同埋啲枱枱椅椅呀，咁始終會相對上危險。” (媽媽，中年，50GA1 26B) “I guess it was mainly limited by the environment, the venue, so dividing into 2 groups. On the second session, when we exercised, those move with vigorous, children might crash each other easily without noticing. If possible, marking some areas off might facilitate the arrangement, which would be safer. Also, there are tables and chairs around, it is relatively dangerous.” (A mother, middle-aged, 50GA1 26B)
	Time	<u>Schedule of programme</u> “其實...我覺得呢個活動呢，搞得太遲...即係依家好多都轉咗小學啦，依家先搞，前後搞咗三次，做運動做咗兩次...即係如果可以喺 K3 嘅時候一開頭嘅時候開始搞，一個月一次，或者個半月一次...Eh 即係做多啲...唔係個個都係辛苦呀。” (爸爸，中青，50GA1 29B) “Frankly speaking, I think it is too late. Many (of our children) have been promoted to primary school already. It has 3 sessions in total, 2 for exercising. If this programme can be held earlier, say when my children were at K3, once a month or twice a month, it would be easier for everyone.” (A father, young adult,

Theme	Subtheme	Quotes
		50GA1 29B) “係啦，即係你起碼搞完一次再搞一次，唔使話你一個活動分 3 次搞，隔咗成年大半年，我覺得好似好耐咁。即係可以搞多幾次都 OK 嘅。一個月一次都 OK。” (媽媽，中青，14JB2 19A) “The programme can be repeated one after one, dividing it into 3 sessions is not necessary, especially after half a year as an interval. I think it lasts for too long. It can be more frequently held, for instance once a month.” (A mother, young adult, 14JB2 19A) <u>Difficult to sustain behaviour change</u> “因為呢淨係得嗰幾堂咋嘛，keep 住個時間唔夠長，我哋自己都好容易...慢慢（唔記得咗）。” (媽媽，中年，06GA1 25A) “Because there are only few sessions, the duration is not long enough...we forget about it easily and gradually.” (A mother, middle-aged, 06GA1 25A) “咁但係可能過咗之後就可能呢段時間就可能都成半年，係咪，上一次嗰個，都好似唔係好記得咁樣。” (媽媽，中青，06GA1 21A) “Maybe after that, I mean half a year has been past until now, I don't seem to remember the content from the last session.” (A mother, young adult, 06GA1 21A) “即係嗰本簿呢我諗，老實講就，派完，可能我又會放埋咗一邊...即係就無咗嗰個意義囉。” (爸爸，中年，44GB1 17B) “The workbook, to be honest, after I got it, I just left it aside, it became meaningless.” (A father, middle-aged, 44GB1 17B) “好難一朝一夕架喎...三次活動就可以和諧...其實真係難啲喎。” (爸爸，中青，50GA1 29B) “It's really hard... to build up family harmony in just three sessions, it is difficult.” (A father, young adult, 50GA1 29B) “做完三次返去唔夠...即係我自己又無咁有原動力呀嘛...咁你返去可能真係頭一兩日你還記得個運動嘅，過咗三四日你完全忘記咗好似無來過咁，分別就唔係真係太大囉。” (媽媽，中青，50GA1 34B) “Three-session training is not enough. I don't have the

Theme	Subtheme	Quotes
		motivation myself. I might recall the workout in the first 2 days, but it seems in vain after 3 to 4 days. It only makes tiny difference.” (A mother, young adult, 50GA1 34B)
	Chinese Tradition	<u>Contradictory to Chinese traditional belief</u> “我老婆唔俾我跟腳，人搖福薄呀，樹搖葉落。”(丈夫，老年，40GA1 28A) “My wife doesn’t allow me to fidget my legs because (the traditional Chinese belief holds that) shaking shakes away the blessings.” (A husband, old-aged, 40GA1 28A) “老人家教都叫我哋唔好郁手郁腳，但係呢依個佢教我哋要搖腳跟腳。咁我...因為老人家教樹搖就葉落，人搖就福薄咁樣...”(媽媽，中青，50GA1 23B) “The elder generation always asks us not to shake our limbs, this activity taught us to shake our legs...So I don’t follow... as the older says (according to the traditional Chinese belief is) shaking shakes away the blessings.” (A mother, young adult, 50GA1 23B) “搖咁搖不嬲都唔係好禮貌㗎嘛...特別話叫我哋坐車都要咁樣搖，係好事來㗎，真係好事。我有時返去我同我媽講我媽都話咁樣係唔啱㗎。所以有時我都覺得到底咁樣搖係好定唔好呢？呢個係一個疑問㗎。”(媽媽，中青，50GA1 31B) “I think shaking legs is impolite... especially when I was told to do so in the public setting and claimed it is good thing. My mum said this is inappropriate as well. So I wonder if it is good or bad...I have doubt.” (A mother, young adult, 50GA1 31B)
Suggestions & recommendations	/	<u>Programme arrangement</u> “即係或者或者整少少，即係小朋友啲遊戲呢，或者打啲咩水果咩都好，即係睇吓點樣，即係好...少少遊戲呢俾細路仔玩吓咁樣囉...俾細路仔，係啦，即係我哋平時填問卷嗰陣時，可能佢哋係到玩緊遊戲，咁就好啲啲啦。”(爸爸，中青，23GC2 12C) “Perhaps design a few more games for children, or making fruit juice. It would be better if children were occupied with games while we were filling in the questionnaire.” (A father, young adult, 23GC2 12C) “佢(小朋友)覺得悶呀，即係我哋填嗰個問卷個時佢哋

Theme	Subtheme	Quotes
		無嘢做，咁即係有啲活動比佢哋多玩吓會好啲囉...即係比啲實際佢 feel 到嘅（活動）” (媽媽，中年，44GB1 17A) “They (children) were bored when we were filling in questionnaires because they had nothing to do there. It would be better if they could have some activities for the children at same time...Perhaps some vivid games.” (A mother, middle-aged, 44GB1 17A) “小朋友玩嘅時間多啲，再多啲。你由朝早 9 點鐘到下晝 6 點個時呢，已經係得㗎啦。之不過呢，我覺得要帶遊戲呢，再有創意啲。” (爸爸，中年，13JA1 34A) “Increase the activity time for children; let's say 9am-6 pm would be good. But I think, should be more creative when leading the game.” (A father, middle-aged, 13JA1 34A) “可能一開始解釋囉俾你聽呢堂做啲乜嘢咁樣，即係咁樣我哋有個心理準備可能好啲，因為一來就係咁填係咁填，一填完都唔知做乜，啲細路真係坐喺度，佢好難控制㗎嘛有時。” (爸爸，中青，23GC2 12C) “Perhaps (you should) introduce the outline of this session to us at the beginning, so we can prepare mentally. Otherwise, it would be difficult for my children if you didn't give me a direction other than filling in (the questionnaires).” (A father, young adult, 23GC2 12C) <u>Widen the range of activities</u> “應該有啲活動...即有時咪有啲充氣啲衫呀著住呀，圍圍盡盡，肥咗呀嘛變，咁咪圍盡囉即係如果食多糖肥咗，做嘢咪唔方便囉，好多嘢，咁可能佢小朋友有個感受。” (媽媽，中青，44GB1 2A) “There should be some activities... like using the inflatable characters to illustrate how clumsy would it be after gaining weights by eating too much sugar. Also, show them the inconveniences that might cause, so they can experience it lively.” (A mother, young adult, 44GB1 2A) “應該係咁，小朋友因為佢精力旺盛，小朋友嘅活動就可能跳躍多啲，咁我哋啲後生嘅...後生嘅父母啲啲呢就比較靜態啲，做吓啲舒展呀...鬆弛嘅活動。” (媽媽，中年，50GA1 26B) “(It) should be like...As children are full of energy, the

Theme	Subtheme	Quotes
		activities for them should be more vigorous. We, the young...young parents could engage in something more mild, such as some stretching and something relaxing.” (A mother, middle-aged, 50GA1 26B) “咁佢哋...聽佢哋咁樣講呢佢哋都係嫌啲動作太過艱難太過難做，咁如果佢將啲運動再低啲 level 咁樣，可能容易啲。” (媽媽，中青，50GA1 33B) “I have heard that they think the movements are too hard for them. If the movement can be modified to a lower level of difficulty, it would be easier.” (A mother, young adult, 50GA1 33B) “不過就應該加多啲遊戲，比啲小朋友玩呀咁樣呢，可以玩親子啲啲啦，多啲可以同小朋友一齊啦，可以加多少例如話劇仔咁樣，創意呀嘛，咁樣都 OK 㗎。” (媽媽，中年，13JA1 2A) “More games should be added for the children, could also involve parent’s participation. That is for them to get together. Could be drama, it is creative” (A mother, middle-aged,13JA1 2A) <u>More health information and tips from professionals</u> “咁其實會唔會多少少...加返...話返俾人聽，解釋返俾人其實我哋每日練到呢啲嘅 120 分鐘，去做到呢啲小肌肉或者大肌肉嘅時候，我諗其實對自己可能了解多啲個 concept 上做咗啲咩呢...其實你會對你可能健康有咩好處呢，咁講返多少少呢啲會更加，我覺得會有少少幫助。” (媽媽，中青，43GB1 26A) “Indeed, I think it is better if more information can be provided. Such as, after 120 minutes of exercising everyday, which muscle has been trained. I believe the information deepens my understanding on these exercises and its health benefits.” (A mother, young adult, 43GB1 26A) ”應該將呢個原因都講埋...點解食咗咁多糖對身體唔好呢，因為小朋友唔知㗎，淨係知道好味...例如食得薯片多呀，可能對身體唔好呀...有咩副作用呀癡肥呀或者心...即係變咗可能你食得太多嘅話可能變咗高血壓呀之類，引發到其他嘅嘢，咁就會好...好啲。專注啲㗎...我覺得就...即係需要呢一方面嘅，進一步呢啲活動嘅話，咁樣對小朋友好呀，對大人都呢，就更加進一步嘅

Theme	Subtheme	Quotes
		認識。”(媽媽，中青，44GB1 23A) “The reason behind (the health diet) should also be explained...why too much sugar consumption is unhealthy? Because children don't know about it, they only concern about the flavour. For instance, eating too many chips could be bad to the body... the influences include overweight, heart disease, high blood pressure...etc. The information is useful for both children and adults...for a deeper understanding on this healthy style.” (A mother, young adult, 44GB1 23A) “可能有時我哋都係，有時就菜炒菜，唔會話配其他啲嘢囉，或者我哋唔係好識，或者唔知點配，即係可能有營養師教吓我哋呀，小朋友應該食啲咩搭，食啲咩唔應該食啲咩，可能覺得好啲即係，即係教吓我哋有意識囉...唔洗話平時都唔知煮咩，煮呢煮去都係煮啲嘢，覺得好悶囉。”(媽媽，中年，23GC2 13D) “Sometimes we... stir-fry vegetables only... we won't make combination with other ingredients...we have no such knowledge, it would be better if there is a registered dietitian who can give us some tips on what kind of food children should or should not eat...teach us about the sense (of healthy eating) We can have more choices, without alternatives, the dishes are boring.” (A mother, middle-aged, 23GC2 13D) <u>Keep the questionnaire simple and short</u> “太多問題啲問卷真係實在...有時...好混淆有時都...好長有時見到條(題目)。”(爸爸，中青，23GC2 12C) “There are many questions from the questionnaire... really. Sometimes, it is quite confusing... And some of them are quite long.” (A father, young adult, 23GC2 12C) “問卷設計得咁長嘅問題，啲問題咁相似。”(媽媽，中年，23GC2 9B) “The questionnaire contains very long questions and some are quite similar.” (A mother, middle-aged, 23GC2 9B) “即你話幾多幾個小時，行咗幾多個小時乜嘢，其實好難記到幾多個小時，即係譬如你有個 range 1 至 3 個鐘，3 至 6，有...有個 range 都可能有一啲印象，你叫

Theme	Subtheme	Quotes
		我數，點數。” (媽媽，中年， 44GB1 17A) “Number of hours...number of walking hours...It is hard to retrieve the exact number. I prefer having a range like 1-3 hours/ 3-6 hours, which may be easier to recall. I can't just count.” (A mother, middle-aged, 44GB1 17A) “多囉。好累贅呀啲問題，成日叫你俾分呀，啲問題都好類似囉，啲分可能俾來俾去都係咁多分架啦，好接近。同埋好難俾分，要一至十分咁樣俾晒，個 range 好大，如果一至五，五至十咁樣會容易啲剔。” (媽媽，中年， 13JA1 14A) “Too many and they are verbose questions. It (the questionnaire) keeps asking about the ratings. The questions are quite similar. Plus, it is hard to rate on a scale of 1-10, it is too wide. If the range can be changed to 1-5 or 5-10, it would be easier.” (A mother, middle-aged, 13JA1 14A)

6.7 Process evaluation

6.7.1 Introduction and procedures

Process evaluation is a method widely used in identifying the components of an intervention that make it practicable, the population for which the intervention is effective, and the conditions under which the intervention is feasible [62]. Moreover, process evaluation is useful in identifying potential improvements that can be made to enhance programme effectiveness.

In order to ensure that the interventions were delivered to the participants at an appropriate dosage (measured by duration) with reasonable quality, fidelity check and trace for any extraneous factors, onsite observation of each session (core, booster, follow-up, and tea gathering sessions) of the intervention programmes was carried out. A standardised process evaluation onsite observation form (see Appendix I) was designed to evaluate different aspects of the intervention programmes and it was completed by members from the participating organisations and schools as well as HKCSS and FAMILY Project Team. Various components of process evaluation were evaluated, including context, reach, recruitment, fidelity, dose, as well as costs and resources. Apart from these, the following documents also facilitated the validity check of the process evaluation conducted throughout this project:

Documents required to be submitted by each participating social service unit or school before each programme session were:

- Behavioural checklist that matched the programme objectives and theme-specific concepts;
- Participants' attendance form; and
- Programme rundown form.

The following documents were required to be submitted after each programme session:

- Final participants' attendance form (submitted by each participating social service unit or school);
- Resources input form (submitted by each participating social service unit or school); and
- Process evaluation onsite observation form (submitted by onsite observers).

In addition, each social service unit and school needed to write a final report to elaborate the specifics of the whole intervention programme.

6.7.2 Context

Hong Kong as a bustling modern city is characterised by highly efficient operation and busy working lives, which leave little time for family gatherings and communication. Local surveys in Hong Kong showed that family members rarely praise each other, listen to each other's views and concerns, and express care through physical gestures [63, 64]. The lack of positive interaction among family members, including both verbal and physical expressions of love and care, can be detrimental to family well-being. Therefore, Hong Kong needs cost-effective

preventive community-based family intervention programmes to enhance FAMILY Holistic Health.

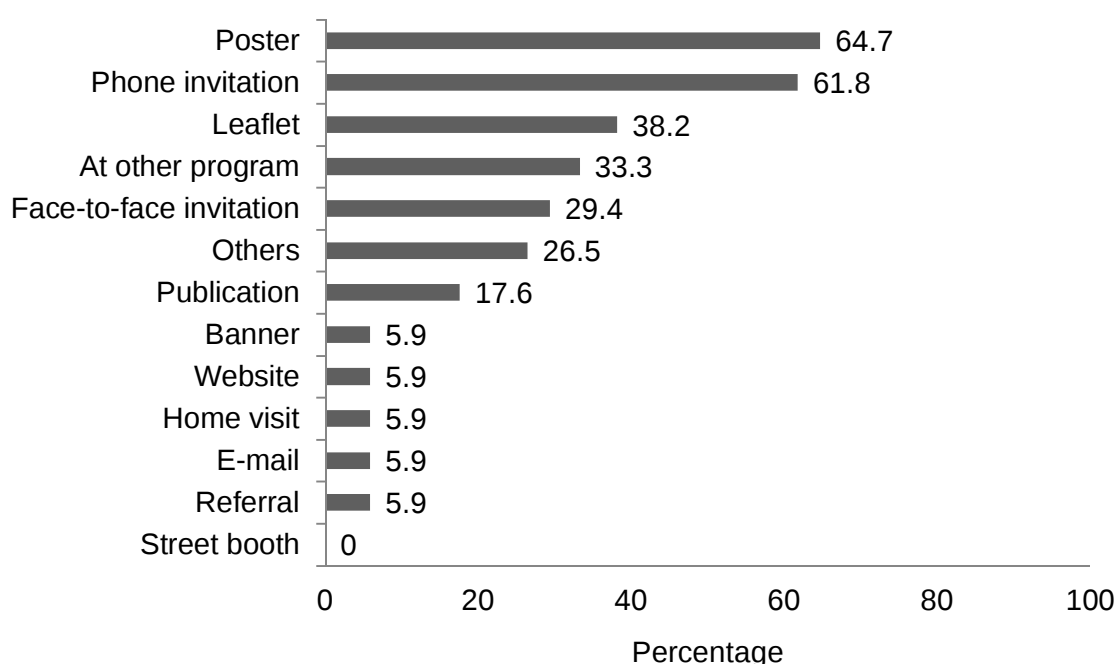
6.7.3 Reach

The reach of an intervention programme can be examined by the programme attendance and participant groups. In general, the higher the programme attendance, the more extended the programme reach, the more people can benefit from the programme. A total of 54 social service units and schools (from 28 non-governmental organisations, 1 government department, and 7 schools) in 18 districts participated in the current project. These participating units and schools covered the major types of social services in Hong Kong, including integrated family, child and youth, elderly, and rehabilitation services, which engaged a wide range of social service recipients. There were various combinations of participating families, such as parents and children, elderly parents and adult sons/daughters, and elderly couples. This was probably one of the programmes with the widest reach in Hong Kong and elsewhere.

6.7.4 Recruitment

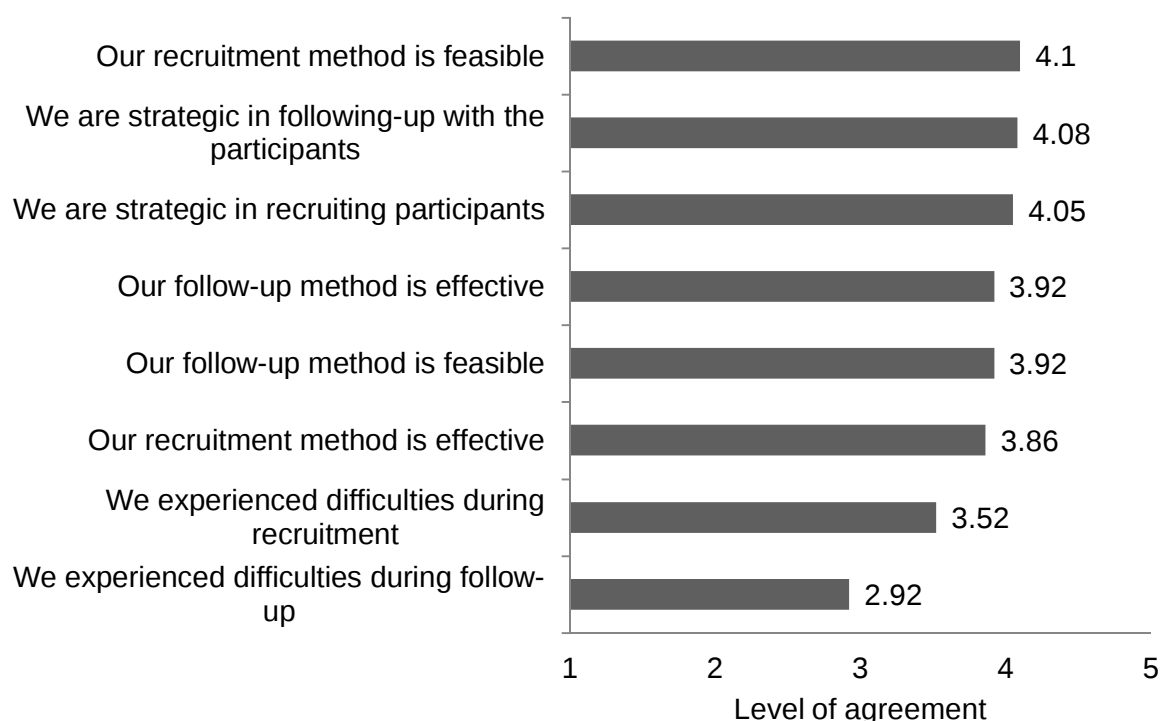
Recruitment refers to the methods used to promote, approach, and attract potential participants to the intervention programmes. The recruitment methods used by the participating organisations and schools were investigated. Figure 6.36 shows that the most common recruitment methods included putting up posters in social service centres and schools (64.7%), phone invitations (61.8%), and distributing leaflets to service users (38.2%). Other recruitment methods include advertising the programme through banners, publications, websites, emails and other programmes, as well as home visits, face-to-face invitations, referrals, and others.

Figure 6.36 Recruitment methods used by the participating organisations and schools



The recruitment methods used by the social service units and schools were also evaluated. Figure 6.37 shows to what extent did participants agree with the statement about recruitment methods, with a score of 1-5, and a high score indicating greater agreement. Accordingly, the recruitment method was rated an average of 4.05 (SD=0.59) for being strategic, 4.10 (SD=0.62) for feasibility, 3.86 (SD=0.85) for effectiveness, and 3.52 (SD=1.08) for difficulties experienced during the recruitment process. For follow-up with the participants for attending the booster, follow-up, and tea gathering sessions, the rating was 4.08 (SD=0.28) for being strategic, 3.92 (SD=0.49) for feasibility, 3.92 (SD=0.64) for effectiveness, and 2.92 (SD=1.04) for difficulties experienced during the follow-up process.

Figure 6.37 Evaluation of recruitment methods



6.7.5 Fidelity

Fidelity was measured on whether the delivery of programmes adhered to the programme content specified in the original proposal. Each participating organisation and school had to design and implement their own intervention programmes. For quality control, some guidelines in programme design were provided for them to follow. Table 6.5 shows the degree of adherence to the original programme proposals of each session. Overall, for the core session, the degree of adherence in general was 87.3%, adherence for delivery of core messages was 85.5%, and for the fitness test protocol was 85.0%. For the booster session, the corresponding adherence was 90.1%, adherence 87.8%, and 84.5%. For the follow-up session, the corresponding adherence was 89.9%, 88.7%, and to the 85.9%. For the tea-gathering session, the adherence to in general was 91.5% and adherence to the fitness test protocol was 85.1%.

However, there were significant difference in the ratings given by the onsite observation group (external check by HKCSS and FAMILY Project Team) and the organisations and schools who delivered the programmes (internal evaluation), with lower scores from the former and higher scores from the latter.

Table 6.5 Degree of adherence to original proposals

Measure	Overall ^b (External evaluation & internal evaluation)	Onsite observation group ^c (External evaluation by FAMILY Project Team)	Organisations and schools ^d (Internal evaluation by NGO)	p-value ^a
Feedback by observation parties (%)				
Core sessions				
In general, the degree of adherence of the core session to the proposal is approximately _____%	87.3	85.2	89.7	0.04*
In the delivery of core messages in the core session (behavioural indicators, positive communication, and FAMILY 3Hs), the degree of adherence to the proposal is approximately _____%	85.5	82.5	89.0	0.01*
The degree of adherence to the fitness test protocol in the core session is approximately _____%	85.0	81.0	89.2	0.01**

Booster sessions				
In general, the degree of adherence of the booster session to the proposal is approximately _____%	90.1	87.3	93.5	0.001**
In the review of core messages in the booster session (behavioural indicators, positive communication, and FAMILY 3Hs), the degree of adherence to the proposal is approximately _____%	87.8	85.7	90.5	0.08 [†]
The degree of adherence to the fitness test protocol in the booster session is approximately _____%	84.5	79.1	90.6	<0.001***
Follow-up sessions				
In general, the degree of adherence of the follow-up session to the proposal is approximately _____%	89.9	87.9	92.1	0.01*
In the delivery of core messages in the follow-up session (behavioural indicators, positive communication, and FAMILY 3Hs), the degree of adherence to the proposal is approximately _____%	88.7	86.8	90.9	0.04*

The degree of adherence to the fitness test protocol in the follow-up session is approximately _____%	85.9	82.8	89.9	0.004**
Tea gathering sessions				
In general, the degree of adherence of the tea gathering session to the proposal is approximately _____%	91.5	90.1	92.7	0.19
The degree of adherence to the fitness test protocol in the tea gathering session is approximately _____%	85.1	80.6	89.8	0.001**

^a *p*-values were generated from t-test between external and self-check, treating % as a score:

[†] *p*<0.10; * *p*<0.05; ** *p*<0.01; *** *p*<0.001

^b Core session (number of observers=124); booster session (number of observers=102); follow-up session (number of observers=140); tea gathering session (n=101)

^c Core session (number of observers=65); booster session (number of observers=54); follow-up session (number of observers=75); tea gathering session (number of observers=50)

^d Core session (n=59); booster session (n=48); follow-up session (n=65); tea gathering session (n=51)

The composition of programme content was also evaluated since the positive psychology themes were chosen by the participating programme organisers while the physical health themes, PA and HD, were determined by the randomisation procedure (see Table 6.6). For the 124 core sessions, the positive psychology theme of gratitude was covered in 40.4% of the sessions, joy 42.1%, and savouring 20.0%. For the physical health theme, physical activity was covered in 62.7% and healthy diet 62.3% of the sessions. For the 102 booster sessions, the positive psychology theme coverage was 38.9% for gratitude, 41.1% for joy, and 0.0% for savouring for the physical health theme, the coverage was 59.7% for physical activity and 52.3% for healthy diet. For the follow-up sessions, the corresponding coverage for positive psychology was 33.2%, 34.0%, and 30.0%. For the physical health theme coverage was 32.7% for physical activity and 47.6% for healthy diet. These showed that some PA groups had HD content, and some HD group had PA content. Each “contamination” especially in the core sessions, was inevitable as PA and HD cannot be easily or completely segregated. In contrast, the “contamination” for positive psychology themes was minimal. Such contaminations could lead to reduction of effect size when comparing PA and HD groups.

Table 6.6 Proportion of time (%) covered by the programme content by themes for each particular session

Theme ^a	Core session ^b	Booster session ^c	Follow-up session ^{de}
	(%)	(%)	(%)
Gratitude	40.4	38.9	33.2
Joy	42.1	41.1	34.0
Savouring	20.0	0.0	30.0
Physical activity	62.7	59.7	32.7
Healthy diet	62.3	52.3	47.6

^a Positive psychology themes were chosen by the programme organisers while the physical health themes were determined by randomisation

^b Core session (n=124)

^c Booster session (n=102)

^d Follow-up session (n=140)

^e Follow-up session of Group PA focused on healthy diet and Group HD focused on physical activity

The overall quality of the programme is summarised in Table 6.7. The scores were rated on a scale of 1 to 5, the higher indicating the better quality. For core sessions, the mean score for quality was 3.99 and for compliance was 3.97. For the booster sessions, the mean was 4.09 for quality and 4.06 for compliance. For the follow-up sessions, the mean for quality and compliance was 3.87 and 3.97 respectively. Lastly, for the tea gathering sessions, the mean for quality was 4.00. These scores were high, indicating high quality and compliance, however, the ratings given by the onsite observation group, and the participating organisations and schools were significantly different, with lower scores from the former and higher scores from the latter.

Table 6.7 Overall quality of the programme

Measure	Overall ^c (External evaluation & internal evaluation)	Onsite observation group ^d (External evaluation by FAMILY Project Team)	Organisations and schools ^e (Internal evaluation by NGO)	<i>p</i> -value ^a
	Feedback by observation parties			
	Mean (SD)			
Core sessions				
In general, were the activities in the core session of high quality?	3.99 (0.74)	3.83 (0.80)	4.17 (0.63)	0.01*
The compliance level of the core session (in implementing the behavioural indicators) is?	3.97 (0.77)	3.83 (0.83)	4.12 (0.66)	0.03*
Booster sessions				
In general, were the activities in the booster session of high quality?	4.09 (0.62)	4.00 (0.65)	4.19 (0.58)	0.13
The compliance level of the booster session (in implementing the behavioural indicators) is?	4.06 (0.56)	3.90 (0.54)	4.24 (0.53)	0.002**

Measure	Overall ^c (External evaluation & internal evaluation)	Onsite observation group ^d (External evaluation by FAMILY Project Team)	Organisations and schools ^e (Internal evaluation by NGO)	p-value ^a
Feedback by observation parties Mean (SD)				
Follow-up sessions				
In general, were the activities in the follow-up session of high quality?	3.87 (0.53)	3.75 (0.55)	4.00 (0.48)	0.01**
The compliance level of the follow-up session (in implementing the behavioural indicators) is?	3.97 (0.53)	3.82 (0.54)	4.15 (0.47)	<0.001***
Tea gathering sessions				
In general, were the activities in the tea gathering session of high quality?	4.00 (0.58)	3.96 (0.62)	4.04 (0.55)	0.49

^a The rating scales ranged from 1 to 5, the higher the better

^b p-values were generated from t-test between external and internal evaluations, treating % as a score:
* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

^c Core session (n=124); booster session (n=102); follow-up session (n=140); tea gathering session (n=101)

^d Core session (n=65); booster session (n=54); follow-up session (n=75); tea gathering session (n=50)

^e Core session (n=59); booster session (n=48); follow-up session (n=65); tea gathering session (n=51)

6.7.6 Dose delivered

The dose delivered refers to the duration of core message delivery and methods used to increase participants' interest. Table 6.8 shows that an average of 105.50 minutes (1.76 hour) in the core session, 61.82 minutes (1.03 hour) in the booster session, and 70.74 minutes (1.18 hour) in the follow-up session was used for core message delivery. Since the minimum duration of 2 hours for core message delivery in the core session was set, the actual duration was, on average, slightly less (by 12%) than the expected, which could be due to the extra time needed for questionnaire completion, and sometimes, due to waiting for late comers.

Table 6.8 Duration of core message delivery

	Duration of core message (minutes)
	Mean (SD)
Core sessions	105.50 (45.57)
Booster sessions	61.82 (36.02)
Follow-up sessions	70.74 (53.41)

Figure 6.38 shows that PowerPoint presentations (78.2%), games (78.2%), gifts/souvenirs (66.1%), and leaflets/videos from FAMILY Project Team (51.6%) were the most common methods used to increase participants' interest in the core sessions. For the booster sessions, Figure 6.39 shows that the most common methods included games (68.6%), gifts/souvenirs (65.7%), and PowerPoint presentations (64.7%). For the follow-up sessions, Figure 6.40 shows that the most common methods included gifts/souvenirs (68.1%), PowerPoint presentations (62.6%), and tea/snacks (55.6%).

Figure 6.38 Methods used to increase participants' interest in the core sessions

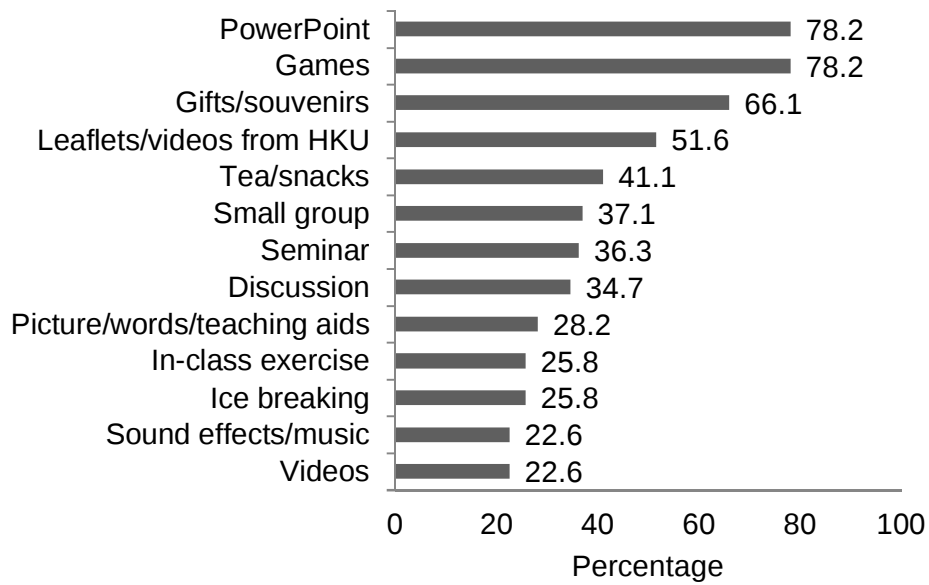


Figure 6.39 Methods used to increase participants' interest in the booster sessions

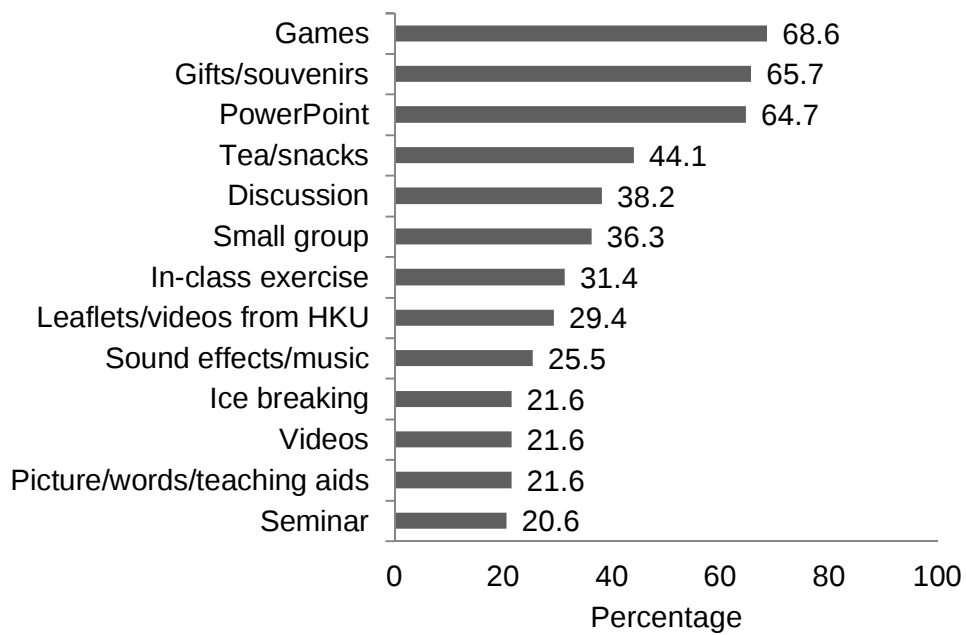
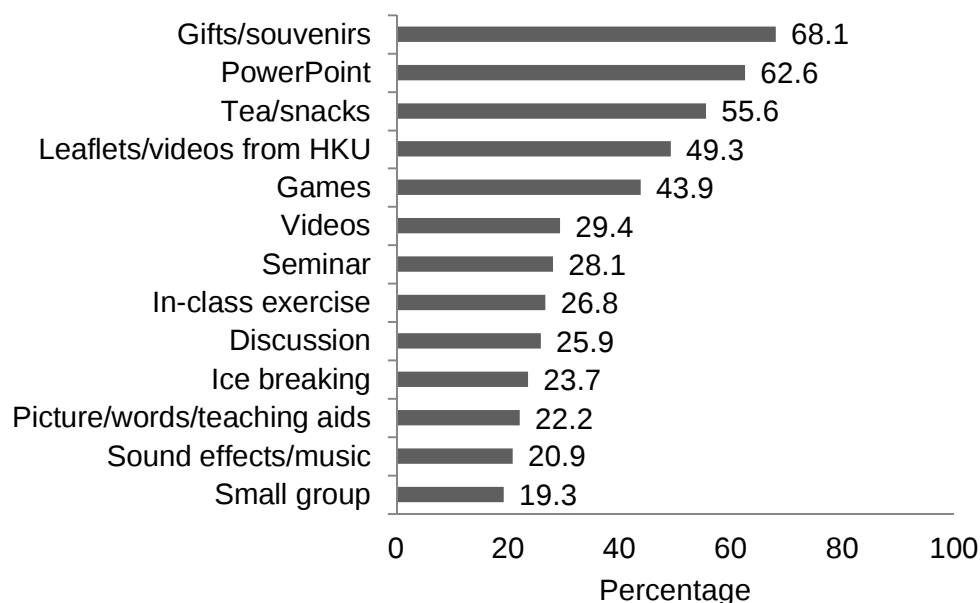


Figure 6.40 Methods used to increase participants' interest in the follow-up sessions



6.7.7 Dose received

The dose received refers to the level of attendance on time, interest in the activities, active engagement in practicing the indicator behaviours, engagement in the programme, and satisfaction with the programme. Table 6.9 shows that all of the sessions had high scores, mostly greater than 4 out of 5, the participants were generally on time, showed interest in the activities, had active engagement in practicing the indicator behaviours, were highly engaged in the programme, and were highly satisfied with the programme.

Table 6.9 Dose received by the participants

Measure ^a	Core session ^b	Booster session ^c	Follow-up session ^d	Tea gathering session ^e
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Level of attendance on time	3.65 (0.83)	3.56 (0.65)	3.43 (0.82)	3.71 (0.77)
Level of interest in activities	4.09 (0.63)	4.13 (0.58)	3.96 (0.51)	4.15 (0.50)
Level of active engagement in practicing the indicator behaviours ^f	3.87 (0.67)	4.00 (0.64)	3.82 (0.54)	/

Level of engagement in the programme	4.11 (0.68)	4.22 (0.59)	3.99 (0.55)	4.12 (0.59)
Level of satisfaction with the programme	4.10 (0.62)	4.13 (0.59)	3.99 (0.51)	4.11 (0.60)

^a The rating scales ranged from 1 to 5, the higher the better

^b Core session (n=124)

^c Booster session (n=102)

^d Follow-up session (n=140)

^e Tea gathering session (n=101)

^f Not measured in tea gathering session

6.7.8 Cost and resources

The HFKM was funded by The Hong Kong Jockey Club Charities Trust. Each intervention programme held by the participating service unit or school was given a maximum budget of programme subsidy of HK\$11,000. To facilitate data collection and data entry, an extra HK\$5,000 administration subsidy was provided. Additionally, a maximum of HK\$3,000 was allocated to purchase supermarket gift vouchers to improve the participant retention rate for questionnaire completion at the specified time points.

6.7.9 Discussion and conclusion

In general, the intervention programmes were welcomed by all 18 districts in Hong Kong. The participants attended the sessions on time, showed interest and were actively engaged during the sessions, and were very satisfied with the programme. High fidelity results supported that trained programme facilitators, including both social service workers and teachers, had the ability and had delivered high quality programmes with sufficient programme messages and dosage delivered according to the protocol. For programme reach, the innovative and direct collaboration with many social service units and schools from all 18 districts in Hong Kong successfully widened the stakeholder engagement and increased the coverage and scope of beneficiaries. Although strategic, feasible and effective recruitment methods were employed, participant recruitment was still a difficulty in this project. A probable reason could be that the social service units and schools recruited their participants mainly from usual service users through usual practices, including posters, phone invitations, and leaflets as the main recruitment strategies. Participants were mostly female. Active recruitment strategies like street booths and home visits or strategies that can reach the younger generations such as emails and websites were rarely used. New and more efficient strategies should be further developed and promoted to different organisations and schools and to introduce more men in future programmes.

CHAPTER 7 HAPPY FAMILY MONTH

In echoing the International Day of Families (15 May), the campaign “Happy Family Month” was launched in May 2016. Within this month, a series of district events were organised in all the 11 SWD administrative districts which covered all 18 District Council districts so as to create a larger impact on promoting FAMILY Holistic Health. Local NGO units were invited as collaborators to organise their own district events, with the support of respective SWD district offices. A total of 6,000 participants attended the district events, which were organised in the form of carnival, day camp, sports day, and BBQ.

	SWD district	Date	Programme	Format	Number of participants
1	Central Western, Southern and Islands	22 May	健康家庭樂融融	BBQ	200
2	Kowloon City and Yau Tsim Mong	21 May	家家好健康嘉年華	Carnival	363
3	Wong Tai Sin and Sai Kung	07 May	快樂家庭月之「食得有營」健康生活新體驗	Day camp	200
4	Tuen Mun	15 May	「快樂家庭月」之「我們是一家親子日營」	Day camp	207
5	Eastern and Wan Chai	21 May	快樂家庭月之健樂家庭 愛+FUN	Carnival	580
6	Kwun Tong	21 May	「一家人。至正下午」嘉年華	Carnival	336
7	Tsuen Wan and Kwai Tsing	08 May	「家家好健康」	Carnival	1,777
8	Sham Shui Po	15 May	「識」玩、「適」食、「惜」家人社區嘉年華	Carnival	515
9	Sha Tin	22 May	全城運動 Let's Go	Sports day	300
10	Yuen Long	22 May	Be Positive' 至「正」快樂家庭月社區嘉年華	Carnival	800
11	Tai Po and North	29 May	快樂家庭月之「樂」從家開始	Carnival	722
				Total	6,000

CHAPTER 8 PRACTICE WISDOM FORUM

8.1 Introduction

To further promote positive family communication through physical activity and healthy diet, the Practice Wisdom Forum of HFKM was held as the project finale on 11 December 2016 at Po Leung Kuk Jockey Club Tai Tong Holiday Camp. The forum served as a platform to share the experience and accomplishments of the project with social service professionals, academics, government representatives, and the families participated in this project, to promote FAMILY Holistic Health to the public. It attracted the attendance of over 300 participants from different social service units and schools.

8.2 Objectives

- To share the project's experience and accomplishments; and
- To promote FAMILY Holistic Health to the public.

8.3 Procedures of the Practice Wisdom Forum

The Practice Wisdom Forum began with welcoming remarks and speeches delivered by Mr. Chua Hoi Wa, Chief Executive of The Hong Kong Council of Social Service; Ms. Imelda Chan, Head of Charities (Grant Making – Elderly, Rehabilitation, Medical, Environment & Family), The Hong Kong Jockey Club; and Mr. Fung Man Chung, JP, Assistant Director of Social Welfare (Family and Child Welfare). Mr. Chua, Ms. Chan, and Mr. Fung shared their experiences in achieving FAMILY Holistic Health through physical activity and healthy diet and highlighted the success and contributions of the project. In addition, the event featured a sharing session led by NGO representatives and the participating families, where they shared about their behavioural changes after participating in the community-based family intervention programmes, discussed how the benefits had influenced their families, and played games with the audience. Professor Lam Tai Hing, Principal Investigator of FAMILY Project, gave a concluding speech, shared the importance of FAMILY Holistic Health, and invited all the attendees to practice ZTE_x together during the finale. Representatives of the participating social service units and schools received certificates and had group photos with the officiating guests. The Practice Manuals (Professional Tool Kit 3) containing detailed training materials, practical tips and evaluation models for the community programmes were distributed to all participating units at the finale.

CHAPTER 9 PROJECT DISSEMINATION

9.1 Promotional materials

Various promotional materials were published to promote the HFKM to the public. These included 7,000 leaflets, a video advertisement for the launching ceremony and Practice Wisdom Forum, and a revamped project website (<http://familykitchen.hkcss.org.hk/>). In addition, HKCSS also promoted HFKM to the social service sector through its newsletters, including 1 issue of Scenario 《社情》) and 1 video issue of 《星期四脈搏：齊做零時間運動 全家健康又輕鬆》 in February 2016.

9.2 Happy Family Cookbook 3

9.2.1 Introduction

Following the positive impacts of Happy Family Cookbook and Happy Family Kitchen Cookbook 2 in HFK I and HFK II, Happy Family Cookbook 3 was produced and officially released in April 2016, aiming to share tips for positive communication, ZTE_x, and healthy diet to families in Hong Kong. Happy Family Cookbook 3 was a 70-page and colour-printed publication. By January 2017, 15,000 copies were distributed to the public through various channels, such as HKCSS, NGOs, schools and District Councils. Details of the distribution are shown in Table 9.1.

The cookbook emphasises ZTE_x and healthy diet with family members, which is a dominant aspect of the collectivistic culture in Chinese, to enhance positive family communication. It enables the readers to expand their knowledge on practicing positive communication with family members not only during mealtime but also when exercising together. It also includes celebrity interviews of Mr. David Lee, The Lee Kum Kee Family Foundation (LKKF) Chairperson, Mr. Luk Ho Ming, Radio and Television Host, and Ms. Kit Mak, Celebrity Chef. The celebrities shared stories of their families and their tips of practicing the Five-taste Model of Positive Communication in their daily lives.

For positive communication, three positive psychology themes, including joy, gratitude, and savouring were introduced in Happy Family Cookbook 3 to help readers discover positive emotions and enjoy the process of positive family communication. This book also illustrates the importance and benefits of positive family communication and the approach to it in details through finding happiness during family interactions, showing gratitude to family members for their contributions, and savouring family gatherings, and thus enhancing readers' knowledge and intention to improve their psychosocial health.

For physical activity, 17 kinds of ZTE_x that can be performed while sitting, standing, and walking are included in the cookbook to provide readers with examples on the type of exercises that can be done at anytime, anywhere, and by anyone. Furthermore, the benefits and of ZTE_x and the contexts in which it can be done are explained. This can help increase the awareness of readers on the importance of physical activity, offer suggestions for easy actions and promote their self-efficacy to improve physical health with their family members.

For healthy diet, 16 recipes designed by registered dietitians and food bloggers are included in the cookbook to teach readers how to prepare delicious and nutritious meals for their family members of all ages. The recipes include appetizers, main dishes, snacks and desserts. In addition, the recipes also contain useful nutrition information and tips on preparing the meals with children. This can help readers better understand not only eating healthily but also the ways to improve family communication through family meal preparation.

Table 9.1 Distribution of Happy Family Cookbook 3

Target	Number of copies
NGOs	8,000
District Council	840
Schools	840
Public	4,200
Government departments	1,000
For further distribution and storage	120
Total	15,000

9.2.2 Evaluation of cookbook's effect

A brief, one-page questionnaire was developed to evaluate the effect of Happy Family Cookbook 3 on promoting positive family communication, ZTEx, healthy diet, family well-being, and readers' intention to apply the suggested behaviours to daily life, and to collect comments and feedbacks related to the cookbook's dissemination (Appendix 1). The questionnaire was printed on the last page of the cookbook, and readers were invited to fill in and mail it to the FAMILY Project Team in a pre-paid envelop or they could also fill in the online version of questionnaire on the FAMILY Project website. A HK\$10 gift voucher was sent to each respondent who returned the questionnaire on or before 3 May 2016 as an incentive. A total of 102 valid questionnaires were collected, with 64 from mailing and 38 from the internet.

9.2.2.1 Results of the evaluation

From the 102 valid questionnaires and, 71.3% of respondents were female, 27.5% were aged 40 to 49, 37% had a secondary education level, 49% were married, and 38.2% had a full-time job. The demographic characteristics are summarised in Table 9.2.

Table 9.2 Demographic characteristics of Happy Family Cookbook 3 questionnaire respondents

Characteristic	n (%)
Sex	
Male	29 (28.7)
Female	72 (71.3)
Age group (years)	
≤11	5 (4.9)
12-17	4 (3.9)
18-19	2 (2.0)
20-29	8 (7.8)
30-39	18 (17.6)
40-49	28 (27.5)
50-59	18 (17.6)
60-64	9 (8.8)
≥65	10 (9.8)
Marital status	
Not married	40 (40.0)
Married	49 (49.0)
Widowed	3 (3.0)
Divorced/Separated	6 (6.0)
Others	2 (2.0)
Education	
Below primary level	10 (10.0)
Primary level	14 (14.0)

Characteristic	n (%)
Secondary level	37 (37.0)
College level	18 (18.0)
Tertiary or above level	21 (21.0)
Employment status	
Student	16 (15.7)
Full-time employee	39 (38.2)
Part-time employee	7 (6.9)
Seeking job	2 (2.0)
Housewife	23 (22.5)
Retired	15 (14.7)

Figure 9.1 shows that most of the respondents (41.8%) obtained Happy Family Cookbook 3 from social service organisations. Figure 9.2 shows that the two main reasons of getting the cookbook were “free of charge” (61.8%) and “attractiveness of the content” (40.2%). About two-thirds of the respondents (65.7%) read more than half or the whole cookbook before they completed the questionnaire.

Figure 9.1 Where did you get this Happy Family Cookbook

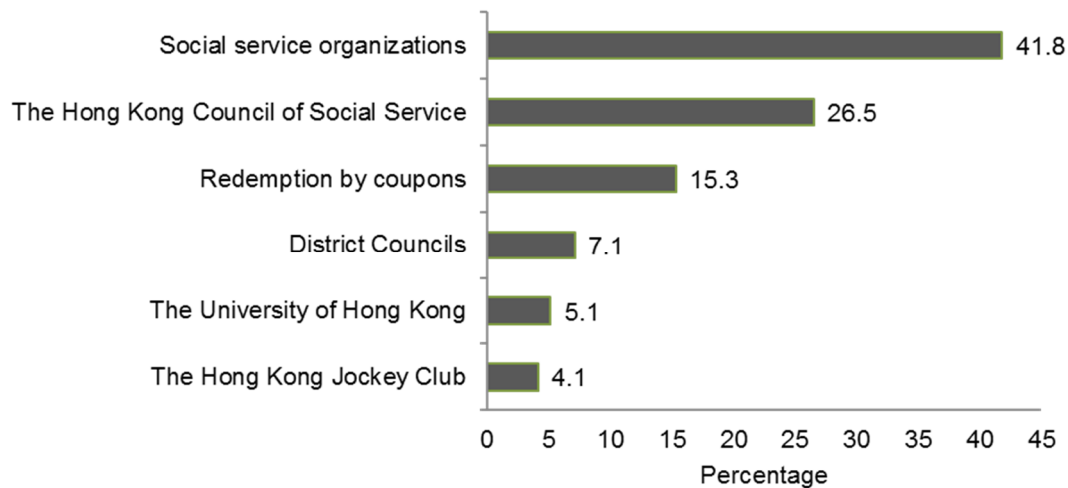
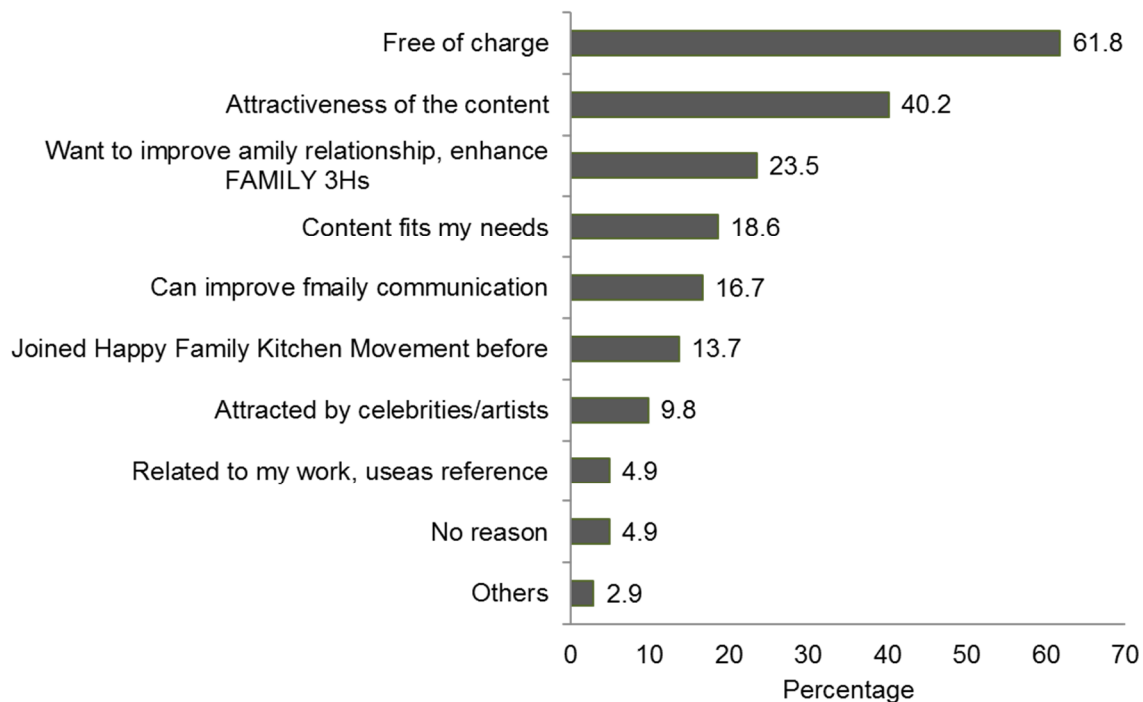


Figure 9.2 Why did you get this Happy Family Cookbook 3



Respondents were asked to rate whether Happy Family Cookbook 3 was capable of achieving 8 key objectives: 1. Inspire the readers to enhance family communication by doing ZTEEx with family members; 2. Inspire the readers to enhance family communication by preparing and enjoying low-sugar and low-salt meals with family members; 3. Know more about Five-Taste Model of Positive Communication and its application to enhance family communication; 4. Learn about ZTEEx that can enhance FAMILY 3Hs; 5. Learn about low-sugar and low-salt dishes that can enhance FAMILY 3Hs; 6. Help to improve family health; 7. Help to improve family happiness; and 8. Help to improve family harmony. The items were assessed on a scale of 0 (very incapable) to 10 (very capable). Figure 9.3 shows the mean score of each item. On average, the capability of the cookbook in achieving the key objectives was moderate, with a score of above 6 for all 8 items.

Figure 9.3 Capability of Happy Family Cookbook 3 in achieving key objectives

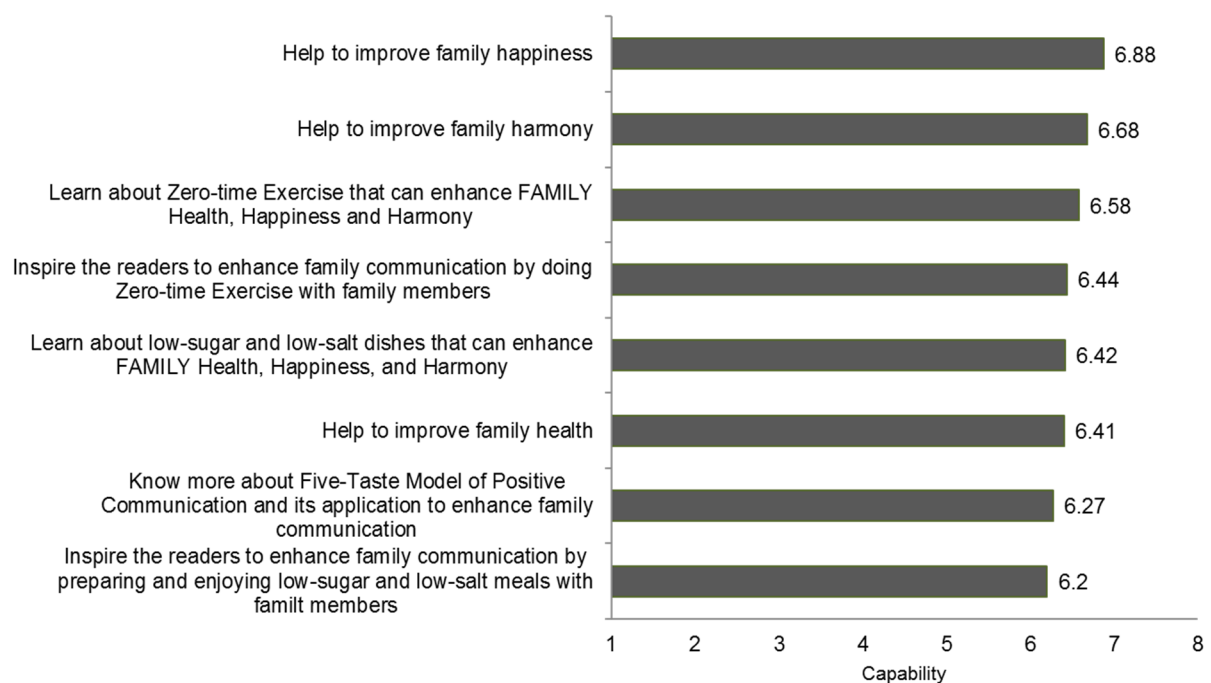
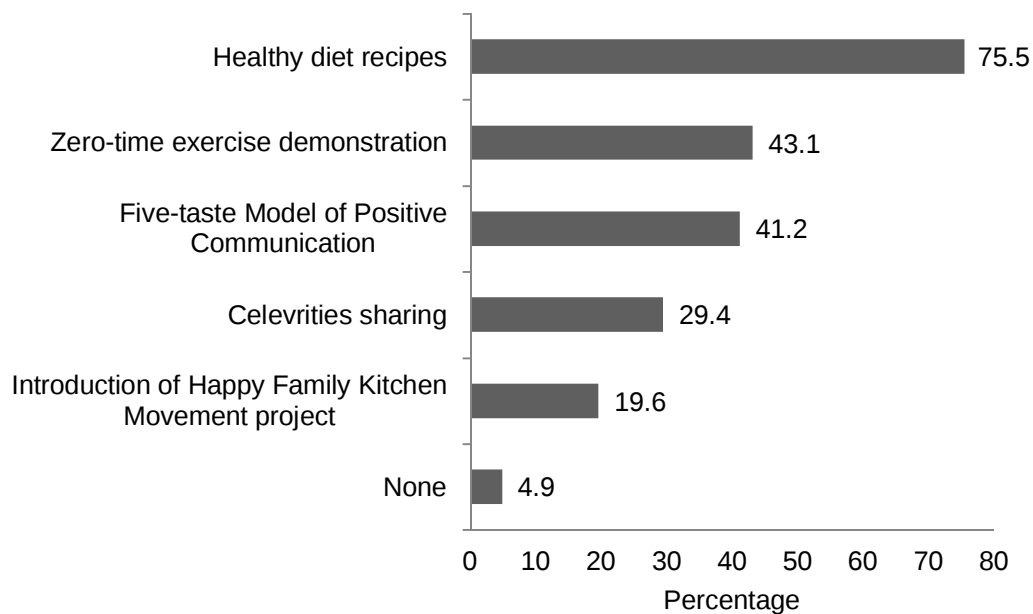


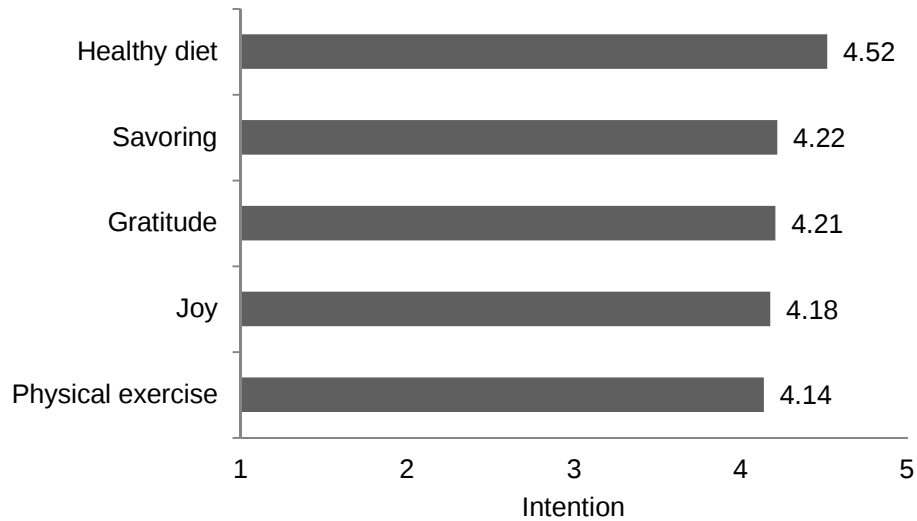
Figure 9.4 shows that the most popular part of the cookbook reported by the respondents was the healthy diet recipes (75.5%) followed by ZTEx demonstration (43.1%) and Five-taste Model of Positive Communication (41.2%).

Figure 9.4 Which part(s) of Happy Family Cookbook 3 do you like most? (Can select more than one option)



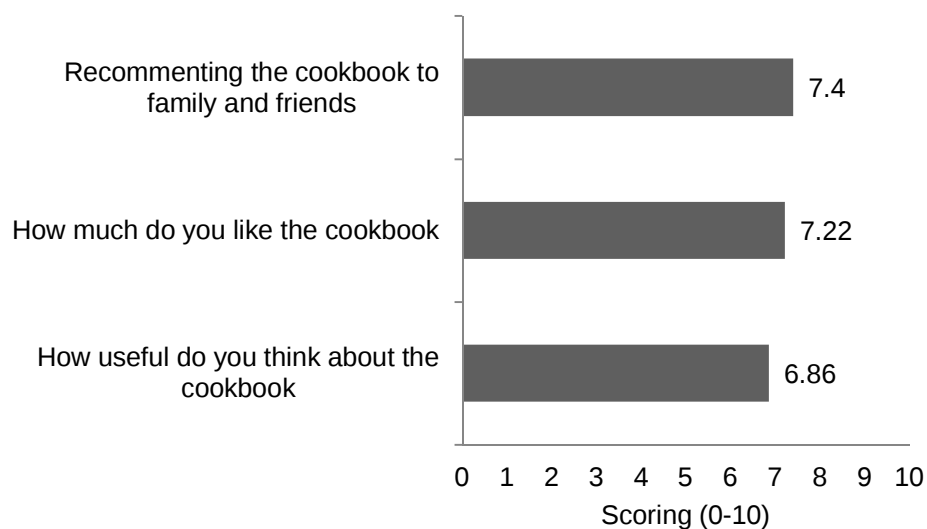
The intention to perform the behaviours of the Five-Taste Model of Positive Communication was also investigated. As shown in Figure 9.5, on a scale of 1 (no intention at all) to 6 (already practicing), respondents scored an average of 4.21 (SD=1.13) on intention to practice gratitude behaviours, 4.18 (SD=1.02) on joy behaviours, 4.22 (SD=0.82) on savouring behaviours, 4.14 (SD=1.02) on physical activity, and 4.52 (SD=0.98) on healthy diet. These showed quite high intention level.

Figure 9.5 Do you intend to put the suggestions from Happy Family Cookbook 3 into practice?



For overall evaluation of the cookbook, scores ranges from 0 to 10, with higher score the better. Respondents gave a mean score of 7.22 (SD=1.66) for how much they like the cookbook, 6.86 (SD=1.99) for how useful they think about the cookbook, and 7.40 (SD=2.03) for recommending the cookbook to family and friends (Figure 9.6).

Figure 9.6 Overall evaluation of Happy Family Cookbook 3



9.2.3 Discussion and conclusion

Happy Family Cookbook 3 was designed to serve as an educational tool for promoting positive family communication, physical activity, and healthy diet to the general public. It was one of the channels used for publicity and wider dissemination of FAMILY 3Hs. Positive feedback from readers was received. The cookbook generally served the cookbook's purpose on the 8 main objectives. Approximately 80% of the respondents liked the core content of the cookbook, including healthy diet recipes, ZTE_x demonstration, and Five-Taste Model of Positive Communication. More than 65% of the respondents intended to practice the suggested behaviours on gratitude, joy, savouring, physical activity, and healthy diet. Readers found the cookbook attractive, useful, and would recommend it to family and friends. Further distribution and promotion was suggested to extend the coverage and benefit more people in the community.

9.3 Professional Tool Kit 3

The Professional Tool Kit 3 was published in December 2016. It contains detailed practice guides and suggested homework in carrying out programmes related to positive family communication, ZTE_x and healthy diet, practice wisdoms of the project and evaluation model. A total of 500 copies were distributed to participants, mainly social service workers and working partners, in the Practice Wisdom Forum and other social service units. This tool kit was designed to be a practical reference and guide for social service workers and help different service units to use the family-orientated approach in their programme planning. Details of the distribution of Professional Tool Kit 3 are shown in Table 9.3.

The Professional Tool Kit 3 has 3 main parts, i.e., the Five-Taste Model of Positive Communication, programme implementation, and evidence-based research. The chapter on the Five-Taste Model of Positive Communication provides the definitions and benefits of physical activity, healthy diet, gratitude, savouring, and joy in communication, and the practical approach to it. The chapters on programme implementation describe how physical activity and healthy diet can be promoted through gratitude, savouring, and joy in community programmes. Suggestions for programme design, recommended activities, programme objectives, behavioural indicators, worksheets, and homework assignments are included, which can serve as ready-to-use references for social service workers in assisting their service users to enhance FAMILY Holistic Health. In addition, the tool kit contains web links to YouTube videos and mobile applications which can further facilitate health promotion.

For the chapter on evidence-based research, the tool kit describes 4 key scientific characteristics of the project: evidence-based and evidence-generating practice, community-based intervention programmes, process evaluation, and quantitative and qualitative assessments. Readers can build an effective social service and evaluation model by using this tool kit as a reference.

Table 9.3 Distribution of Professional Tool Kit 3

Target	Number of copies
Family forums	30
NGOs	230
HKU	100
Social Welfare Department	20
HKCSS officers	30
For further distribution	90
Total	500

9.4 Media coverage

A variety of media had featured on the HFK projects, including newspapers, magazines, online media and others (Table 9.4). Such media coverage altogether had probably reached millions of people.

Table 9.4 Media coverage on the project

	Date	Channel	Topic	Programme/Section
Newspaper				
1	29 June 2015	Wen Wei Po	「快樂家庭」全港推 同枱食飯試「五嘗」	Local news (A09)
2	29 June 2015	Sing Tao Daily	「快樂家庭廚房」	Local news (A05)
3	29 June 2015	Apple Daily	隔牆有耳： 「六少」張建宗食得健康	Local news (A14)
4	29 June 2015	Tai Kung Pao	張建宗笑稱拉布時可運動	Local news (A03)
5	22 June 2015	Apple Daily	細嚐原味，減糖由心做起	健康與醫療
6	22 July 2015	Apple Daily	攝糖過量增抑鬱風險	健康與醫療
7	23 July 2015	Apple Daily	葉澍堃愛清淡，五低飲食法	健康與醫療
8	29 July 2015	Apple Daily	飲齋啡，踩空氣單車， 學者減 13 磅，抗中年發福	健康與醫療
9	29 April 2016	Sky Post	快樂家庭月	Local news (P31)
10	04 May 2016	AM730	快樂家庭月	Local news (P27)
11	04 May 2016	Metro Daily	快樂家庭月	Local news (P9)
12	05 May 2016	Headline Daily	快樂家庭月	Local news (P25)
13	11 July 2016	Apple Daily	快樂家庭月 同攜手愛家人 齊發放正能量	Local news (A8)

	Date	Channel	Topic	Programme/ Section
14	30 December 2016	Metro Daily	推廣家庭健康訊息 逾萬家庭受惠	Local news (P25)
15	30 December 2016	Sky Post	推廣家庭健康訊息 逾萬家庭受惠	Local news (P15)
Magazine				
16	30 July 2015	Smart Parents	廚房作起點，學習互相欣賞	Supplement
Online				
17	N/A	Facebook	https://www.facebook.com/HappyFamilyKitchenMovement/	N/A
Others				
18	28 June 2015	News.gov.hk	勞工及福利局局長出席 「快樂家庭廚房全城運動」啟 動禮致辭	Press Release and Publications
19	21 December 2015	RTHK Radio 5	快樂家庭廚房	有你同行
20	11 September 2016	CRHK	運動不一定要劇烈才有益， 日常生活多動、注意飲食也是 健康之源	同途有心人
21	/	CIFA-Net (Newsletter of Consortium of Institutes on Family in the Asian Region)	Happy Family Kitchen Project – Promoting Family Health, Happiness and Harmony Through Community Collaboration	10 th Issue

9.5 Souvenirs

Souvenirs including table mats, aprons, gloves, dumbbell-shaped water bottles, towels, stickers and eco-friendly shopping bags were produced and distributed to the participants in the Public Education Events and community-based family intervention programmes. These were low cost but useful items, and were well received by thousands of participants. Details of the souvenirs produced for HFKM are shown in Table 9.5.

Table 9.5 Souvenirs of the project

Souvenir	Number
A5 stickers	13,000
Aprons	4,000
Towels	5,150
Dumbbell-shaped bottles	3,600
Cork coasters	4,800
Eco-friendly shopping bags	3,200
Silicone gloves	5,000

CHAPTER 10 PROJECT SUMMARY, DISCUSSION AND CONCLUSION

10.1 Overall project summary and discussion

The HFKM, after the HFK I and II, was a large-scale territory-wide randomised controlled trial on brief positive psychology and physical health interventions in Hong Kong to focus on family holistic health in close collaboration with numerous community partners from different organisations, including both the social service and education sectors. The HFKM, extended to more communities than the HFK I and II, demonstrated that the community-based collaborative approach was successful in engaging all the relevant parties in an active and fruitful partnership with effective capacity building for programme development, which ultimately improved family well-being of the participants and the service providers. It also generated new evidence for an effective practice model of project planning, development, implementation and dissemination.

Before implementing the community-based family intervention programmes, the participating social service units and schools were randomly allocated to either Group PA, Group HD, or Group C. Results from the self-reported questionnaires showed that compared to the Group C, Group PA was more effective in improving mental quality of life and increasing ZTE_x and ZTE_x with family members while Group HD was more effective in improving family harmony, subjective happiness, and mental quality of life, and increasing joy behaviours, low sugar consumption, and low sugar consumption with family members. Intentions to practice target behaviours and subjective changes have also been improved in the intervention groups compared with the control. The physical fitness assessments showed that compared to the Group C, Groups PA and HD each performed better on single leg stance and only Group PA performed better on seated cycling. However, Groups PA and HD did not differ from the Group C in family communication. A possible reason might be that the present project emphasised on the importance of physical health, which motivated participants to engage in physical activity or healthy diet with family members. Using the positive psychology themes to enrich the experience and enhance the enjoyability of the family activities, participants might spend more time on physical interaction, such as doing exercises together and cooking healthy meals together. The family communication scale, which assesses the quality of verbal communication with family members, may not be sensitive to changes for detecting changes in physical interaction. Future research should consider adopting or developing suitable instruments for assessing the quality of physical interaction with family members. For example, the frequency of and satisfaction with specific family engagements such as family meals, physical activity, healthy diet, and other recreational activities can be assessed to provide a more holistic understanding of family interactions.

In general, the results supported the intervention-specific effects for the Group PA (i.e. ZTE_x-behaviour, intentions, and fitness) and Group HD (i.e. healthy diet – behaviour, intentions, and fitness) as well as the non-specific intervention effects (i.e. FAMILY 3Hs, subjective happiness, and mental quality of life). These findings suggest that the brief positive psychology family intervention programme that targets specific health-related behaviours can promote well-being

outcomes beyond the target behavioural changes made within the family. The evidence was strong because the intervention effects were found to be above and beyond the control group's "placebo" effect where the tea gathering sessions were family gatherings that could also have a positive influence on the participants, as indicated by the high ratings in the follow-up assessments and within group improvements (i.e. satisfaction with life and savouring behaviours). The positive results and effectiveness were supported by comparison of the changes between Group PA vs Group C as well as Group HD vs Group C.

Programme evaluation showed that Groups PA and HD found the core session to be more useful than a tea gathering session in the Group C. Compared to the Group C, Group HD was more likely to recommend the programme to family and friends after the first session and found the follow-up session to be more useful. At the end of the study, the intervention content was successfully delivered to all of the participants because all three groups equally enjoyed the follow-up session and were equally likely to recommend it to family and friends.

Process evaluation suggested that the intervention programmes were welcomed by all 18 districts in Hong Kong, as participants attended the sessions on time, showed interest and were actively engaged during the sessions, and were satisfied with the programme. Improving from HFK I and II, high fidelity results in HFKM showed that both social service workers and teachers had the ability to deliver high quality and adherent programmes with sufficient programme messages delivered. The innovative and direct collaboration with social service units and schools from all 18 districts in Hong Kong successfully widened the stakeholder engagement and increased the coverage and scope of beneficiaries involved. Although strategic, feasible and effective recruitment methods were employed, participant recruitment remains difficult in community-based projects, as shown by the results of the process evaluation and qualitative study on the collaborating social service workers and teachers. Future research should explore other recruitment methods to enhance the recruitment and retention rate of community-based family intervention programmes.

Results from the qualitative study provided further support for the effectiveness and generated more insights into the underlying motivations, thoughts, and feelings about the changes in lifestyle amongst family members. Majority of the participants were very positive stating that the programme was a good platform to build family relationship, expand social network, and promote a healthy lifestyle. A number of positive behavioural changes were also identified, such as increase in family communication, ZTE_x, and healthy diet, which were associated with improved health, happiness and harmony. However, several challenges and barriers were also noted. In particular, participants commonly noted that there was limited space in the venue to do the recommended activities, the schedule of the programme did not match their busy schedule, the suggested behaviours were difficult to be sustained, and that some of the physical activities were contradictory to the Chinese traditional belief. Suggestions and recommendations include rearranging the content of the programme in order to accommodate participants' needs, widen the range of activities so that both children and parents can be involved, provide more professional health information and tips, and reduce the length and difficulty of the questionnaire.

In the final stage of the project, the Practice Wisdom Forum was held for social service professionals, teachers, academics and government representatives to exchange views, have in-depth discussions, and share the project's accomplishments. The participants showed great

interest in the forum and were satisfied with it. The forum served as an active platform for parties involved in the project to share their knowledge and experience in applying what they had learnt to community-based family intervention programmes. It is recommended to offer this kind of communication platform regularly to all parties involved to exchange, share and learn in future projects.

A wide range of publicity approaches were used to promote the project, including newspapers, magazines, books, television and online media. Traditional media such as printed publication -the advanced Happy Family Cookbook 3- was successful in promoting FAMILY Holistic Health. Further use of traditional media and development of new media is needed to extend the influence of the project and benefit more people.

The collaboration of academics and social service workers in community-based programmes is not a routine practice in social service settings or universities. The experience and evidence from this project are encouraging for family policy planning, district service planning, preventive programme development, and evidence-based and evidence-generating practices. More research is needed to develop preventive intervention programmes that involve community and academic partners to collaboratively promote FAMILY Holistic Health.

10.2 Strengths and limitations

10.2.1 Strengths

The HFKM, an improved version of the HFK I and II, was a cRCT with 3 groups conducted in the community. Randomised allocation of the participating social service units and schools into the intervention and control conditions minimises selection bias and control for possible influences from extraneous (confounding) factors. The rigorous design with a waitlist control group allowed group comparison to determine the effectiveness of the intervention. The HFKM designed simple and brief interventions with core, booster, follow-up, and tea gathering sessions for each of the 3 groups according to the protocol. The contents of the intervention were informed by theories, models, and evidence drawn from a number of disciplines and local experiences, as well as the results from the HFK I and II. Specifically, gratitude, joy and savouring, which were found to be the most effective positive psychology themes in our previous projects, were selected for integration into the FAMILY Holistic Health intervention model. For physical health, the themes of physical activity and healthy diet were also incorporated and aimed at simple actions and behavioural change. Thus, HFKM not only emphasised on psychosocial health but also physical health, and served as a good example of holistic health interventions. The contents of the intervention, though needed to be designed under our specified theoretical framework, had great flexibility to meet the different contexts and preferences of the participating organisations and schools. They could choose a positive psychology theme and design the contents according the needs of the participants in different communities, which enhanced ownership and dedication. The HFK series of projects have provided invaluable experience and generated scientific evidence for policy makers, community leaders and funder not only at the individual level, but at family, community and government levels. Another strength of the project was the wide selection of the well-being outcome assessments. The results showed that not all of the outcomes showed positive effects. Some effects that were specific to the specific intervention were improved, while other

non-specific intervention effects varied depending on the outcome assessed. Subjective changes reported by the participants provided further evidence to the effectiveness of the intervention with much greater effect size. While the validity of self-reported changes can be challenged, we have found results for some of the measures with no differences between the groups, suggesting social desirability bias was unlikely to be substantial. If social desirability bias were present, participants would have responded positively to all measures.

10.2.2 Limitations

This project had several limitations. First, the effect size of the intervention was small because the intensity of the programme was brief. Other reasons could include the placebo effect, the reminding effect of repeated questionnaire completion, “contamination” of one intervention with the other. However, in line with the public health approach, brief interventions can enhance the feasibility, retention rate, and population reach at low costs. Such approach should be the most cost effective way to attract and benefit a large number of people. Further and more intensive interventions can be developed for those participants who have more specific needs, or show no better outcome, after the brief interventions. Second, as with every intervention that involves voluntary participation with informed consent, the results might be influenced by self-selection bias. People who join community programmes to increase family activities may have more favourable family well-being than those who refrain from joining these programmes. There could also be a ceiling effect that reduces the effect size of the intervention, as those who come could be quite good already. Nevertheless, physical fitness assessments were used to provide more objective evidence on physical health changes. Fourth, young participants aged 11 or below were excluded from data collection because of questionable responses in the HFK I and II. Therefore, findings from this project could not represent this young group of individuals. Future research should consider other means of data collection as their experiences in community-based programmes are equally valuable. Fifth, the findings might be influenced by the incomplete assessment of the total sample that consented to take part in the community programmes, because of failure to meet the inclusion criteria or refusal to provide data for research purposes. Although we should have considered rejecting their participation in the community programmes, it was not practicable to do so in the contexts of social service units and schools. Finally, given that the community-based programmes only had a 3 months assessment period, future programmes with a longer assessment duration are recommended (e.g. 12 months post-intervention) to evaluate the sustainability of the intervention effects.

10.3 Project implications and suggestions for future planning

Based on the success of the HFK II, the HFKM continued to use a cRCT with a waitlist control group. While it was difficult to adopt the gold standard of randomisation at an individual level in a community context, the present study showed that randomisation by clusters can be a feasible, easier and quite rigorous approach for community-based collaborative research if intervention contamination of subjects of different groups is a real concern. The randomisation resulted in largely similar demographic characteristics and baseline scores, suggesting reasonable but not perfect comparability among the 3 groups. Since randomised designs provide stronger evidence than longitudinal pre- and post-designs without a control group, the experience of HFKM encourages future programmes to adopt this approach which integrates both practicability and scientific rigour. Nevertheless, individual randomisation is much better if feasible.

However, due to the programme name of “Happy Family Kitchen”, nature of the activities, and schedule of the programme sessions, the project attracted mostly mothers and their children, while fathers were largely absent. This was also a common issue in the previous HFK I and II. Since most men are the breadwinners in Hong Kong and it is common for women to attend to family needs, such as preparation of family meals and taking care of children, it is therefore difficult to attract the male participants. Development of future programmes that also aim to target families should consider more attractive and accessible activities for men.

At the community level, the contents of the HFKM could meet community needs. Since people in Hong Kong have busy working lives, their physical and psychosocial needs are often ignored. Our public education events, such as the launching ceremony and Happy Family Month, addressed this concern by increasing community awareness over the importance of positive communication, physical activity and healthy diet. By involving the SWD and local social service units, territory-wide dissemination of health promotion became possible and feasible. Future promotional campaigns can adopt a similar practice model to maximise the beneficiaries.

For the social service workers and teachers, they were proactive in participant recruitment by using a variety of strategies such as home visits and organisational recruitment in primary schools. The organisational recruitment method strategically decreased the workload of the participating organisations and schools, and extended the programme coverage successfully. In addition, the administrative subsidy for data collection and entry was feasible and effective. These strategies are efficient to recruit and collect data from participants in future projects. As for capacity building, the TTA and the Practice Wisdom Forum provided a platform for the participating social service workers and teachers to exchange views, share experiences, self-reflect and learn from each other. They showed high acceptability to the programme and enhancement in individual health and well-being, as well as practical experience in health promotion. The programme has laid a good foundation and served as a practical example for service providers to develop more regular-based health programmes in this diverse community in the future. It not only showed a good demonstration of health community programme, it also strengthened the relationship and collaboration between social service organisations and academics by integrating scientific practices into the existing community

programme.

The FAMILY Project advocates and implements the concept of “Best science, best practice”. The HFKM was designed based on theoretical and scientific framework, and past experience from the HFK I and II. The application of a public health approach in community-based positive psychology family interventions is an innovative aspect of our project which takes into consideration of feasibility, applicability, sustainability, as well as population reach. Our efforts in this line of work on HFK have been recognised by the International Positive Psychology Association with an outstanding award as a Top 5 Finalist in The Avant Garde Positive Psychology Clinical Intervention Challenge conferred at the Fifth World Congress on Positive Psychology on 15 July 2017. It has provided new evidence that the community-based collaborative practice can guide social service organisations and schools plan innovative programmes with academic partners. This kind of community-based collaborative practice should be extended to more communities and benefit more people in the future.

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APPENDICES

Appendix 1

Evaluation questionnaire of Happy Family Cookbook 3

< 快樂家庭秘笈 > 評估問卷

我們誠邀閣下填寫問卷，填寫本問卷需時約 5-8 分鐘，凡完成並於 2016 年 5 月 31 日或之前寄回者可
得 **\$10 購物券一張**，購物券將以郵寄方式寄到指定地址。派發購物券期限過後，我們依然歡迎閣下
填寫及寄回問卷。

交回方法：

- 登入以下網址填寫：<https://www.family.org.hk/questionnaire/cookbook3> 或
- 請填妥後頁問卷，沿虛線將問卷剪下，對摺後封口投入郵箱，無須貼郵票。



SCHOOL OF PUBLIC HEALTH
THE UNIVERSITY OF HONG KONG

香港大學公共衛生學院

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蒙民偉樓五樓
「愛 + 人計劃 - 快樂家庭秘笈」負責人



- A1. 性別：1. ☐ 男 2. ☐ 女
- A2. 年齡：1. ☐ 11 或以下 2. ☐ 12-17 3. ☐ 18-19
4. ☐ 20-29 5. ☐ 30-39 6. ☐ 40-49
7. ☐ 50-59 8. ☐ 60-64 9. ☐ 65 或以上
- A3. 教育程度：1. ☐ 小學以下 2. ☐ 小學 3. ☐ 中學
4. ☐ 大專 5. ☐ 大學或以上
- A4. 婚姻狀況：1. ☐ 未婚 2. ☐ 已婚
3. ☐ 喪偶 4. ☐ 分居 / 離婚
5. ☐ 其他，請註明：_____
- A5. 工作狀況：1. ☐ 學生 2. ☐ 全職
3. ☐ 兼職 4. ☐ 待業
5. ☐ 家庭主婦 6. ☐ 退休
- A6. 出生地點：1. ☐ 香港 2. ☐ 廣東省 3. ☐ 國內其它省
4. ☐ 其他，請註明：_____

- B1. 你從何處取得此《快樂家庭秘笈》？
1. ☐ 社福機構（請註明名稱：_____）
2. ☐ 香港社會服務聯會 3. ☐ 區議員辦事處
4. ☐ 香港賽馬會 5. ☐ 香港大學
6. ☐ 其他（請註明：_____）
- B2. 你為甚麼索取此書？（可選擇多項）
1. ☐ 免費 2. ☐ 內容吸引 3. ☐ 內容切合需要
4. ☐ 有名人 / 藝員吸引 5. ☐ 與本人工作有關，以作參考用途
6. ☐ 能幫助提升家庭溝通的能力
7. ☐ 想改善家庭關係，促進家庭健康、快樂、和諧
8. ☐ 本人曾參與「快樂家庭廚房全城運動」活動
9. ☐ 沒有原因 10. ☐ 其他：_____

- B3. 填寫此問卷時，你閱讀了多少此書的內容？
1. ☐ 完全沒有讀過 (0%) 2. ☐ 少於一半 (0%-49%)
3. ☐ 一半 (50%) 4. ☐ 多於一半 (51%-99%)
5. ☐ 讀完整本書 (100%)

- B4. 閱讀此書後，你覺得內容能達到以下目標嗎？
（請圈出你認為合適的數字）

1. 啟發讀者透過一家人做「零時間運動」的機會增進家庭溝通
- | | | | | | | | | | | |
|-------|---|---|----|---|---|---|------|---|---|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 非常不能夠 | | | 一般 | | | | 非常能夠 | | | |
2. 啟發讀者透過一家人製作或進食少糖少鹽飲食的機會增進家庭溝通
- | | | | | | | | | | | |
|-------|---|---|----|---|---|---|------|---|---|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 非常不能夠 | | | 一般 | | | | 非常能夠 | | | |
3. 了解「正向溝通五常法」及如何實踐，從而加強家庭溝通
- | | | | | | | | | | | |
|-------|---|---|----|---|---|---|------|---|---|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 非常不能夠 | | | 一般 | | | | 非常能夠 | | | |
4. 認識令家庭健康、快樂及和諧的「零時間運動」
- | | | | | | | | | | | |
|-------|---|---|----|---|---|---|------|---|---|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 非常不能夠 | | | 一般 | | | | 非常能夠 | | | |
5. 認識令家庭健康、快樂及和諧的少鹽少糖食物
- | | | | | | | | | | | |
|-------|---|---|----|---|---|---|------|---|---|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 非常不能夠 | | | 一般 | | | | 非常能夠 | | | |
6. 幫助提升家庭的健康
- | | | | | | | | | | | |
|-------|---|---|----|---|---|---|------|---|---|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 非常不能夠 | | | 一般 | | | | 非常能夠 | | | |

7. 幫助提升家庭的快樂

0	1	2	3	4	5	6	7	8	9	10
非常不能夠			一般				非常能夠			

8. 幫助提升家庭的和諧

0	1	2	3	4	5	6	7	8	9	10
非常不能夠			一般				非常能夠			

B5. 你最喜歡此書的哪些內容 / 部分？（可選擇多項）

1. ☐ 「快樂家庭廚房全城運動」計劃介紹
2. ☐ 嘉賓分享 3. ☐ 正向溝通五常法 4. ☐ 「零時間運動」示範
5. ☐ 健康食譜 6. ☐ 沒有
7. ☐ 其他，請註明：_____

C1. 你打算在將來的日常生活中實踐此書所提供的哪些內容？

	完全無打算	無打算	不確定	有打算	非常有打算	已實踐
1. 常讚美	1	2	3	4	5	6
2. 嚐喜樂	1	2	3	4	5	6
3. 嚐細味	1	2	3	4	5	6
4. 常運動	1	2	3	4	5	6
5. 常識食	1	2	3	4	5	6

C2. 你有多喜歡本秘笈？

0	1	2	3	4	5	6	7	8	9	10
十分不喜歡			無意見				十分喜歡			

C3. 你覺得本秘笈對你多大幫助？

0	1	2	3	4	5	6	7	8	9	10
完全沒有幫助			無意見				非常有幫助			

C4. 你會介紹本秘笈給你的親友嗎？

0	1	2	3	4	5	6	7	8	9	10
絕對不會			無意見				絕對會			

C5. 閱讀此書，你最大的收穫 / 得著是什麼？其他意見？

請以正楷清楚填寫姓名及地址，以便寄上 \$10 購物券。

姓名：_____ 電話：_____

電郵：_____

地址：_____

☐ 賽馬會「愛 + 人」計劃旨在宣揚「家有康和樂」訊息，如你願意收取本計劃的資訊（如每月電子通訊等），請在方格打“X”。

本問卷所收集的數據只作學術研究及統計之用，個人私隱絕對保密。

Appendix 2

Publications

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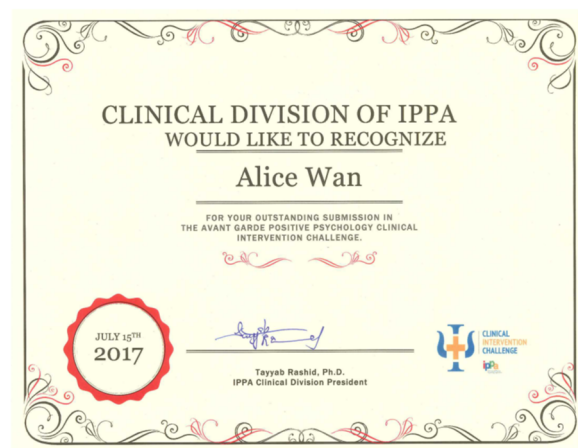
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Appendix 3

Recognition in the Avant Garde Positive Psychology Clinical Intervention Challenge



Appendix 4

Dr. Lai Yuen Kwan Agnes' Doctor of Philosophy thesis

**Train-the-Trainer Programmes for
Community-based Intervention Projects to Enhance
Family Well-being in Hong Kong**

By

LAI, Yuen Kwan Agnes

B.N. H.K.U.; M.Sc. C.U.H.K.; D.N. H.K.U.

A thesis submitted in partial fulfilment of the requirements for
the Degree of Doctor of Philosophy
at The University of Hong Kong

Appendix 5

Conference presentations

- Lam TH, Leung C, Wan ANT, Soong CSS, Wang C, Chan SSC. Strengthening family relationship to increase family health, happiness and harmony: findings from a Community-based Participatory Research (CBPR) project under FAMILY: A Jockey Club Initiative for a Harmonious Society Project in Hong Kong. 6th Global Conference of the Alliance for Healthy Cities, Hong Kong, October 29 – November 1, 2014.
- Lam TH, Mui M, Wan ANT, Soong CSS, Wang C, Chan SSC. Happy Family Kitchen II, a Community-based Participatory Research (CBPR) to enhance family health, happiness and harmony in Hong Kong: A cluster randomized controlled trial under FAMILY: A Jockey Club Initiative for a Harmonious Society Project. 6th Global Conference of the Alliance for Healthy Cities, Hong Kong, October 29 – November 1, 2014.
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- Chan BHY, Pang H, Yuan BY, Li TK, Leung GM, Ni MY. A randomised factorial design to examine the effect of requesting Hong Kong identity card (HKID) numbers and participation incentive on participant's consent to health record linkage: evidence from the FAMILY Cohort. Annual Scientific Meeting, Hong Kong College of Community Medicine, Hong Kong, September 19, 2015.
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- Lam TH. Zero-time Exercise (ZTE): enjoyable, easy and effective — an innovative concept to promote exercise for anybody, anytime and anywhere: A new initiative from the Hong Kong Jockey Club FAMILY Project, The XIII International Congress on Obesity, United Kingdom, May 1-4, 2016.
- Lam TH, Chan BHY, Li TK, Ni MY. Change in body mass index (BMI) among Chinese in a general population: the FAMILY Cohort, The XIII International Congress on Obesity (ICO), Vancouver, Canada, May 1-4, 2016.
- Lam TH, Chen S, Wan ANT. Zero-time Exercise, a new approach to promote physical activity — Hong Kong FAMILY Project: A Jockey Club Initiative for a Harmonious Society, The XIII International Congress on Obesity, United Kingdom, May 1-4, 2016.
- Lam TH, Lai AY, Wan A, Chu JTW. Zero-time Exercise (ZTE), a new approach to promote physical activity and mental health: A pilot study under Hong Kong Jockey Club FAMILY Project, The XIII International Congress on Obesity, United Kingdom, May 1-4, 2016.
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- Ho HCY, Wan A, Mui M, Chan SS, Lam TH. The mediating effect of physical exercise on family health, harmony and communication in a community-based family intervention: Happy Family Kitchen Movement under Hong Kong Jockey Club FAMILY Project, Annual Conference on Disaster Preparedness and Response, Hong Kong, October 8, 2016.
- Shen C, Wan A, Kwok LT, Lam TH. A community based Intervention of Hong Kong Jockey Club FAMILY Project to enhance Zero-time Exercise and grip strength: Fitter Families, Project Annual Conference on Disaster Preparedness and Response, Hong Kong Academy of Medicine, October 8, 2016.
- Ho HCY, Wan A, Ki BHS, Chan SS, Lam TH. The mediating effect of positive psychology behaviors on family health, happiness and harmony in a community-based family intervention: Happy Family Kitchen Movement under Hong Kong Jockey Club FAMILY Project, 5th CIFA Regional Symposium, Seoul, Korea, November 3-5, 2016.
- Lam TH, Wan A, Mui M, Ho HCY, Chan SS. An innovative and public health approach to promote family holistic health - The FAMILY: A Jockey Club Initiative for a Harmonious Society in Hong Kong, 5th CIFA Regional Symposium, Seoul, Korea, November 3-5, 2016.
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- Lai A, Wan A, Lam TH. FAMILY Project: Training workshops for lay health promoters to implement a community-based intervention program, 21st Research Postgraduate Symposium, Hong Kong, December 1-2, 2016.
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- Lai A, Wan A, Lam TH. Hong Kong Jockey Club FAMILY Project: A 15-min Zero Time Exercise intervention to enhance well-being in older people, 12th International Symposium on Healthy Aging "Wellness and Longevity: From Science to Service", Hong Kong, March 11-12, 2017.
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- Lai A, Wan A, Lam TH. The effectiveness of a clustered randomized control on Zero-time Exercise to reduce sedentary behaviour, enhance physical activity and improve personal well-being in Hong Kong, ISBNPA 2017 Annual Meeting, Victoria, Canada, June 7-10, 2017.
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- Wan A, Lai A, Lam TH. Train-the-ambassador workshop for a community-based family health promotion project to reduce excess dietary sugar intake: A cluster randomised controlled trial, ISBNPA 2017 Annual Meeting, Victoria, Canada, June 7-10, 2017.
- Ho HCY, Wan A, Mui M, Chan SS, Lam TH. Mediating effect of positive psychology behaviors on subjective happiness and life satisfaction in a family intervention: Happy Family Kitchen Movement under Hong Kong FAMILY Project, Fifth World Congress on Positive Psychology, Montreal, Canada, July 13-16, 2017.

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