

ABSTRACTS

Abstracts Presentation (Poster):

1.

Psychiatric Morbidity in Patients with Coronary Heart Disease: A Local Study

KH Lau,¹ ST Lau,² CS Yu¹

¹Kwai Chung Hospital, ²Princess Margaret Hospital, Hong Kong SAR, China

Objectives: This study is aimed to study the prevalence of psychiatric co-morbidity of a local population with coronary heart disease (CHD). In addition, the risk factors of depression for CHD patients will be explored. Moreover, the psychometric properties of the 12-item General Health Questionnaire (GHQ-12) as a screening tool for psychiatric disorders will be evaluated.

Method: This study was a cross-sectional study. One hundred patients diagnosed suffering from CHD were recruited from an outpatient post-catheterization cardiac clinic of Princess Margaret Hospital. Demographic, medical, psychiatric and psychosocial information were gathered from interview and medical record. The Chinese version of GHQ-12 was completed by the patients. At the same visit, a structured psychiatric interview was administered to establish any formal psychiatric diagnosis.

Results: The prevalence of psychiatric co-morbidity in the 100 recruited CHD patients was 34%. It included current major depressive episode (8%), past major depressive episode (5%), adjustment disorder with depressed mood (13%), alcohol dependence syndrome (6%), current generalized anxiety disorder (3%), schizophrenia (1%), adjustment disorder with anxiety symptoms (1%) and panic disorder (1%). Factors that were associated with an increased likelihood of depression among CHD patients included female sex, specific adverse socio-economic characteristics, such as current unemployment, and some physical factors, for example, more chronic physical illnesses. The GHQ-12 could provide satisfactory psychometric properties at cutoff point of 4/5 in detecting active psychiatric co-morbidity,

7/8 in current major depressive episode and 5/6 in elevated depressive symptoms.

Conclusion: Major depressive disorder and adjustment disorder with depressed mood were the most prevalent psychiatric co-morbidities in the CHD patients. Risk factors for developing depression in patients with CHD identified included female sex and adverse socioeconomic conditions. GHQ-12 could be regarded as an effective screening instrument for active psychiatric co-morbidity, especially, depression.

2.

Relationship Between Physical Activity Level and the Cardiovascular Risk Factors in Female Staff of a Hospital

MP Mak

Princess Margaret Hospital, Hong Kong SAR, China

Objective: To study the relationships between physical activity level and the demographic and cardiovascular risk factors in female staff of a hospital.

Methods: In a worksite health promotion program, a hospital-based cohort group of 90 women aged 20-50 year was enrolled on voluntary basis. The information about physical activity was collected through a self-administered questionnaire. The level of physical activity was calculated based on different activities: occupation / household chores / care-taking / exercise / leisure time. The physical activity levels were measured as kilocalories (kcal) per day. The relation of age, body mass index, waist hip ratio, waist circumference, blood sugar and total cholesterol levels, marital status, education level, smoking and drinking habits, self-perception of health with total physical activity was studied with cross-sectional survey with correlation and multiple regression analysis.

Results: The correlation study of the various factors showed the physical activity levels of the subjects were positively correlated to age ($p=0.005$), education level ($p=0.002$), waist circumference ($p=0.000$) / waist hip ratio ($p=0.000$), BMI ($p=0.000$)/body weight ($p=0.000$), percentage of body fat ($p=0.000$), LDL cholesterol ($p=0.027$) and systolic blood pressure ($p=0.022$). The HDL cholesterol ($p=0.034$) and the marital status ($p=0.002$) was negatively correlated with the level of physical activity.

Results from multiple regression analysis between total physical activity and cardiovascular risk factors, it was found that high physical activity was

strongly associated with higher body mass index ($B=115.7$, $p=0.000$), married marital status ($B=-375.031$, $p=0.012$) and lower education level ($B=-334.693$, $p=0.047$).

Conclusions: The results for those who completed the program are biased because the target group had been exposed to health promotion program for more than 5 years. The study is an attempt to explore the cardiovascular health of the staff with majority being women. The better understanding on physical activity level, a modifiable risk for cardiovascular health will reinforce better planning of public health intervention and awareness of the public in this area.

ABSTRACTS

Abstracts Presentation (Poster):

3.

Cardiac Rehabilitation in Coronary Artery Disease: Elevation of High Density Lipoprotein beyond Statins

LS Ooi,¹ SM Lai,¹ WH Chan,¹ AR Omar,¹ YH Chan²

¹Department of Cardiology, National University Hospital; ²Biostatistics Unit, Yong Loo Lin School of Medicine, National University of Singapore, Singapore

Aim: Cardiac rehabilitation programme (CRP) achieved optimal physical and psychological health of patient with coronary artery disease (CAD) through improvement in quality of life and facilitation in the control of risk factors. An enhancement of high density lipoprotein level (HDL) profile confers a better clinical outcome. This study examined the efficacy of the CRP in influencing HDL profile through the individualized CRP.

Methods: Patients with CAD and subsequently underwent either percutaneous coronary intervention (PCI) or coronary artery graft bypass surgery (CABG), were recruited for the study in the year 2005. They underwent individualized CRP, which comprises an inpatient and outpatient phase that include patient education and exercise sessions. During outpatient phase, patients were exercised for 90 minutes a day, three times per week for 4 weeks. Pre and Post CRP, HDL levels were analyzed.

Result: One hundred and sixteen consecutive patients (87% males) with mean age 54 ± 10 years were enrolled into the study. Fifty-two (45%) patients completed the outpatient CRP. More than 75% in each arm were prescribed with statins. The group that completed CRP, showed a significant increase in HDL (31.7%) ($p < 0.001$).

Conclusion: CRP enhanced HDL profile beyond statin therapy.

4.

To Investigate the Prevalence of Psychological Disorders in Inpatients with Coronary Artery Disease

P Wang, L Guo

Guangdong Provincial Cardiovascular Institute, China

Objective: To investigate the prevalence of psychological disorders in patients with coronary artery disease so as to provide information for psychological intervention.

Method: Symptom checklist-90 was used to assess the psychological status of 232 inpatients with coronary artery disease (CAD). Eighty-one inpatients without CAD were also assessed as control.

Results: Total disorder scores in coronary artery disease patients were higher than that of inpatients without coronary artery disease. The score is high especially in somatization, anxiety, phobic anxiety, paranoid ideation and psychoticism. However, there is no difference between the two groups in obsessive-compulsive behaviour, interpersonal sensitivity, depression and hostility. Coronary artery disease patients treated with percutaneous transluminal coronary angioplasty (PTCA) or with coronary artery bypass grafting (CABG) have significant difference in interpersonal sensitivity, phobic anxiety and paranoid ideation. There is no difference between the two groups in somatization, obsessive-compulsive behaviour, depression, anxiety and psychoticism.

Conclusion: Inpatients with coronary artery disease indeed have psychological disorders which would require intervention. Psychological disorder pattern between inpatients treated with PTCA or CABG is different. We should address the issues in identification and intervention of these psychological disorders in patients with coronary heart disease.

5.

Inflammatory Factors and Post-MI Depression – A Preliminary Report

XL Wang, DY Hu, L Wang, K Tan, R Fielding

Department of Community Medicine, Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, China

Background: Depressive disorder in the post-myocardial infarction (MI) period, with a high prevalence between 25-45% for minor depression and 17-27% for major depressive disorder (MDD), has been indicated to be associated with increased cardiac morbidity and mortality. Several mechanisms have been suggested to explain the observed links between post-MI depression and the significant worse outcomes, of which more recent interest focus on the role of inflammation in the progression of the CAD as well as worse outcomes and its potential association with depression. The objective of the present study is to test the hypothesis that depression in post-MI patients is associated with increased inflammation as compared to non-depressed post-MI patients.

Methods: 150 acute MI subjects were consecutively recruited attending the study, who were arranged to have 10-ml blood sample drawn by antecubital venipuncture at the admission day or the next morning (T-1), 7 days later (T-2) for assessment of serum level of C-RP, IL-6, TNF- α and sICAM-1; Post-MI depression using scale of BDI-II (12-item) were evaluated within 7 day after event. Baseline characteristics in terms of demographic, life style, clinical data were collected, 3-, 6-month following up of mortality as well as quality of life assessed by SAQ were recorded.

Results: C-RP, IL-6 levels were significantly increased 7 days after MI than the baseline (admission) in both depressed and non-depressed patients.

However, the levels of C-RP, IL-6, TNF- α and sICAM-1 were not significantly different in depressed and non-depressed group. It was also found that BDI-II scores were associated with SAQ scores at 3 and 6 month during following up period.

Conclusions: There was no indication of increased inflammation in depressed post-MI patients as compared to non-depressed patients.

ABSTRACTS

Abstracts Presentation (Poster):

6.

Benefit Quantification of Ambulatory Cardiac Rehabilitative Services in a Local Rehabilitation Hospital

KH Yuen, KP Leung

Department of Medicine and Rehabilitation, Tung Wah Eastern Hospital, Hong Kong SAR, China

Introduction: Cardiac Rehabilitation and Resources Centre of Tung Wah Eastern Hospital provides one-stop integrated and intensive interdisciplinary cardiac rehabilitative services and has been serving in the HK East Cluster with escalating attendance since 2001. In this paper, data from patients enrolled in a phase II cardiac rehabilitation and exercise programme after a major cardiac event will be reviewed. The latter includes ST elevation Myocardial infarction (STEMI), non-ST elevation Myocardial infarction (NSTEMI), unstable angina (UA), or recent coronary artery bypass graft surgery (CABG).

Objectives: To evaluate the effectiveness of cardiac ambulatory rehabilitative services

Methods: We retrospectively reviewed all the data of cardiac rehabilitative (CR) patients with a major cardiac event from 2002 to 2005. Student's t-tests were utilized to compare the means of outcome measurements.

Results: The study group included 242 CR patients. Mean age of CR patients was 69.27 and 74.7% were male. The mean Left Ventricular Ejection Fraction was 53.39%. Overall CR mean duration and attended sessions were 80.48 days and 23.94 respectively. There were significant overall improvements in mean exercise capacity: 139.9 metres for 6-minute walk and 2.31 METs for exercise stress test. Improvements were also seen in most of risk factors: a decrease of body mass index by 0.21 kg/m², a decrease in mean total cholesterol, LDL-C and triglyceride levels by 0.42, 0.42 and 0.2 mmol/l respectively, an increase in mean HDL-C by 0.09 mmol/l and a decrease in

mean HbA1c by 0.17%. Quality of lifecore was also increased especially in the physical domain (7.8 points). More importantly, there was a significant reduction in mean length of hospital stay (LOS) of 4.21 days.

Conclusions: The effectiveness of the ambulatory phase II CR programme in making improvements in cardiopulmonary fitness, quality of life, risk factors' modification in patients with acute coronary events was proven. The simultaneous reduction in LOS led to the deduction of a possible correlation with the former.

7.

A Psychometrically Sound Core Health-related Quality of Life Measure for Patients with Differential Diagnosis of Coronary Heart Disease

DSF Yu,¹ DR Thompson,¹ N Oldridge,² CM Yu³

¹The Nethersole School of Nursing, The Chinese University of Hong Kong, Hong Kong SAR; ²College of Health Sciences, University of Wisconsin-Milwaukee and Heart Care Associates, Milwaukee, USA ³Division of Cardiology, Department of Medicine and Therapeutics, Faculty of Medicine, the Chinese University of Hong Kong, Hong Kong SAR, China

Objective: Patients with coronary heart disease (CHD) are typically diagnosed by physicians with one or more three interrelated but clinically distinct conditions; myocardial infarction (MI), angina pectoris or heart failure. Comparing the burden of illness and treatment effectiveness from the patients' perspective for CHD across the spectrum of patients with these co-occurring conditions requires a common health-related quality of life (HRQL) measure. This study aims at evaluating the psychometric properties of the Myocardial Infarction Dimensional Assessment Scale (MIDAS; Chinese version) in Chinese CHD patients.

Methods: This is a longitudinal methodological study. A consecutive sample of 381 patients, with angina (n = 162), MI (n = 124) and heart failure (n = 95) was recruited from a regional hospital. Baseline data was collected with Chinese MIDAS, the Hospital Anxiety and Depression Scale (HADS) and the Short-Form 36 Health Survey (SF-36). Reassessment with the Chinese MIDAS took place seven days (n = 92) and three months later (n = 360).

Results: The Chinese MIDAS had the originally proposed 7-factor structure. The Cronbach's alphas of the subscales ranged from 0.65-0.95 and the 7-day test-retest reliabilities were 0.76-0.92. Validity was supported by its moderate to strong correlations with SF-36 and the HADS. Discriminative validity, by using age, gender, emotional disturbance and health deterioration as the discriminative properties, was demonstrated. The effect size (0.43-0.83) and standardize response mean (0.46-0.82) suggested their responsiveness. The minimal important difference was 5 point over a 0-100 scale.

Conclusion: The Chinese MIDAS is a psychometrically sound HRQL measure for Chinese patients with differential CHD diagnosis. Improving its performance requires clarifying the treatment-related impact on CHD patients.

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ABSTRACTS

Abstracts Presentation (Poster):

8.

Stress Cardiomyopathy in Chinese

PT Tsui, CW Wu, WS Leung, NS Mok, NY Chan, CC Choy, CL Lau, YK Lo, ST Lau
Department of Medicine and Geriatrics, Princess Margaret Hospital, Hong Kong SAR, China

Background: Stress or takotsubo cardiomyopathy represents transient reversible left ventricular dysfunction related to biological or mental stress. Typical clinical features mimic ST elevation myocardial infarction (STEMI), namely, symptoms of chest pain or dyspnoea, diffuse ST segments elevation and raised troponin level. Echocardiogram or left ventriculogram classically shows apical ballooning.

Method and result: We retrospectively reviewed 1732 patients who had undergone diagnostic cardiac catheterization in Princess Margaret Hospital from 1 July 2004 to 30 June 2006. Three (patient 1-3) confirmed and five (patient 4-8) probable cases of stress cardiomyopathy were identified. Typical akinesia of apical two-thirds and hyperkinesia of basal one-third of left ventricle was documented in the first three patients. Patient 1 presented with dyspnoea while traveling in China. Theophylline overdose was found in patient 2. Patient 3 had the most severe form of the syndrome requiring assisted ventilation and intra-aortic balloon pump support. Patient 4 was a victim of physical assault. Patient 5 and 7 had the attack during sleep. Patient 6 presented also with features of panic attack. Patient 8 had the attack while working as a cook at night. Angiography did not reveal any significant stenosis in epicardial coronary arteries. The following table summarizes the key clinical features:

Patient	1	2	3	4	5	6	7	8
Sex	Female	Female	Female	Female	Male	Male	Male	Male
Age	75	70	66	55	44	40	38	27
Chest pain	No	Yes	No	Yes	Yes	No	Yes	Yes
Dyspnoea	Yes	No	Yes	No	No	Yes	No	No
STE	V2-4 III,aVF	V2-6 II,aVF	V2-5 II,III	Nil	V2-5	V3-5	V2-3 I,aVL	V2-6 II,III
STD	I,aVL	Nil	Nil	V4-6 III,aVF	Nil	Nil	Nil	Nil
Peak TnI	20.2	3.47	2.29	2.4	8.9	1.56	8.7	9.6

STE=ST segment elevation; STD=ST segment depression; TnI=Troponin I (mcg/L)

Conclusions: Stress cardiomyopathy is not rare in Chinese. Misdiagnosing it as STEMI could lead to unnecessary and potentially harmful intervention with thrombolytic agents or percutaneous coronary angioplasty. Timely performed bedside echocardiography is the key to diagnosis. Psychosocial assessment and helping the patients to cope with stress should be the mainstay of treatment.

9.

The Effect of a Structured Cardiac Rehabilitation Programme on Blood Pressure Control

SY Tan, ST Chan, C Thye, TH Koh, BA Johan
National Heart Centre, Singapore

Background: Hypertension affects many societies and Singapore is no exception. The recent National Health Survey (2004) revealed that 24.9% of our adult population aged 30-69 have this condition. Of these, only 50% had good blood pressure control. We wanted to examine the effect of attending a structured cardiac rehabilitation on blood pressure (BP) control.

Methods: This is a retrospective analysis of 1445 patients who completed a 3-month cardiac rehabilitation programme, from 1999-2004 at the National Heart Centre in Singapore. BPs were taken on admission into the programme and monitored till the end of the programme. Patients who did not have good control at admission were defined as those having a BP of >140 mmHg systolic and 86 mmHg diastolic. Two-tailed paired T-Tests were used to compare any statistical significance between the admission BP values and subsequent readings at 3 months.

Results: While the entire cohort showed a modest 4 mmHg drop in systolic BP ($P<0.001$) and diastolic BP drop of 1 mmHg ($p=0.048$), 182 patients who were identified as poorly controlled at the time of enrollment had significant decreases. Systolic BP decreased 19.3 mmHg, from 146.9 ± 11.0 mmHg to 127.6 ± 14.6 mmHg ($p<0.001$) while diastolic BP dropped 12.7 mmHg, from 91.6 ± 3.9 to 78.9 ± 8.6 ($p<0.001$). This effect was independent of medications as they did not have any medication alterations during the 3 months they under went cardiac rehabilitation.

Conclusion: Attending a structured cardiac rehabilitation programme is a very useful adjunct in lowering BP to recommended target levels.

ABSTRACTS

Abstracts Presentation (Poster):

10.

A Survey on the Current Status of Cardiac Rehabilitation Service Provision in the Public Hospitals in Hong Kong

NY Chan,¹ ST Lau,¹ CP Lau,¹ AWS Leung,¹ WK Chan,² A Chiu,³ YT Hung,⁴ L Lai,⁵ CL Lee,⁶ CK Leung,⁷ KP Leung,⁸ GWK Yip,⁹ A Yu¹⁰

¹Executive Committee, 1st Asian Preventive Cardiology & Cardiac Rehabilitation Conference; ²United Christian Hospital; ³Caritas Medical Centre; ⁴Our Lady of Maryknoll Hospital; ⁵Queen Mary Hospital; ⁶Grantham Hospital; ⁷Tuen Mun Hospital; ⁸Tung Wah Eastern Hospital; ⁹Prince of Wales Hospital; ¹⁰Alice Ho Miu Ling Nethersole Hospital, Hong Kong SAR, China

Background: Cardiac rehabilitation (CR) has already been recognized by different authorities as an integral part of management of all cardiac diseases. Results of a survey performed in 2000 revealed underprovision of CR service in Hong Kong public hospitals. To be better prepared for the demand for more efficiently and globally covered CR service, there is a need to reexamine the current status of service provision in Hong Kong public hospitals.

Methodology: A questionnaire evaluating the CR service provision in the year 2005 was distributed to each public hospital, excluding hospitals providing exclusively psychiatric, paediatric, ophthalmological, obstetrical or hospice service. The returned questionnaires were analyzed.

Results: 27 questionnaires were sent out and 14 (52%) were returned. Eight (57%) of the 14 hospitals provide acute service. Ten (71%) of them provided CR service in 2005. Six hospitals reported in 2005 a total of 23262 and 1576 patients with admission diagnoses of heart disease (HD) and acute myocardial infarction (AMI) respectively. One thousand and eighty-eight (4.7% of HD admissions, 69% of AMI admissions) and 499 (2.1% of HD admissions, 31.7% of AMI admissions) patients received Phase I and II CR service respectively. Only 206 (0.9% of HD admissions, 13.1% of AMI admissions) and 222 (1% of HD admissions, 14.1% of AMI admissions) patients received

the community-oriented Phase III and IV CR service respectively. A total of 2025 patients, including 1490 (73.6%) with coronary artery disease, 402 (19.9%) with heart failure, 90 (4.4%) with valvular heart disease, 36 (1.8%) with implantable devices and 7 (0.3%) with heart transplant, received CR service in the 10 hospitals in 2005.

Conclusion: Provision of CR service in public hospitals in Hong Kong remains low, especially in the community-oriented Phase III and IV programs. CR service in Hong Kong is currently focused in patients with coronary artery disease. There appears to be underprovision of CR service for some subsets of heart disease patients including those with heart failure and implantable devices.

11.

A Survey on the Cardiac Rehabilitation Service in the Private Sector in Hong Kong

AWS Leung, NY Chan, ST Lau, CP Lau; on behalf of the Executive Committee, 1st Asian Preventive Cardiology & Cardiac Rehabilitation Conference, Hong Kong SAR, China

Background: Cardiac rehabilitation (CR) has already been recognized by different authorities as an integral part of management of all cardiac diseases. With an ageing population in Hong Kong and the increasing incidence of heart disease, the demand for CR service is expected to increase significantly. Results of a survey published in 2000 revealed under provision of CR service in the public sector in Hong Kong. But we do not have any data on the situation of CR service in the private sector. We also have no idea of the attitudes of private cardiologists and private hospital administrators on the need of CR service in the private sector, and their concerns if such a service is to be implemented to their patients.

Methodology: We designed 2 questionnaires to evaluate the present status and the need of CR service in the private sector, one for cardiologist/medical in-charges of all private hospitals (PHs), and another one for all private cardiologists (PCs). The returned questionnaires were analyzed.

Results: Nine (75%) out of 12 PHs replied. One of them had CR service provided in 2005, with dedicated program for patients with coronary artery disease (CAD) and heart failure, but there were no patients participating in the same year. The other 8 PHs did not provide CR service in 2005, mainly because of lack of expertise and lack of resources. Three of them are planning to implement CR programs in the near future.

Twenty-one (32.8%) out of 64 PCs replied. Only 4 PCs had referred private patients to join CR programs of PHs or community-based institutes (CBI) in 2005 (2 PCs claimed they had referred patients to public hospitals instead). The number of referrals was less than 10 for each PC, and all referrals belonged to phases 2 and 3. Nineteen (90.4%) PC believed that CR program was useful. Seventeen (80.9%) and 15 (71.4%) would consider referring patients to PH and CBI, respectively, if CR programs were available. In general, PCs favoured referring CAD and heart failure cases more than valvular heart disease and device implant cases. The major concerns of PCs were (in descending order of importance): evidence of benefit to patient; willingness of patient; staff competence; and financial implication to patient. Factors such as free time of patient, possibility of case loss, effort paid by doctor were of lower importance.

Conclusion: Though the benefit of CR program is well known, the current CR service in the private sector in Hong Kong is of a small scale. The situation is changing, with more private hospitals planning to implement CR programs. According to the survey, the majority of private cardiologists believe in the usefulness of CR. The problems ahead are the availability of service in private sector, access to the programs, and the design of referral system.

ABSTRACTS

Abstracts Presentation (Poster):

12.

Lifestyle Habits in Cardiac Rehabilitation Patients

ST Lau, PT Tsui, S Ip, S Lee, OK Chung, YF Au, D Tong, W Pong, R Law
Cardiac Rehabilitation Team, Princess Margaret Hospital, Hong Kong SAR, China

Purpose of study: To examine the demographics and lifestyle habits of patients and the influence of family members and friends in graduates from the Cardiac rehabilitation programme.

Method: Patients who had undergone a comprehensive phase 2 cardiac rehabilitation programme from 1995 to June 2005 were assessed with a telephone survey. Questionnaire of the survey consisted of 4 sections of questions on demographic data, smoking, exercise and eating habits.

Results: Among the 546 candidates eligible for the survey, 343 (62.8%) were recruited and 338 had valid data for analysis. Two hundred fifty-one (73.1%) were male and age ranged from 24 to 89 with a mean of 60.8. One hundred forty-two (93.4%) out of 152 (44.3%) smokers had quit. Those who smoke less number of cigarettes per day have higher success. There is no correlation of stopping smoking with age, sex, age began smoking, previous attempts to quit or influence by spouse or persons in the same household. One hundred thirty-one (38.2%) had the habit of eating red rice and cereal and 83 (24.2%) had the habit of drinking low fat milk. Two hundred and fifty-one (73.2%) exercise more than 3 times per week while 185 (57.5%) exercise more than 30 minutes. One hundred eighty-two (53.1%), 66 (19.2%), 52 (15.2%) had trivial, light to moderate exercise intensity. Walking (53.1%), callisthenic exercise (16.6%), tai-chi (11.7%), jogging (9.6%) and swimming (7%) were the common modes of exercise. More than 90% ate less than 3 portions of fried food per week. Those with healthy eating habit of eating red rice and cereal has less number of times of eating out. Eating more fried food is positively correlated with eating out. There is negative correlation with the accompanying

persons with eating out and times of exercise. The duration and intensity of exercise is positively correlated to accompanying persons.

Conclusion: The patients undergoing the survey had high percentage of quit smoking (93.4%) and the factor correlated with failure was the larger number of cigarettes smoked daily. The majority claimed compliance to avoided eating high fat foods but only 38.2% had taken up the habit of eating healthy cereals. Good exercise and diet adherence do not rely on number of accompanying persons. Peer support would enhance exercise intensity and duration. Education and continuous support to the individual is important in the intervention programs to improve the adherence to healthy lifestyle.