ABSTRACTS

Abstracts Presentation (Oral):

1.

Improving Quality of Life of Patients with Cardiac Problems Through Health Qigong Program

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Objectives: Health qigong practice had been incorporated in our cardiac rehabilitation program phase II since 2000 with proven effects. However, the maintenance effects after the program is still doubtful. Last year, occupational therapy department, medical and geriatric department and health resource center collaborated to develop a health qigong group program with patients attending weekly qigong practice led by trained lay leaders by occupational therapist and performing daily practice at home. The present study aimed at evaluating the physiological and psychosocial effect of this 12-week health qigong (Badunjin) program on cardiac patients. The maintenance effect of the program was also evaluated at post-discharge 12-week from the program.
Methods: A pre-test and post-test control design was adopted. A sample of 57 (39 male and 18 female) subjects was recruited from those patients who had just completed the cardiac rehabilitation program phase II. Thirty-one were allocated to the experimental group with 12-week health qigong program (employing lay leaders and emphasis on self-management principles) and 26 to the control group with no active treatment provided. Patients in the experimental group would attend the program on weekly basis for 12 weeks with home practice not less than five times per week. Outcome measures of blood pressure (SBP & DBP), heart rate (HR), psychosocial functioning, quality of life (C-SF36), readmission and mortality rate were adopted. Outcome data were collected at the point of initial assessment, at the completion of the 12-week program and at 12-week interval after discharged from the program.
Results: Repeated measure of ANOVA revealed that there was reduced HR of patients in the experimental group (p=0.001) with overt improvement in DBP and SBP while patients in the control group showed increase in HR, DBP and SBP. C-SF36 results also indicated that there was general improvement in psychosocial functioning and quality of life in the experimental group. Besides, three patients were readmitted due to cardiac problems in the control group but none in the experimental group. Positive feedback from participants showed that they were more active in daily life with enhanced confidence and self-efficacy in coping with their cardiac problems and dealing with their daily lives. Other factors like the cultural relevant Traditional Chinese Medical components of health qigong, sense of empowerment as in the lay leaders, changes in lifestyle, peer group sharing, learning and support were also identified which had contributed to the positive outcome of the program.
Conclusion: The 12-week health qigong (Badunjin) program was effective not only in improving the quality of life of patients with cardiac problems but their self-efficacy, coping strategies and lifestyle as well. Through the use of culturally relevant health qigong treatment modality, recruitment and training of lay leaders, impacts of group effects and multi-disciplinary collaboration, the program can be considered as a cost-effective intervention to facilitate active lifestyle engagement and long-term community reintegration with possible reduction in the avoidable re-admissions due to cardiac problems.

2.

Cardiovascular Risk Profile in Individuals with or without History of Cardiovascular Disease

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Background: Cardiovascular risks are very common amongst the general population. Patients may already had manifestation of diseases such as ischaemic heart disease (IHD) or cerebral vascular disease (CVA) while others has no known disease. Though the methods of detection, monitoring and treatment of the modifiable risks are available, it is not unusual that they not well controlled. This study compares the control of these risk factors in the two categories of patients.
Methods: Community health promotion and screening programs were conducted in 16 housing estates in collaboration with the local District Council in 2006-2007. A self-administered questionnaire with demographics, known history and treatment of hypertension, hypercholesteramia, diabetes mellitus, exercise and smoking history were recorded. Body mass index, blood pressure, spot sugar and total cholesterol were taken. Counseling, health talk and distribution of educational pamphlets were given by healthcare personnel supported by volunteers.
Results: A total of 2463 participants with 492(20%) male and 1589(65%) over 60 years of age were recruited.

	IHD or CVA	No history of IHD or CVA
BMI >25	**42.4%** (42/99)	32.5 (353/1087)
Smoker or quit <1 year	**9.5%** (9/95)	6.3 (66/1047)
Exercise 3 times per week	67.0% (65/97)	**64.4** (676/1050)
BP >140/90 mmHg	**45.8%** (103/225)	42.7 (956/2240)
TC >5.2 mmol/l	21.3 % (48/225)	**32.6** (730/2240)
BS >7 mmol/l	**37.3%** (84/225)	27.5 (615/2240)
BP >140/90 mmHg Known HT on Rx	55.7% (73/131)	**58.8%** (378/643)
TC >5.2 mmol/l Known high TC on Rx	16% (8/50)	**34.5%** (40/116)
BP >140/90 mmHg No/Unknown Hx of HT	27.5% (22/80)	**34.2%** (488/1425)
TC >5.2 mmol/l No/unknown Hx of high TC	21.2% (28/132)	**30.3%** (536/1771)

Conclusion: The prevalence of cardiovascular risks is high especially in those with history of IHD or CVA. Hypertension is notoriously poorly controlled even in those with known history of cardiovascular diseases. Additional effort and resources should be put in the control of these modifiable cardiovascular risks in our population for prevention of cardiovascular diseases.

ABSTRACTS

Abstracts Presentation (Oral):

3.

Prevent Rehospitalisation Program for High Risk Heart Failure Patients

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Background:
1. Heart failure (HF) has become a worldwide health and economic burden with high mortality rate and rehospitalisation rate. Around 25-50% of hospitalized patients will be readmitted within 6 months after discharge.
2. In 2006, there were about 16,000 HF admissions to HA hospitals (~2000 in HKEC), accounting for 1.4% of total hospital admissions. In HKEC, each HF patient had an average of 1.4 admissions per year. Around 100 high risk HF patients (~10% of all HF patients) had ≥4 cardiac hospitalizations in one year.
3. Meta-analysis revealed that specialized multidisciplinary team disease management could decrease mortality and hospitalization.

Objective:
To utilize a case-managed HF program in reduction of rehospitalization, length of stay (LOS) in these high risk HF patients

Program Outline:
A. Eligible participants
- HF patients who had ≥2 or 4 HF hospitalizations in past 6 and 12 months respectively (high risk group)

B. Format
1. Case managed approach
2. Medical follow up started 1 week after discharge and then every 1-2 weeks till stable.
3. Subsequent follow up interval will be extended and thereafter, nurse led follow up will provide continuation of care

C. Components of the program include
1. Aggressive titration of anti-HF medications by physician
2. Surveillance and management of salt and fluid status
3. Multidisciplinary input (nurse- as case manager, dietitian, physiotherapist and occupational therapist) for education and skills on self management strategies
4. Supervised exercise training to improve functional capacity and other vascular benefits

Results:
In 2007, 20 patients were recruited. Mean age was 73.2 (range 48 to 90). Fifteen (75%) were male. Mean Ejection fraction was 30.9%. Over 70% was belonged to New York Heart Association Functional Class II. Fifteen (75%) patients had participated in exercise training.
A. Exercise capacity
Mean 6-minute walking test improved from 349 to 463m (p=0.02) or 32.3% increment.
B. Mortality rate (6 month)
2 (10%) died within 6 month after recruitment. Both were at extreme age (86 and 90) with many co-morbidities and accounted for all 4 admissions in this study.
C. Admission rate and LOC (6 month)

	Pre-program	Post-program	p value
Total 6-month cardiac related admissions	77	4	
Mean 6-month cardiac related admission rate	3.85 times/person	0.2 times/person	(p <0.0001)
Total 6-month LOS (days)	909	51	
Mean 6-month LOS	45.5 days/person	2.5 days/person	(p <0.0001)

1. 6-month cardiac related admission rate showed an average reduction of 3.65 times
2. 6-month mean LOS reduced by 42.9 days

D. Drug utilization
At the end of the program, around 95% patients was receiving optimized anti CHF medications (i.e. ACEI or Angiotension II blocker and beta-blocker)

Conclusion:
A case managed model for high risk CHF patients was clinically beneficial and highly effective to reduce hospitalisations and LOS.

4.

Outpatient Cardiac Rehabilitation for Cardiac Surgery Patients in National University Hospital – Report on Retrospective Data

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National University of Singapore, School of Medicine, Singapore

Background: The 6 minute walk test (6MWT) is a simple test administered in cardiac surgery patients to assess exercise tolerance and the effects of cardiac rehabilitation programs (CRPs). However, the number of patients referred to such CRP continues to be low and the fallout rate of these patients is common due to complications. In this study, the 6MWT is used as an assessment tool to observe the exercise tolerance and the effectiveness of a CRP for a group of cardiac surgery patients.
Materials and Method: One hundred patients who had undergone coronary artery bypass graft surgery (CABG) were enrolled into the National University Hospital Outpatient CRP (NUHCRP). Patients were selected based on inclusion criteria of completion of at least one phase of the NUHCRP and the 6MWT pre and post rehabilitation. Thirty-four patients [91% males, mean age (59±9); 9% females, mean age (61±5)] were selected from this group for the 6MWT analysis. Twenty-seven percent of the patients had a valve surgery with a CABG (CABG + valve) and 73% had a pure CABG. The patients underwent a short length of inpatient rehabilitation and enrolled into the NUHCRP. Rehabilitation comprised of 1.5 hrs of intensive aerobic and strengthening exercises conducted by a physiotherapist, for 12 to 24 sessions over two and a half months. A regression equation derived in a 6MWT study was used to determine the predicted total distance walked.
Results: One way ANOVA and Spearman's correlation were used to determine differences in the 6MWD (Diff6MWD) and selected variables. Based on the regression equation, 30% of patients exceeded the predicted distance in post 6MWT. Ninety-seven percent of the patients walked an absolute distance more than 300m post 6MWT. Mean distance walked pre-test was (463±87m) and post-test (485±85m). Patients ≥70 years old walked a mean Diff6MWD of (60±58m) with the largest increase in distance against all the age groups ranging from 50 to ≥70 compared < 50 years old (44±76m). Mean ejection fraction of the patients was (52±13%). Diff6MWD walked in the diabetic group compared to the non-diabetic group was not found to be different; however patients with a smoking history walked a mean difference of (25±67m) as compared to the non-smokers (20±94m). CABG patients had increased Diff6MWD (36±63m) compared to CABG + valve patients. Seventy-one percent of patients who did not have ECG changes after cardiac surgery had a Diff6MWD of (31±89m) as compared to those with ECG changes. Sixty-eight percent of the patients showed ≥10% increase in distance walked between the two tests. The pre 6MWD was found to be positively correlated to post 6MWD (r= 0.612, p<0.01) and negatively correlated to the difference in the distance walked (r= -0.558, p<0.01).
Conclusion: Our data suggests that 6MWD is feasible and tolerated in older patients after cardiac surgery. Following NUHCRP, cardiac surgery patients showed significant improvement in the 6MWD, which is a true improvement in functional capacity as a true consequence of therapeutic intervention.

ABSTRACTS

Abstracts Presentation (Oral):

5.

Detection of Coronary Artery Disease in Asymptomatic High Risk Individuals with Coronary CT Angiography

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Background: Few studies have looked at the prevalence of obstructive coronary artery disease (CAD) in asymptomatic patients with multiple CAD risk factors.
Methods: We performed a retrospective pilot study of asymptomatic high risk patients who were referred to a single computed tomography coronary angiography (CTA) center for evaluation of CAD from January 2007 to July 2008. Patients with previously documented CAD were excluded.
Results: Of the 26 patients identified, 79% were male. Average age was 58.4. 34% were of advanced age (male >60, female >70), 54% had hypertension, 15% were diabetic, 19% were current smokers, 65% had hyperlipidemia, 42% had a positive family history. Average number of risk factors was 2.4. Fifty-four percent had ≥3 CAD risk factors. Atherosclerotic plaques were identified in 81% of the asymptomatic patients. 35% had CAD with stenosis of <70% diameter, while 42% had CAD with severe (>70% diameter) stenosis in one or more vessels. Furthermore, 20% had severe (>70% diameter) plaques identified in either their left main or proximal left anterior descending (LAD) artery.
Conclusion: Prevalence of obstructive CAD is very high in asymptomatic patients with multiple coronary risk factors, with a significant proportion with severe stenosis detected, some of which were in either left main or proximal LAD lesions. CTA has the potential to be used as a tool to identify occult high risk lesions in this population. Further research is needed to determine the optimal management strategy for these patients.

6.

Cardiovascular Risk Factors, Echocardiographic Parameters and 2 Years Outcome in End Stage Renal Disease Patient

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Background: Cardiovascular disease is common amongst end stage renal failure patients. The combination of cardiovascular disease and renal disease amplifies the progression of disease in the individual system. Their presence and association await further investigation in our local setting.
Objective: To assess the cardiovascular risk factors, echocardiographic parameters and their 2 years cardiovascular morbidity and mortality in patients on renal replacement therapy.
Methods: 101 end stage renal failure (ESRF) patients receiving renal dialysis for more than 6 months were followed up since 6/2006. Baseline epidemiological data, cardiovascular risk factors, echocardiographic parameters were assessed. Cardiovascular morbidity and mortality were recorded till 31/7/2008.
Results: 101 dialysis patients were studied. 87.1% and 42.6% of the patients were hypertensive and diabetic respectively. 18.8% had ischaemic heart disease. 4% had a previous cerebrovascular event. 22.8% had been hospitalized because of heart failure symptoms. 27% had blood pressure equal or lower than 130/80 mmHg. 38.6% were taking angiotensin converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB) and 55.4% were taking beta-blocker. 21.8% were on lipid-lowering agents. 67% had left ventricular hypertrophy while 81.2% had diastolic dysfunction. 31.7%, 13.9% and 5% patients had mildly impaired ejection fraction (50-59.9%), moderately impaired ejection fraction (35-49.9%) and poor LV contraction (EF less than 35%) respectively. During the two years follow up, 12% patients had an episode of cerebrovascular event requiring hospitalization. Twenty-four percent had been hospitalized because of acute coronary syndrome. 23% had succumbed during the 2 years follow up (11 patients died of infection, 7 patients died of acute coronary syndrome, 4 patients died of cerebrovascular event, 1 patient died of hepatocellular carcinoma and 1 patient died of unknown cause).
Conclusion: End stage renal failure patients have very high prevalence of cardiovascular risk factors, related morbidity and mortality. More attention and better preventive measures should be carried out to improve their disease outcome.

ABSTRACTS

Abstracts Presentation (Oral):

7.

To Investigate the Effectiveness of Cardiac Rehabilitation Program for Patients Utilising the Exercise Prescription Program Based on American College of Sports Medicine Exercise Prescription Guidelines in Changi General Hospital

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Aim: To investigate the effectiveness of cardiac rehabilitation program (CRP) for patients utilising the exercise prescription program based on American College of Sports Medicine (ACSM) exercise prescription guidelines.
Method: A randomised control study of patients with cardiac abnormalities attending the CRP program in Changi Sports Medicine Centre. A total of 16 CRP patients who fulfilled the inclusion and exclusion criteria were recruited from mid August 2008 till end September 2008. These patients were divided into two groups; the control group undergo the CRP without using the exercise prescription program based on the previous protocol while the second group went through the program using the exercise prescription program. The assessor will be blinded to the two groups of CRP patients. Both groups of CRP patients will attend 12 sessions. Outcome measures used included 6 Minute Walk Test and SF 36.
Results: The result shows that there is a significant difference in the change in 6 Minute Walk Test i.e. median 148m versus 62.5 m for the exercise program prescription versus non program group. (p=0.05 by Mann Whitney U test). However there is no significant difference in the change in SF36 for the 2 groups respectively i.e. median 13.60 versus 17.41. (p =1.00 by Mann Whitney U test).
Conclusion: We propose that the discrepancy in the primary end-point may be due to patients' perception that they are fitter after the cardiac rehabilitation program without any awareness of the extent of improvement till they complete the 6 min walk test which is more objective.

8.

Review of Cardiac Rehabilitation Outcome Achievements

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Objective: To review the sustainability of cardiac rehabilitation outcome achievement among patients underwent four phases in two years of cardiac rehabilitation program.
Methodology: Patients recruited for cardiac rehabilitation program and have completed all four phases of program are included in the data collection. Patients with cardiac diseases but failed to complete all four phases are not included in this survey. Outcomes includes body mass index, exercise capacity, blood sugar level (HbA1c) and lipid profile were monitored and recorded at the phase I (in patient phase), phase II (8 weeks supervised hospital based training), phase III (3 months after active training) and phase IV (12 months after phase III).
Results: A total of 556 (Male : Female, 436 : 120) patients have completed all four phases of cardiac rehabilitation program between November 1998 and November 2007. The mean age was 63±12. Data were analyzed with multivariate test and comparisons were adjusted with Bonferroni test. A quadriatric trend with exercise capacity was reported F(1, 377.5) =228.4 p =0.000. Significant improvement was reflected between phase II and phase I. A linear trend in body mass index F (1, 139.9) = 98.3 p=0.000 was observed from phase II, III and IV. Significant cubic trend with blood sugar HbA1c level F(1, 5.07) = 10.3 p=0.002 was recorded with significant change between phase I & II and phase III & II. Significant linear trend with triglyceride F(1,7.7) = 13.4 p =0.000 , and HDL F(1,6.4) = 135.7 p=0.000 whilst a quadriatric trend with LDL was observed F(1, 52.8) = 110 p=0.000.
Conclusion: Blood results in sugar level and lipid were better controlled while the exercise capacity and body mass index were inversely recorded over the two year monitoring. The findings postulate professional input after phase II would be necessary for a better mastering of risk factors.

9.

Comparison of Treatment Outcome and Health-related Quality of Life in Acute Coronary Syndrome Patients of Three Age Groups: <60, 60 to 80, and >80 Years

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Objective: Prevalence of octogenarians presenting with acute coronary syndrome (ACS) is increasing as the population ages. This study evaluated the effect of age on health-related quality of life (HRQOL) in 3 age groups presenting with ACS.
Methods: We prospectively analysed 429 patients presenting with ACS admitted to our institution with ACS from Feb 2006 to March 2008. SF-36 was used to assess HRQOL at baseline and 6-month. Baseline characteristics, treatment & HRQOL were compared across 3 age groups (<60, 60-80 & >80 yrs). Multivariate linear regression was performed to identify predictors of improvement in SF-36 and its physical & mental component scores.
Results: 108 Patients (25.2%) were <60 yrs, 236 pts (55.0%) between 60-80 yrs and 85 pts (19.8%) >80 yrs. Elderly pts were more likely to be female (19 vs. 36 vs. 50%, p<0.01), less likely to present with ST-elevation myocardial infarction (44 vs. 31 vs. 25%, p<0.01) & to undergo coronary revascularization (62 vs. 48 vs. 23%, p<0.01). Six-month mortality increased incrementally by age group (2 vs. 6 vs. 19%, p<0.01). SF-36 and its physical component score (PCS) improved significantly at 6 month in all the 3 groups (Table). Increasing age was associated with lower baseline HRQOL but more improvement of SF-36 score (+5.4±7.5 vs. +11.9±18.9 vs. +12.9±19.7, p=0.03). Age (β=2/10 yrs; 95%CI 1.2-5.1) and PCI (β=0.12; 95%CI 0.01-9.0) were independent predictors of improvement in SF-36 at 6 months.
Conclusions: Increasing age was associated with worse HRQOL & mortality in ACS pts at 6 months. However, octogenarians experienced more improvement in HRQOL than the youngest age group despite lowest rate of revascularization. Thorough clinical evaluation is mandatory in the management of the elderly to balance benefits in mortality vs. HRQOL.

HRQOL	SF-36			PCS			MCS		
	Baseline	6 Month	p	Baseline	6 Month	p	Baseline	6 Month	p
<60 yrs	54.1±17.8	58.9±15.9	0.01	61.4±27.3	73.4±25.0	<0.001	55.1±24.0	52.9±19.7	0.47
60-80 yrs	44.4±18.7	56.6±18.6	<0.001	45.2±29.0	67.6±26.7	<0.001	51.4±22.5	57.2±19.4	0.005
>80 yrs	39.4±17.1	51.5±17.2	<0.001	35.7±20.1	59.8±26.2	<0.001	52.2±21.5	60.9±18.8	0.12
p value	<0.01	0.07		<0.01	0.02		0.44	0.07	

ABSTRACTS

Abstracts Presentation (Oral):

10.

CHF-HOME (Congestive Heart Failure - Home. cOmmunity, Monitoring and Exercise) Program: A Multidisciplinary Program to Improve the Outcome of Patients with Congetive Heart Failure

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Introduction: Congestive Heart Failure (CHF) is a growing public health problem in Hong Kong. In Pamela Youde Nethersole Eastern Hospital, numbers of admissions for CHF continued to increase, with 1.5 fold increase from 2001 to 2005. It is one of the leading causes of hospitalization in individuals older than 65 years of age. Readmission rate for CHF is very high, with 33% of patients readmitted or died within 60 days.
Objective: To improve the clinical outcome of patients with CHF, and reduce hospital admissions and resources utilizations.
Methodology: A multidisciplinary heart failure management team was established in October 2007 to identify, assess, intervene and monitor selected patients admitted with CHF, i.e., in-patient clinical assessment, predischarge education and counseling, post-discharge management plan, telephone follow-up and enquiry service, early clinic follow-up.
Clinical outcome of those patients with history of recurrent CHF, i.e., 60 days readmission with CHF before and after enrollment into this program were analyzed.
Results: A total of 173 patients were enrolled between 3rd October and 30th June 2008. Ninety-eight patients had history of recurrent admission for CHF. Their mean age was 74.75 yrs. The numbers of 60 days readmissions for CHF amongst these 98 patients were 29 before enrolling into this program, and were reduced to 16 after enrolling into this program (P=0.04).
A total of 264 telephone follow-up and 49 telephone enquiry service were provided. Thirty-five episodes of early evidence of CHF were recognized, which were settled without hospital admissions. Drug and dietary advice, awareness of CHF disease and symptoms, importance of home care and self-assessment were reinforced through these services.
Conclusions: CHF-HOME Program improves the clinical outcome of patients with CHF, and reduce hospital admissions and resources utilizations.

11.

Perioperative Negative Emotions and Quality of Life Six Months after Cardiac Surgery

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Objective: Specific syndromal aspects of depression and anxiety have not been explored in relation to changes in health related quality of life (HRQOL) after cardiac surgery. The purpose of this study was to examine the impact of depression, anxiety and general stress on quality of life (QOL) after coronary artery bypass graft (CABG) surgery. Utilizing a tripartite conceptual model of depression and anxiety as a theoretical framework, we hypothesized that general stress symptoms, rather than unique depressive or anxiogenic symptoms, will predict lower improvement in QOL after CABG surgery.
Methods: Elective CABG patients (n=226) completed baseline self-report measures of negative emotions and HRQOL and 193 patients completed these measures at six-month follow-up. Multi-level modeling analyses were performed to test the hypothesis.
Results: Depression and anxiety symptoms simultaneously tempered gains in HRQOL domains tapping into vitality, social functioning, general health, bodily pain and physical role functioning (all $p<0.05$). General stress, in combination with depressive symptoms, mediated HRQOL in the areas of general mental health and emotional role functioning (all $p<0.05$).
Conclusion: This study adds to previous research by outlining discrete associations between specific HRQOL domains, and is perhaps the first to test a theoretical model of depression and anxiety in relation to CABG patients' perceptions of HRQOL. These findings encourage further research on negative emotions and HRQOL in cardiac surgery patients.

ABSTRACTS

Abstracts Presentation (Oral):

12.

Community Cardiac Rehabilitation Program – Local Experience in a Regional Rehabilitation Centre

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Introduction: Comprehensive Cardiac Rehabilitation Program (CRP) has been shown to have positive health benefits in particularly cardiopulmonary fitness. In 2006, only 15.2% of HKEC in-patients discharged with coronary heart disease had participated in the exercise-based CRP. To cope with the increasing demand of CR and widen the service provision in terms of more flexible time and convenient place, a community based CRP through partnership with NGOs was set up to enhance patient's early community reintegration with positive health-related outcomes while decreasing the service demand of HA.

Purpose of the Project: To study the feasibility of a community based, high quality CRP in utilization of community resources and to evaluate the improvement of health parameters.

Methods / Program Outline:

1. *Eligible participants*
   - patients with coronary heart disease (CHD) or with multiple cardiovascular risk factors (referred from acute hospital without prior rehabilitation training and belonged to low risk group)
2. *Format*
   - An initial multidisciplinary assessment in Tung Wah Eastern Hospital (TWEH)
   - In addition to individualized home exercise program, six exercise sessions (once per week) were conducted in 2 community centers with physiotherapy guidance ± TWEH nurse or physiotherapist support as necessary
3. *Outcome Measures (initial assessment and one week after the sixth training session)*
   - maximum aerobic capacity and Heart rate parameters (measured by exercise stress testing)
   - lipid profile
   - quality of life

Results:

- From May 2007 to May 2008, 36 patients were recruited. 30 (83%) were male and the mean age was 58.1 (Range 43 to 79).
- Thirty patients had CHD and 6 had multiple cardiovascular risk factors. Twenty-one patients (58%) had percutaneous angioplasty done.
- All of them completed the program uneventfully. No exercise related complications occurred.

A. Aerobic capacity

There was significant improvement in mean aerobic capacity from 10.4 to 12.9 METS, i.e. 2.5±1.3 METS (p <0.0001) or 24% increment which was comparable to hospital based model.

B. Mean lipid profile

Improvement in mean lipid profile was noted.

Total Cholesterol (TC)	↓0.8±0.95	(p <0.001)
Total Triglyceride (TG)	↓0.35±0.76	(p =0.013)
HDL-Cholesterol	↑0.01±0.12	(p = NS)
LDL-Cholesterol	↓0.66±0.85	(p <0.001)

Around 72% of patients achieved target LDL-C <2.6 mmol/L after the program.

C. Mean resting and submaximal workload HR (Bruce Protocol)

All were significantly reduced, reflecting an improvement in cardiac reserve *(N.B. 7 were excluded due to change of betablocker dosage)*

	HR (beats/min)	
Resting	↓8.6±11.0	(p<0.0001)
stage 1	↓12.2±10.9	(p<0.0001)
stage 2	↓14.1±11.3	(p<0.0001)
stage 3	↓16.3±13.6	(p<0.0001)
stage 4	↓14.8±10.3	(p=0.03)

D. Quality of Life (measured by WHOQOL)

Improvement in scores of all domains was noted:

Physical Health	↑0.5±1.0	(p=0.009)
Psychological Health	↑0.2±1.4	(p=NS)
Social	↑0.4±1.5	(p=NS)
Environmental	↑0.4±1.3	(p=NS)

E. Admission

No mortality and post 6 month CVS related re-admissions and events was noted for these patients.

Conclusion: Community CRP is a feasible model in enhancing service link between hospital and community centres. It was shown to improve health outcomes (comparable to hospital – based model).

ABSTRACTS

Abstracts Presentation (Oral):

13.

Affective Disorders as Risk Factors for Delirium after Cardiac Surgery

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[1]Cardiac Surgery Research Unit, Flinders Medical Centre; [2]School of Psychology, The University of Adelaide, South Australia

Objectives: Delirium is a known adverse outcome of cardiac surgery and research has supported an association with depressive symptoms. The objective of this study was to determine the association between incident delirium after cardiac surgery and preoperative affective disorders, and also Type-D personality.
Methods: Ninety nine cardiac surgery patients were assessed preoperatively for mood and anxiety disorders using structured diagnostic interview, and patients completed a Type-D scale. Patients were re-examined for postoperative delirium and results were analysed using Fisher's exact tests.
Results: Postoperative assessment showed that 22 (22.2%) patients met criteria for delirium. The prevalence of affective disorders at baseline was 12.1% for current major depression, 8.1% for panic disorder and 4% for generalized anxiety disorder (GAD). Delirium was associated with major depression (5.2% vs. 36.4%), $p<0.001$, panic disorder (2.6% vs. 27.3%), $p<0.001$, GAD (1.3% vs. 18.2%), $p<0.01$ and current alcohol abuse (0% vs. 9.1%), $p=0.05$. Social phobia was not associated with incident delirium (1.3% vs. 9.1%), $p=0.12$. Delirium was associated with high negative affect without social inhibition (23.4% vs. 45.5%), $p=0.06$, but not in combination with social inhibition (i.e. Type-D personality) where a trend was observed (11.7% vs. 27.3%), $p=0.10$.
Conclusions: This preliminary study highlights an association between affective disorders and incident delirium following cardiac surgery, while support was also shown for negative affect in isolation without social inhibition. This suggests that current distress rather than distressed personality style is associated with incident delirium. Future research should consider the utility of differential diagnosis for postoperative delirium among cardiac surgery candidates who have a high prevalence of affective disorders and explore rehabilitation options for this precarious population.

14.

Hypertension in Pregnacy is an Independent Risk Factor for Hypertension Later in Life

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Objective: The association between hypertension in pregnancy and hypertension later in life increasingly is being reported. We aimed to assess the role of hypertension in pregnancy as an independent risk factor for future hypertension.
Materials and Methods: Women who participated in the Family Blood Pressure Program study (n=4782) were categorized into women with no history of pregnancy lasting more than 6 months (n=718), women with no history of hypertension in pregnancy (n=3421), and women with a history of hypertension in at least one pregnancy (n=643). We used Kaplan-Meier and Cox proportional hazard models to estimate and contrast the risks of subsequent diagnoses of hypertension among the groups.
Results: Women with a history of hypertension in pregnancy, compared to those without such a history, were at significantly increased risks for the subsequent diagnoses of hypertension ($p<0.001$). The increased risk for subsequent hypertension remained significant after controlling for race, family history of CVD, smoking, dyslipidemia and diabetes mellitus, with an adjusted hazard ratio (HR) of 1.88, $p<0.001$.
Conclusions: Our results suggest that hypertension in pregnancy may be an independent risk factor for hypertension later in life.

ABSTRACTS

Abstracts Presentation (Oral):

15.

Clinical Outcomes of Cardiac Rehabilitation Program on Functional Capacity, Biochemistry and Physiolofical Changes

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Objective: To evaluate the effectiveness of cardiac rehabilitation program impact on functional capacity, biochemistry and physiological changes.
Design: Retrospective study, 2-tailed test.
Method: Patient who enrolled to phase 2 cardiac rehabilitation program and attended more than 2 sessions from the period of January 2006 - June 2008. Outcome variables were measured pre and post program including three categories; functional capacity was measured by distance covered in a 6 minute-walk distance (6MWD) and metabolic equivalent (METs) comparison. Biochemistry was measured by fasting plasma glucose (FBS) hemoglobin A1c (HbA1c), lipid profile including LDL, HDL, triglyceride and the last categories were physiological changes that measured by resting heart rate and blood pressure adaptation and body composition.
Result: 420 patients were male 77.1%, female 22.9%, mean aged 59.5 years old. Patients were attended cardiac rehabilitation that was implemented supervised exercise program, counseling of risk factor modification and smoking cessation. Mean duration of cardiac rehabilitation program was 184.6 days and frequency of attention in cardiac rehabilitation program was 1.83 sessions per week. Functional capacity outcome showed significantly improvement. Pre-post program 6MWD was 363.1±141.3 vs 414.5±132 (p=0.001), METs related physical activity was 2.27±0.09 vs 3.34±1.7 (p=0.000). Biochemistry showed significantly reduction in FBS 125±49.3 vs 111.86±30.4 (p=0.003) LDL 112.25±40.4 vs 94.8±29.99 (p=0.000) and triglyceride 135.14±68.3 vs120.31± 49.69 (p=0.048), significant higher in HDL 45.49±14.48 vs 47.65±11.75 (p=0.043) but no significant change in HbA1c 10.27±17.8 vs 7.14±1.14 (p=0.263). Physiological adaptation showed significantly reduction in resting heart 81.17±55.33 vs 74.3±13.7 (p=0.002) no significantly reduction in systolic and diastolic blood pressure 126.12± 56.25 vs 121.86±15.01 (p=0.187), 75.09±9.4 vs 74.9±8.7 (p=0.72) respectively. Body composition showed significantly reduction only percentage of body fat 29.31±10.37 vs 26.4±8.4 (p=0.009). No significant changes in waist circumference , body weight and body mass index (BMI) were 36.18±3.9 vs 37.01±9.3 (p=0.429), 72.73±18.73 vs72.02±18.16 (p=0.561) and 26.25±5.9 vs 26.83±13 (p=0.831) respectively.
Conclusion: Cardiac rehabilitation program significantly improves clinical outcome at the end of rehab measure on functional capacity, fasting blood sugar, lipid profile, resting heart rate and percentage of body fat.