USM

UNIVERSITI SAINS MALAYSIA

PUSAT PENGAJIAN SAINS KESIHATAN

# LAPORAN AKHIR

## GERAN PENYELIDIKAN JANGKA PENDEK

## 2011

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# ISI KANDUNGAN

**LAPORAN AKHIR PROJEK PENYELIDIKAN JANGKA *PENDEK***
***FINAL REPORT OF SHORT TERM RESEARCH PROJECT***
Sila kemukakan laporan akhir ini melalui Jawatankuasa Penyelidikan di Pusat Pengajian dan Dekan/Pengarah/Ketua Jabatan kepada Pejabat Pelantar Penyelidikan

1. **Nama Ketua Penyelidik: Zakira Bt Mamat @ Mohamed**
*Name of Research Leader*

☐ Profesor Madya/ *Assoc. Prof.* ☐ Dr./ *Dr.* ☐ Encik/Puan/Cik *Mr/Mrs/Ms*

2. **Pusat Tanggungjawab (PTJ): Pusat Pengajian Sains Kesihatan**
*School/Department*

3. **Nama Penyelidik Bersama: Prof. Madya Dr Ziyadi B. Ghazali**
*Name of Co-Researcher*

4. **Tajuk Projek:** *Title of Project* Intensif Rehabilitasi Kardiak(IREKAF) : Penilaian dan Impak terhadap kualiti hidup pesakit selepas pembedahan jantung di Kelantan.

| 5. **Ringkasan Penilaian/*Summary of Assessment*:** | **Tidak Memuaskan** *Inadequate* 1 2 | **Boleh Diterima** *Acceptable* 3 | **Sangat Baik** *Very Good* 4 5 |
|---|---|---|---|
| i) **Pencapaian objektif projek:** *Achievement of project objectives* | ☐ ☐ | ☐ | ☐ ☐ |
| ii) **Kualiti output:** *Quality of outputs* | ☐ ☐ | ☐ | ☐ ☐ |
| iii) **Kualiti impak:** *Quality of impacts* | ☐ ☐ | ☐ | ☐ ☐ |
| iv) **Pemindahan teknologi/potensi pengkomersialan:** *Technology transfer/commercialization potential* | ☐ ☐ | ☐ | ☐ ☐ |
| v) **Kualiti dan usahasama :** *Quality and intensity of collaboration* | ☐ ☐ | ☐ | ☐ ☐ |
| vi) **Penilaian kepentingan secara keseluruhan:** *Overall assessment of benefits* | ☐ ☐ | ☐ | ☐ ☐ |

6. **Abstrak Penyelidikan**
(Perlu disediakan di antara 100 - 200 perkataan di dalam **Bahasa Malaysia dan juga Bahasa Inggeris.** Abstrak ini akan dimuatkan dalam Laporan Tahunan Bahagian Penyelidikan & Inovasi sebagai satu cara untuk menyampaikan dapatan projek tuan/puan kepada pihak Universiti & masyarakat luar).

***Abstract of Research***
*(An abstract of between 100 and 200 words must be prepared in Bahasa Malaysia and in English).*
*This abstract will be included in the Annual Report of the Research and Innovation Section at a later date as a means of presenting the project findings of the researcher/s to the University and the community at large)*

RUJUK LAMPIRAN

7. **Sila sediakan laporan teknikal lengkap yang menerangkan keseluruhan projek ini.**
**[Sila gunakan kertas berasingan]**
*Applicant are required to prepare a Comprehensive Technical Report explaning the project.*
*(This report must be appended separately)*

RUJUK LAMPIRAN

**Senaraikan kata kunci yang mencerminkan penyelidikan anda:**
*List the key words that reflects your research:*

| Bahasa Malaysia | *Bahasa Inggeris* |
|---|---|
| Intensif Rehabilitasi Kardiak(IREKAF) | Intensive cardiac Rehabilitation(ICR) |
| Penilaian , Impak , Kualiti hidup | Evaluation, Impact, Quality Of Life |
| Pembedahan jantung | Cardiac Surgery |

8. **Output dan Faedah Projek**
*Output and Benefits of Project*

(a) * **Penerbitan Jurnal**
*Publication of Journals*
**(Sila nyatakan jenis, tajuk, pengarang/editor, tahun terbitan dan di mana telah diterbit/diserahkan)**
*(State type, title, author/editor, publication year and where it has been published/submitted)*

1. Pembentangan seminar " 1st USM international Nursing Conference 2011"14-15thJun 2011
2. Diserahkan dalam Journal "Health And Quality Of Life Outcomes" Impact Factor : 2.46 manuscript ID :7946849875021096.(Tarikh serahan: 2 January2011).

Zakira Mamat, Kamaruzaman Jusoff, Mohamad Ziyadi Ghazali, Mohamed Rusli Abdullah and Khatijah Lim Abdullah (2011).Intensive Cardiac rehabilitation and Quality of life in Kelantan, Malaysia.*Health And Quality of Life Outcomes.*

**6. Abstrak Bahasa Malaysia.**

Intensif Rehabilitasi Kardiak(IREKAF) : Penilaian dan Impak terhadap kualiti hidup pesakit selepas pembedahan jantung di Kelantan


Abstrak

Program Intensif Rehabilitasi Kardiak adalah suatu program terbaik bagi semua pesakit jantung yang menjalani pembedahan jantung. Ianya terbukti meningkatkan kualiti hidup pesakit selepas pembedahan jantung. Penyelidikan kuasi-eksperimental telah dilakukan untuk menilai kualiti hidup pesakit selepas pembedahan jantung setelah mengikuti program intensif Rehabilitasi kardiak (IREKAF). Dalam kajian rintis seramai 30 pesakit yang telah menjalani pembedahan jantung di HUSM telah dipilih secara *purposive sampling*. Pesakit dibahagikan menjadi dua kumpulan. Kumpulan A (kumpulan kawalan) mengikuti program rehabilitasi kardiak yang rutin iaitu modul A (HUSM) dan kumpulan B (kumpulan kajian) yang diikuti program modul B (IREKAF). Pengukuran kualiti hidup dikendalikan secara jawab sendiri, dengan menggunakan SF 36. Instrumen SF 36 digunakan sebanyak empat kali (*pre-test*, Fasa 1, Fasa 2 dan Fasa 3). Langkah ulang ANOVA digunakan untuk menganalisis nilai yang berbeza daripada kualiti hidup antara kumpulan A dan B, manakala pengaruh masa kualiti hidup diantara fasa juga dikenalpasti perbezaannya. Keputusan kajian menunjukkan skor kualiti hidup SF 36 untuk kumpulan B mempunyai skor yang lebih tinggi bermakna p <0.05 berbanding dengan kumpulan A. Pengaruh masa untuk SF 36 menunjukkan bahawa hanya ada satu pasangan (t1 dan t0) yang tidak ada perbezaan yang signifikan dengan p-value> alpha 0.05. Perbezaan untuk semua pasangan lain yang signifikan dengan alpha <p-value 0.05. Hasil kajian menunjukkan skor lebih tinggi untuk kumpulan B berbanding dengan kumpulan A untuk SF 36. Kesimpulannya didapati program rehabilitasi kardiak modul B (IREKAF) adalah modul yang labih baik diintervensikan dikawasan klinikal untuk meningkatkan kualiti hidup pesakit selepas pembedahan jantung. Kajian ini menyarankan masa yang paling berkesan untuk menilai kualiti hidup adalah selepas 12 minggu pesakit mengikuti program pemulihan jantung.



**Kata kunci :,Intensif Rehabilitasi Kardiak, , Penilaian ,Impak, Kualiti hidup, Pembedahan jantung.**

**6. Abstrak ( Bahasa Inggeris)**

**Intensive Cardiac Rehabilitation(ICR) : Evaluation and Impact on quality of life after cardiac surgery in Kelantan**


*Abstract*

Intensive cardiac rehabilitation is the best practice for all cardiac patient and it's shown can increased the quality of life after patients ongoing cardiac surgery. This quasi-experimental study was done to evaluate the quality of life of cardiac surgery patient after following the intensive cardiac rehabilitation. In this pilot study a total of 30 patients with cardiac problem was admitted to Coronary Intensive Care Unit (CICU), HUSM for cardiac surgery were selected using purposive sampling. Patient were divided into two group. Group A (Control group) were followed Intensive cardiac rehabilitation (ICR) module A(HUSM) and group B (Study group) were followed ICR module B (IREKAF). Quality of life (QOL) measurements by self-administered, using the generic SF 36 . Instrument SF 36 were used for four times (pre-test , phase 1, phase 2 and phase 3). The repeated measure ANOVA were used to analyses the different score of QOL among group A and B and the time effect of QOL when patient following ICR. The result shown the score QOL of SF 36 for group B have higher means score $p<0.05$ compared to group A. The time effect for SF 36 shows that there is only one pair (t1 and t0) for which there was no significant difference with p-value >alpha 0.05. The differences for all the other pairs are significant with p-value < alpha 0.05. Finding shows the score is higher for group B compare to group A for SF 36. In generally based on the result we concluded that , the ICR module B is better module to improve the QOL patients after cardiac surgery. This study suggested the effective time to evaluate quality of life after 12 weeks of cardiac rehabilitation.



**Key words : Evaluation ,Intensive Cardiac Rehabilitation, Impact, Quality Of life, Cardiac Surgery**

**Komen Jawatankuasa Penyelidikan Pusat Pengajian/Pusat**
*Comments by the Research Committees of Schools/Centres*

**TANDATANGAN PENGERUSI**
**JAWATANKUASA PENYELIDIKAN**
**PUSAT PENGAJIAN/PUSAT**
*Signature of Chairman*
*[Research Committee of School/Centre]*

**Tarikh**
*Date*

UNIVERSITI SAINS MALAYSIA

# LAPORAN KEWANGAN

## GERAN PENYELIDIKAN JANGKA PENDEK

## (304/PPSK/6139039)

**UNIVERSITI SAINS MALAYSIA**
**JABATAN BENDAHARI**
**KUMPULAN WANG PENYELIDIKAN GERAN USM(304)**
**PENYATA PERBELANJAAN SEHINGGA 31 MAC 2011**

| | | | | | |
|---|---|---|---|---|---|
| Jumlah Geran: | RM | 19,973.00 | Ketua Projek: | Zakira Mamat, Pn | |
| Peruntukan 2009 (Tahun 1) | RM | 14,323.00 | Tajuk Projek: | Intensif Rehabilitasi Kardiak IIRHKAF) : Penilaian & Impak terhadap Kualiti Hidup Pesakit Selepas Pembedahan Jantung di Kelantan | |
| Peruntukan 2010 (Tahun 2) | RM | 5,650.00 | | | |
| | | | Tempoh: | 01 Apr 2009 - 31 Mac 2011 | |
| | | | No.Akaun: | 304/PPSK/6139039 | |

| Kwg | Akaun | PTJ | Projek | Donor | Peruntukan Projek | Perbelanjaan T'kumpul Hingga Tahun Lalu | Peruntukan Semasa | Tanggungan Semasa | Bayaran Tahun Semasa | Belanja Tahun Semasa | Baki Projek |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 304 | 11000 | PPSK | 6139039 | | 8,400.00 | 7,846.85 | 553.15 | - | - | - | 553.15 |
| 304 | 14000 | PPSK | 6139039 | | - | - | - | - | - | - | - |
| 304 | 15000 | PPSK | 6139039 | | - | - | - | - | - | - | - |
| 304 | 21000 | PPSK | 6139039 | | 5,000.00 | 3,597.00 | 1,403.00 | - | 273.00 | 273.00 | 1,130.00 |
| 304 | 22000 | PPSK | 6139039 | | - | - | - | - | - | - | - |
| 304 | 23000 | PPSK | 6139039 | | 300.00 | - | 300.00 | - | - | - | 300.00 |
| 304 | 24000 | PPSK | 6139039 | | - | - | - | - | - | - | - |
| 304 | 25000 | PPSK | 6139039 | | - | - | - | - | - | - | - |
| 304 | 26000 | PPSK | 6139039 | | - | - | - | - | - | - | - |
| 304 | 27000 | PPSK | 6139039 | | 4,873.00 | 6,134.26 | (1,261.26) | - | 43.30 | 43.30 | (1,304.56) |
| 304 | 28000 | PPSK | 6139039 | | - | - | - | - | - | - | - |
| 304 | 29000 | PPSK | 6139039 | | 1,400.00 | 2,018.29 | (618.29) | - | 59.70 | 59.70 | (677.99) |
| 304 | 32000 | PPSK | 6139039 | | - | - | - | - | - | - | - |
| 304 | 35000 | PPSK | 6139039 | | - | - | - | - | - | - | - |
| 304 | A11559 | PPSK | 6139039 | | - | - | - | - | - | - | - |
| 304 | A11102 | PPSK | 6139039 | | - | - | - | - | - | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 19,973.00 | 19,596.40 | 376.60 | - | 376.00 | 376.00 | 0.60 |

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# MANUSKRIP

## PEMBENTANGAN KAJIAN

## "1ST USM INTERNATIONAL NURSING CONFERENCE"

**PADA :**

14-15TH JUNE 2011

**TEMPAT:**

RENAISSANCE HOTEL

KOTA BHARU

# INTENSIF REHABILITASI KARDIAK (IREKAF) : PENILAIAN DAN IMPAK TERHADAP KUALITI HIDUP PESAKIT SELEPAS PEMBEDAHAN JANTUNG DI KELANTAN

**PENYELIDIK UTAMA :**

ZAKIRA BT MAMAT @ Mohamed

**PENYELIDIK BERSAMA :**

PROF. MADYA DR MOHAMAD ZIYADI B. GHAZALI

PROFESOR DR MOHAMED RUSLI B. ABDULLAH

PROF. MADYA DR KHATIJAH LIM ABDULLAH

**Kajian ini dijalankan di bawah Geran Penyelidikan Jangka Pendek (IRPA)**

UNIVERSITI SAINS MALAYSIA

2009-2011

## PENGHARGAAN

Alhamdullilah syukur ke hadrat Allah S.W.T kerana dengan izin dan rahmatNya telah memberi kekuatan kepada saya menyiapkan tesis kajian rintis ini. Ucapan setinggi-tinggi penghargaan dan jutaan terima kasih kepada penyelia utama saya Prof .Madya Dr Mohamad Ziyadi Ghazali di atas bimbingan dan tunjukajar sehinggalah saya dapat menyiapkan tesis ini. Di kesempatan ini juga saya mengucapkan ribuan terima kasih kepada penyelia bersama iaitu Profesor Dr Mohamed Rusli Abdullah dan Prof. Madya Dr Khatijah Lim Abdullah diatas segala bantuan dan bimbingan yang bernilai dalam usaha menyiapkan tesis ini. Akhir sekali saya ingin merakamkan ucapan ribuan terima kasih juga kepada pihak USM kerana telah memberi bantuan kewangan melalui geran penyelidikan jangka pendek no:304/PPSK/6139039,serta penghargaan yang tidak ternilai ini ditujukan juga buat semua pesakit, staf HUSM, pihak pengurusan HUSM dan semua yang terlibat secara langsung dan tidak langsung dalam member sumbangan untuk menjayakan penyelidikan ini.

Akhir sekali setinggi penghargaan buat suami,anak-anak dan kedua ibubapa saya yang telah memberi sokongan dan diberi kesihatan yang baik sepanjang penyelidikan ini sehingga memberikan kejayaan kepada saya menghasilkan penyelidikan yang terbaik.

# AN [redacted]

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**Abstract**

Intensive cardiac rehabilitation is an effective program to improve quality of life (QoL) for patients after cardiac surgery. In developing countries cardiovascular disease is still a main cause of death and QoL patients is low compare with others country. This pilot study was conducted in HUSM using quasi-experimental design to evaluate QoL of cardiac surgery patients after an intensive cardiac rehabilitation programme. A total of 30 patients with cardiac problems admitted to Coronary Intensive Care Unit (CICU) and planned for cardiac surgery was assigned into control (Group A) (n=15), and experimental (Group B)(n=15). Participants in group A used the Intensive Cardiac Rehabilitation (ICR) module A(HUSM) whereas group B used the module B(IREKAF). QOL was measured four times (pre-test, phase 1, phase 2 and phase 3) using self-administered questionnaire generic SF 36. Repeated measure ANOVA were used to analyse the difference in score of QOL among group A and B and the time effect of QOL when patient following ICR. Results showed that group B score higher than group A for SF 36 ($p<0.05$). The time effect for SF 36 showed that there was only one pair (t1 and t0) for which there were no significant difference with p-value >alpha 0.05. The differences for all the other pair were significant at $p<0.05$. Group B have higher time effect compare to group A. In conclusion, this pilot study indicated that ICR module B was better than ICR module A in improving QOL of patients after cardiac surgery. It is recommended that an evaluation of QOL should be done after 12 weeks of cardiac rehabilitation programme.

**Key words :** Evaluation ,Intensive Cardiac Rehabilitation, Impact, Quality Of life, Cardiac Surgery

## INTRODUCTION

Intensive of cardiac rehabilitation has been started since a few decades ago with the main focus is reducing suffering in the treatment after cardiac surgery. Now, in a new era of design and maintenance care system has changed from time to time in accordance with the development of science and technology. Care systems globally through the evolution of treatment has led to the formation of a new care system is more sophisticated treatments and effective through the latest research to enhance the quality of life of patients suffering from various diseases, particularly cardiovascular disease. Despite the progress of science and technology has progressed, but the rate of cardiovascular disease remains the leading cause of death in the world. Expected death rates around the world will continue to increase from 9 million in 1990 to 19 million people in 2020 (Murray & Lopez, 1996). In the United States, in the year 2002 is estimated at 17 million Americans suffering from cardiovascular diseases and a half million people have died of this disease (Bonow *et al*, 2002). In developing countries including Malaysia mortality and morbidity from cardiovascular disease has risen to alarming levels during the last two decades (Robaayah, 2004). Demographic changes and increasing population of elderly high, causing the demand for more effective health care continues to rise. . In developing countries cardiovascular disease still a main cause of death and quality of life patients is low compare with others country.

Etiology of cardiovascular disease is the result of de-generative conditions for those aged 50 years and over, while some are among those who suffer from chronic diseases such as diabetes mellitus, hypertension and renal failure. To address the health problems faced by the population, health promotion as health education and counseling that includes the rehabilitation of a professional is needed. The form of rehabilitation of cardiovascular patients is needed by the cardiac rehabilitation team. Effective cardiac rehabilitation can reduce the cost of treatment for heart patients (Garber, 2003). Intensive cardiac rehabilitation had been able to theoretically alter the behavior of someone on a more positive thoughts (Blum *et al*., 2004). Many studies shown that an intensive cardiac rehabilitation program - improve the quality of life for heart patients (Ades *et al,1992;*Asadi Lari *et al,2003 ; Barlow,2002)*. Cardiac rehabilitation program has been established in Malaysia. Most of the hospitalhave cardiac rehabilitation team especially Hospital Universiti Sains Malaysia started in 1996, Hospital Raja Perempuan Zainab II, Institut Jantung Negara, Hospital Besar Ipoh, Perak, Hospital Besar Pulau Pinang and Hospital Besar Kuala Trenggganu but no research done on the quality of life of patients after cardiac rehabilitation. Intensive cardiac rehabilitation can help patients reduce their body weight (Booth *et al*, 2008).

**Objective:**

This study aims to determine the effectiveness of an intensive cardiac rehabilitation on QoL of patients after cardiac surgery in Kelantan and to assess the QoL of patients who followed cardiac rehabilitation module A & module B after 1week, 4 week and 12 weeks. The intend from this study is that the risk factors of heart disease that affects QoL of patients after cardiac surgery can be identify to prepare patient to make modification of their life style after the operation of the cardiac.

Comment [P2]: Not clear . Suggestion is reword your sentence

## 1. METHODS & MATERIALS

The study design is a quasi-experimental study conducted at Hospital Universiti Sains Malaysia (HUSM), Kubang Kerian Health Campus with focused on patient from the Crystal Ward 1, Ward 2 Crystals, and Cardiac Surgery Clinic

1.2 Data was taken at four different phase of the pretest, intra tests (1week and 4week) and post-tests. Pre-test conducted before the patient received a cardiac rehabilitation program, the test is after intra 1week (Phase 1) and 4weeks (Phase 2), while the post is a test after 12 weeks (Phase 3) patients following cardiac rehabilitation programs conducted in the hospital the intensive and regular . This study used qualitative and quantitative data. Data will be collected through questionnaires via self-administered.

Comment [P3]: Not clear --Reword your statement e.g. For the qualitative aspect, the data was extracted based on the respondent's information/ideas written on a piece of paper

1.3 The population of the cardiac surgery is 100 per year. The calculation of the sample size used the alfa error ($\alpha$) = 0.05 , power of study ($\beta$) = 0.8, standard deviation (SD) 11.5 and percision ($\Delta$) 4 . Using the Power and Sample Size Calculation (PS) software the sample in this study is 79 (drop out 15 %) .That means total of the respondent for group A is 40 and group B is 39. Prior to pilot testing, the instrument SF 36 was translated from English to the Malay language. Following, to measure test validity and reliability, 30 patients with known heart patients were asked to complete the SF36 survey questionnaire. To increase the robustness of this study, internal consistency of the method was applied to assess the reliability of the instrument.

Comment [P4]: Spell out PS

## 2. RESULTS & DISCUSSION

Table 1 shows demographic data among 30 cardiac surgery patient at HUSM. The Mean age of the respondent are 54.6 and standard deviation 11.46.

**Table 1 : Demographic Data**

| Variable (n=30) | | Frequency | Percentage |
|---|---|---|---|
| Gender | Male | 17 | 56.7 |
| | Female | 13 | 43.3 |
| Race | Malay | 30 | 100 |
| Marital Status | Married | 22 | 71.0 |
| | Unmarried | 3 | 10.0 |
| | Widow | 5 | 16.7 |
| Level of Education | Nil | 12 | 40.0 |
| | Primary School | 6 | 20.0 |
| | Primary Education Certificate | 5 | 16.7 |
| | Malaysian Certificate of Education (MCE) | 7 | 23.3 |
| Category of Jobs | Own work | 2 | 6.7 |
| | Temporary work | 5 | 16.7 |
| | Support groups | 9 | 30.0 |
| | Management team | 3 | 10.0 |
| | retired | 11 | 36.7 |
| Household income | < RM 500.00 | 2 | 6.7 |
| | RM500.00- RM1000.00 | 16 | 53.3 |
| | RM1000.00- RM2000.00 | 9 | 30.0 |
| | RM2000.00-RM3000.00 | 3 | 10.0 |

### Risk factor of Heart Disease

Table 2 shows the risk factors of the heart disease among patients cardiac surgery at HUSM involved in this study. Result shows 56.7% patient cardiac surgery smoker and 43.3% non-smoker, 60.0% have high blood pressure , 40.0% non of high blood pressure, 56.7% of patient have high cholesterol level, 40.0% have diabetes mellitus and 60.0% non of diabetes mellitus, 61.3% have family history of heart disease, 63.3% of cardiac surgery patients maintain doing exercise and 36.7% are not doing exercise, 60.0% of patient are not in ideal body weight and 40% of patients have ideal body weight. 46.7% patient having stressed and 60.0% understand the healthy diet. In this study 53.3% of the patients do not understand about healthy life style.

**Table 2 : Risk Factor Of Heart Disease**

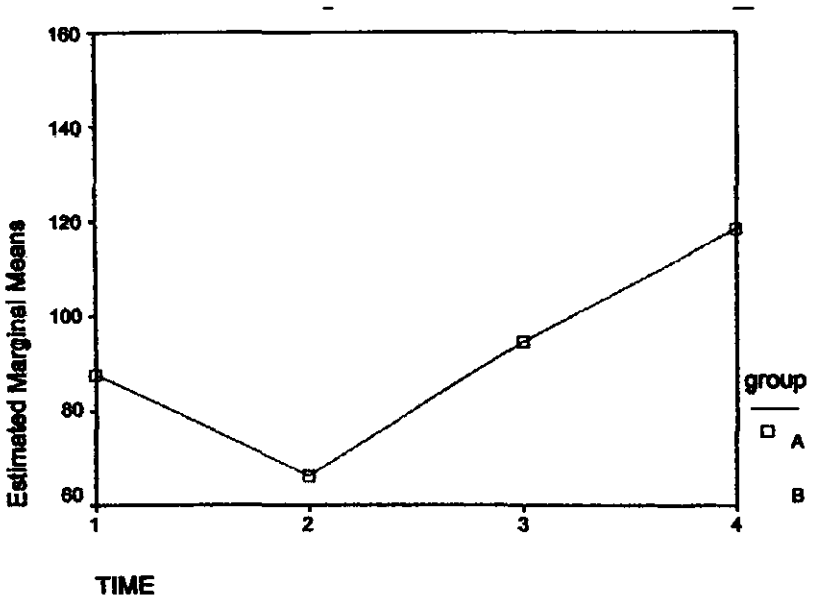
| Variable (n=30) | Frequency | Percentage |
|---|---|---|
| Smoker | | |
| Yes | 17 | 56.7 |
| No | 13 | 43.3 |
| High blood pressure | | |
| Yes | 18 | 60.0 |
| No | 12 | 40.0 |
| High cholesterol level | | |
| Yes | 17 | 56.7 |
| No | 13 | 43.3 |
| Diabetes Mellitus | | |
| Yes | 12 | 40.0 |
| No | 18 | 60.0 |
| Family history of heart disease | | |
| Yes | 19 | 63.3 |
| No | 11 | 36.7 |
| Exercise | | |
| Yes | 19 | 63.3 |
| No | 11 | 36.7 |
| Ideal body weight | | |
| Yes | 12 | 40.0 |
| No | 18 | 60.0 |
| stress | | |
| Yes | 14 | 46.7 |
| No | 16 | 53.3 |
| Healthy diet | | |
| Yes | 18 | 60.0 |
| No | 12 | 40.0 |
| Healthy life style | | |
| Yes | 14 | 46.7 |
| No | 16 | 53.3 |

**Analysis of the SF 36 by the group and the time involved in intensive cardiac rehabilitation**

In this study, two group of cardiac surgery patients were involved in intensive cardiac rehabilitation module A and module B. Result shows two lines are not parallel and the interaction is significance. This study conclude that time effect are different for group A and B in phase 1(day seven), 2(day 35) and 3(day 85) . Group B is better in quality of life compare with group A.

Figure 1

Comment [PS]: Suggestion – change font style to Times New Roman with font size 10




## 3. CONCLUSION

Intensive cardiac rehabilitation can help patients after cardiac surgery improved in quality of life. The study finding suggests that all patients have high quality of life after involved in 85 days of intensive cardiac rehabilitation (IREKAF) compare with standard practice of cardiac rehabilitation in HUSM with time sphericity assumed with p-value<alpha 0.05. Therefore, the study indicates that there is difference in quality of life scores in time sequence. With score changing, thethis study shows that quality of life for patients after cardiac surgery is better among patients following module B compare with patients module A. The authors recommended that module B of Intensive Cardiac Rehabilitation (IREKAF) can improve the quality of life after patients ongoing cardiac surgery. Impact of intensive cardiac rehabilitation shows that patient have more confident after operation in all aspect of physical, psychological and psychosocial.

**Reference**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# MANUSKRIP JURNAL PENYELIDIKAN

Khatijah Lim Abdullah
Health and Quality of Life Outcomes

Dear Prof Jusoff

Thank you for your recent submission to Health and Quality of Life Outcomes. I would like to update you regarding your status with respect to the article processing charge that is normally due if a manuscript is accepted.

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*Abstract* -Intensive cardiac rehabilitation is the best practice for all cardiac patient and it's shown can increased the quality of life after patients ongoing cardiac surgery. This quasi-experimental study was done to evaluate the quality of life of cardiac surgery patient after following the intensive cardiac rehabilitation. In this pilot study a total of 30 patients with cardiac problem was admitted to Coronary Intensive Care Unit (CICU), HUSM for cardiac surgery were selected using purposive sampling. Patient were divided into two group. Group A (Control group) were followed Intensive cardiac rehabilitation (ICR) module A(HUSM) and group B (Study group) were followed ICR module B (IREKAF). Quality of life (QOL) measurements by self-administered, using the generic SF 36 . Instrument SF 36 were used for four times (pre-test , phase 1, phase 2 and phase 3). The repeated measure ANOVA were used to analyses the different score of QOL among group A and B and the time effect of QOL when patient following ICR. The result shown the score QOL of SF 36 for group B have higher means score $p<0.05$ compared to group A. The time effect for SF 36 shows that there is only one pair (t1 and t0) for which there was no significant difference with p-value >alpha 0.05. The differences for all the other pairs are significant with p-value < alpha 0.05. Finding shows the score is higher for group B compare to group A for SF 36 In generally based on the result we concluded that , the ICR module B is better module to improve the QOL patients after cardiac surgery. This study suggested the effective time to evaluate quality of life after 12 weeks of cardiac rehabilitation.

**Key words : Evaluation ,Intensive Cardiac Rehabilitation, , Impact, Quality Of life, Cardiac Surgery**

is needed by the cardiac rehabilitation team. Effective cardiac rehabilitation can reduce the cost of treatment for heart patients (Garber, 2003). Intensive cardiac rehabilitation have been able to theoretically alter the behavior of someone on a more positive thoughts (Blum *et al*,2004). Many studies shown that an intensive cardiac rehabilitation program - improve the quality of life for heart patients (Ades *et al,1992;*Asadi Lari *et al,2003 ; Barlow,2002)*. Cardiac rehabilitation program has been established in Malaysia. Most of the hospital have cardiac rehabilitation team especially Hospital Universiti Sains Malaysia started in 1996, Hospital Raja Perempuan Zainab II, Institut Jantung Negara, Hospital Besar Ipoh, Perak, Hospital Besar Pulau Pinang and Hospital Besar Kuala Trengganu but no research done on the quality of life of patients after cardiac rehabilitation. Intensive cardiac rehabilitation can help patients reduce their body weight (Booth *et al,* 2008). The general objective of this study is to determine the effectiveness of an intensive cardiac rehabilitation on quality of life of patients after cardiac surgery in Kelantan. The specific objective is also to assess the quality of life of patients who following cardiac rehabilitation module A & module B after 1week, 4week and 12 weeks. In this study the risk factors of heart disease that affects quality of life of patients after cardiac surgery need to identify for preparing patient to make modification of their life style after cardiac surgery.

## 2. METHODS & MATERIALS

### 2.1 Location of Study Area

The study was conducted at Hospital Universiti Sains Malaysia (HUSM), Kubang Kerian Health Campus. The main focus of this study is the Crystal Ward 1, Ward 2 Crystals, Cardiac Surgery Clinic to operate on every Wednesday and also the placement of respondents in communities that are about 30 miles from HUSM. Cardiac Surgery Clinic is chosen for all heart patients who were discharged after undergoing heart surgery from the hospital will be given an appointment for follow up treatment.

Apart from the community around 30 miles from the hospital the patient into the study area because the appointment did not come to their house will be follow up to ensure that data can be completed.

### 2.2 Research Design

This study is a quasi-experimental studies with data taken at four different times of the pretest, intra tests (1week and 4week) and post-tests. Pre-test conducted before the patient received a cardiac rehabilitation program, the test is after intra 1week (Phase 1) and 4weeks (Phase 2), while the post is a test after 12 weeks (Phase 3) patients following cardiac rehabilitation programs conducted in the hospital the intensive and regular . This study used qualitative and quantitative data. Data will be collected through questionnaires answered his own question paper pencil.

## 2.3 Population and Sample Size Calculation

The population of the cardiac surgery is 100 per year. The calculation of the sample size were used alfa error (α) = 0.05 , power of study (β) = 0.8, standard deviation (SD) 11.5 and percision (Δ) 4 . Using the PS software the total of the respondent in this study is 79(drop out 15 %) .That means total of the respondent for group A is 40 and group B is 39. The total respondent for pilot study is 30.

## 2.4 Research Instrument

In the quantitative survey instrument SF 36 ~~is an instrument that has been~~ adopted ~~around the world to~~ measure the quality of life for heart patients. ~~These instruments will~~ be used ~~in this study through the process~~ of translation from English ~~to Bahasa Malaysia~~. ~~After the translation process~~ to test the validity and reliability ~~will be done~~ to ensure that these instruments are relevant to the quality of cardiac patients. There are three ways to build credibility in qualitative research. The method ~~is a method of~~ pre-post test (test-retest reliability), ~~the method of~~ partial separation (split-half) and ~~the method of~~ internal consistency (internal consistency approach). In this study, internal consistency of the method used to assess the reliability of the instrument.

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## 3. RESULTS & DISCUSSION

Table 1 shows demographic data among the cardiac surgery patient at HUSM. Total of the patient involve in preliminary study is 30. Mean age of the patient ongoing cardiac surgery are 54.57 and standard deviation 11.46. In this study 56.7% are male and 43.3% female. All patients malay 100% and 73.3% married,10.0% unmarried,16.7% widow. Level of education among cardiac surgery patients are 40% non of education, 20.0% stop study at primary school, 16.7% hold Primary Education Certificate and 23.3 % have Malaysian Certificate of Education. In category of the jobs, most of the patients have retire 36.7%, own work 6.7%, temporary work 16.7%, work in support groups 30.0% and work in management team 10.0%. Household income 53.3% have income around RM 500.00-RM1000.00, 30.0% have range income RM1000.00 – RM2000.00, 10.0% have income RM 2000.00 – RM 3000.00 and 6.7% have low income less than RM 500.00 per months.

**Table 1 : Demographic Data**

| Variable (N=30) | | Frequency | Percentage |
|---|---|---|---|
| Gender | Male | 17 | 56.7 |
| | Female | 13 | 43.3 |
| Race | Malay | 30 | 100 |
| Marital Status | Married | 22 | 71.0 |
| | Unmarried | 3 | 10.0 |
| | Widow | 5 | 16.7 |
| Level of Education | Nil | 12 | 40.0 |
| | Primary School | 6 | 20.0 |
| | Primary Education Certificate | 5 | 16.7 |
| | Malaysian Certificate of Education (MCE) | 7 | 23.3 |

| | | | |
|---|---|---|---|
| Category of Jobs | Own work | 2 | 6.7 |
| | Temporary work | 5 | 16.7 |
| | Support groups | 9 | 30.0 |
| | Management team | 3 | 10.0 |
| | retired | 11 | 36.7 |
| Household income | < RM 500.00 | 2 | 6.7 |
| | RM500.00- RM1000.00 | 16 | 53.3 |
| | RM1000.00- RM2000.00 | 9 | 30.0 |
| | RM2000.00-RM3000.00 | 3 | 10.0 |

**Risk factor of Heart Disease**

Table 2 shows the risk factors of the heart disease among patients cardiac surgery at HUSM involved in this study. Result shows 56.7% patient cardiac surgery smoker and 43.3% non-smoker, 60.0% have high blood pressure , 40.0% non of high blood pressure, 56.7% of patient have high cholesterol level, 40.0% have diabetes mellitus and 60.0% non of diabetes mellitus, 61.3% have family history of heart disease, 63.3% of cardiac surgery patients maintain doing exercise and 36.7% are not doing exercise, 60.0% of patient are not in ideal body weight and 40% of patients have ideal body weight. 46.7% patient having stress and 60.0% understand the healthy diet. In this study 53.3% of the patients are not understand about healthy life style

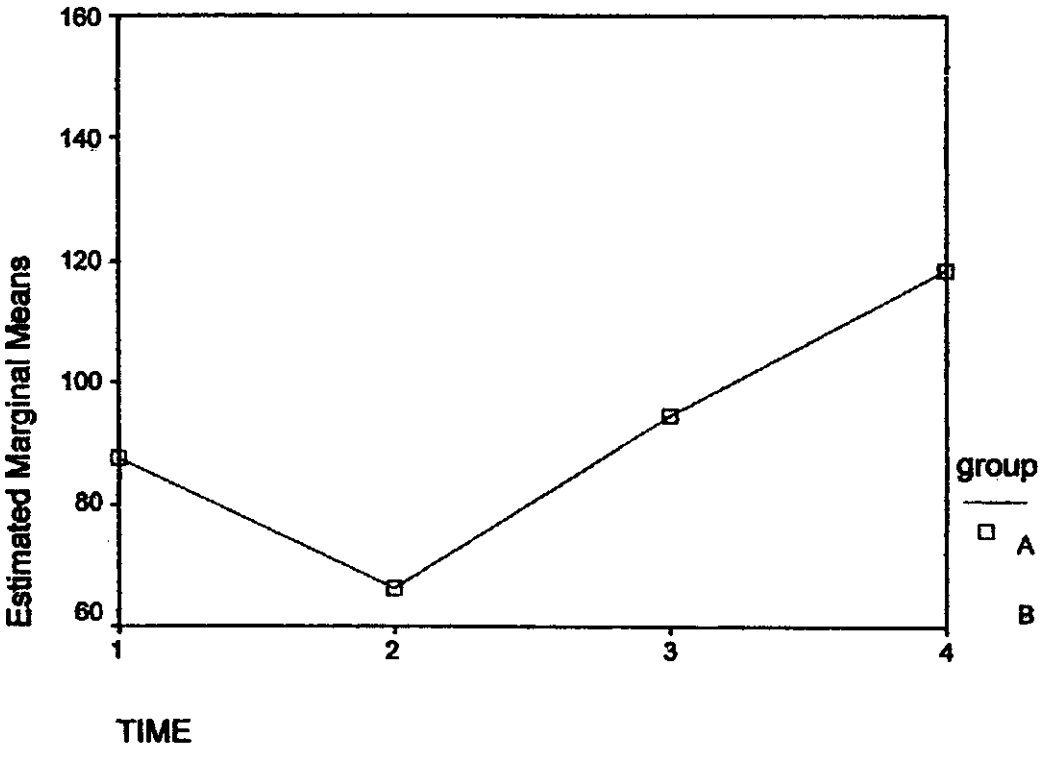
**Table 2 : Risk Factor Of Heart Disease**

| Variable (n=30) | Frequency | Percentage |
|---|---|---|
| Smoker | | |
| Yes | 17 | 56.7 |
| No | 13 | 43.3 |
| High blood pressure | | |
| Yes | 18 | 60.0 |
| No | 12 | 40.0 |
| High cholesterol level | | |
| Yes | 17 | 56.7 |
| No | 13 | 43.3 |
| Diabetes Mellitus | | |
| Yes | 12 | 40.0 |
| No | 18 | 60.0 |
| Family history of heart disease | 19 | 63.3 |
| Yes | 11 | 36.7 |
| No | | |
| Exercise | | |
| Yes | 19 | 63.3 |
| No | 11 | 36.7 |
| Ideal body weight | | |
| Yes | 12 | 40.0 |
| No | 18 | 60.0 |
| stress | | |
| Yes | 14 | 46.7 |
| No | 16 | 53.3 |
| Healthy diet | | |
| Yes | 18 | 60.0 |
| No | 12 | 40.0 |
| Healthy life style | | |
| Yes | 14 | 46.7 |
| No | 16 | 53.3 |

**Analysis of the SF 36 by the group and the time involved in intensive cardiac rehabilitation**

In the figure 1 shows two group of cardiac surgery patients involved in intensive cardiac rehabilitation module A and module B. Result shows two lines are not parallel and the interaction is significance. We can conclude that time effect are different for group A and B in phase 1(day seven), 2(day 35) and 3(day 85) . Group B is better in quality of life compare with group A.

**Figure 1**



## 4. CONCLUSION

Intensive cardiac rehabilitation can help patients after cardiac surgery improved in quality of life. We conelude that all patients have high quality of life after involved in 85 days of intensive cardiac rehabilitation(IREKAF) compare with standard practice of cardiac rehabilitation in HUSM. Time sphericity assumed with p-value<alpha 0.05. Therefore, we reject the hypothesis null. We can conclude that there is difference in quality of life scores in time sequence. Score is changing overall. The finding of this study shows that quality of life for patients after cardiac surgery is better among patients following module B compare with patients module A. So the author recommended that module B of Intensive Cardiac Rehabilitation (IREKAF) can improve the quality of life after patients ongoing cardiac surgery. Impact of intensive cardiac rehabilitation shows that patient have more confident after operation in all aspect of physical, psychological and psychosocial.

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UNIVERSITI SAINS MALAYSIA

# TESIS

# KAJIAN RINTIS


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TAJUK :

# INTENSIF REHABILITASI KARDIAK (IREKAF) : PENILAIAN DAN IMPAK TERHADAP KUALITI HIDUP PESAKIT SELEPAS PEMBEDAHAN JANTUNG DI KELANTAN

ZAKIRA BT MAMAT @ MOHAMED

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***(PILOT STUDY)***


Oleh

**Penyelidik Utama**

ZAKIRA BT MAMAT@ MOHAMED

**Penyelidik Bersama**

1. PROF.MADYA DR MOHAMAD ZIYADI B.GHAZALI
2. PROFESOR DR MOHAMED RUSLI B.ABDULLAH
3. PROF.MADYA DR KHATIJAH LIM ABDULLAH



Laporan akhir projek penyelidikan diserahkan untuk memenuhi keperluan bagi

Geran Jangka Pendek

**(No. Geran : 304/PPSK/6139039)**

**Tempoh Masa : 2 Tahun**

Tarikh Mula : 1 April 2009

Tarikh Tamat : 31 Mac 2011

## PENGHARGAAN

Alhamdulillah syukur kehadrat Allah S.W.T kerana dengan izin dan rahmat Nya telah memberi kekuatan dan keupayaan kepada saya untuk menyiapkan tesis kajian rintis ini. Disini saya mengambil kesempatan untuk mengucapkan setinggi–tinggi penghargaan dan ucapan jutaan terima kasih kepada penyelia utama saya iaitu Profesor Madya Dr. Mohamad Ziyadi B.Ghazali dan penyelia bersama saya Profesor Dr. Mohamed Rusli B.Abdullah dan Profesor Madya Dr Khatijah Lim Abdullah di atas bimbingan dan tunjuk ajar yang diberikan sehinggalah saya dapat menyiapkan tesis kajian rintis ini.

Di sini juga, saya mengambil kesempatan untuk mengucapkan ribuan terima kasih kepada pihak Universiti Sains Malaysia kerana telah memberi cuti penyelidikan dan Institut Pengajian Siswazah dan Bahagian Penyelidikan (R&D) yang telah memberi pelbagai sumbangan, pihak Hospital Universiti Sains Malaysia yang telah memberi kebenaran kepada saya menjalankan penyelidikan ini.

Ucapan penghargaan ini juga saya tujukan kepada semua responden kerana dengan rela hati sanggup melibatkan diri dan memberikan kerjasama yang amat cemerlang dalam kajian ini. Ucapan setinggi-tinggi penghargaan juga diucapkan kepada ketiga-tiga bapa saudara dan emak saudara saya iaitu Profesor Dr.Hj. Kamarulzaman B.Jusoh, Prof. Madya Hj. Malek B.Jusof, Prof. Madya Hjh. Nik Suria Nik Mohamed serta Cik Syaiba Balqis, serta semua pensyarah-pensyarah PPSK, PPSP, Unit Bahasa, semua kakitangan Jabatan Perubatan masyarakat, Jabatan Pendidikan Perubatan, Unit Rawatan Jantung, rakan-rakan dan kepada semua pihak yang terlibat secara langsung dan tidak langsung yang turut sama membantu dan menjayakan penyelidikan ini, saya merakamkan penghargaan yang amat besar yang tiada nilai bandingannya.

Dikesempatan ini juga, saya merakamkan ucapan jutaan terima kasih yang tidak ternilai khasnya buat suami tersayang Azman @ Che Pa bin Hassan kerana telah banyak memberi dorongan dan membantu saya menyiapkan tesis kajian pilot ini. Ucapan ini juga ditujukan kepada kedua-dua anak saya Ezatty Amanienna bt Che Pa dan Ezatty Ariefah bt Che Pa serta kedua ibubapa dan ibu mertua saya. Saya bersyukur kerana mereka telah dikurniakan kesihatan yang baik sepanjang pengajian dan mereka adalah sumber ilham dan kekuatan bagi saya menamatkan pengajian ini.

Akhir kata, semoga projek ini dapat memberi manfaat kepada semua dan sesungguhnya yang baik itu datang daripada Allah S.W.T dan yang buruk itu datang dari diri saya sendiri.

Wassalam.

## SUSUNAN KANDUNGAN

Intensif Rehabilitasi Kardiak(IREKAF) : Penilaian dan Impak terhadap kualiti hidup pesakit selepas pembedahan jantung di Kelantan


## Abstrak

Program Intensif Rehabilitasi Kardiak adalah suatu program terbaik bagi semua pesakit jantung yang menjalani pembedahan jantung. Ianya terbukti meningkatkan kualiti hidup pesakit selepas pembedahan jantung. Penyelidikan kuasi-eksperimental telah dilakukan untuk menilai kualiti hidup pesakit selepas pembedahan jantung setelah mengikuti program intensif Rehabilitasi kardiak (IREKAF). Dalam kajian rintis seramai 30 pesakit yang telah menjalani pembedahan jantung di HUSM telah dipilih secara *purposive sampling*. Pesakit dibahagikan menjadi dua kumpulan. Kumpulan A (kumpulan kawalan) mengikuti program rehabilitasi kardiak yang rutin iaitu modul A (HUSM) dan kumpulan B (kumpulan kajian) yang diikuti program modul B (IREKAF). Pengukuran kualiti hidup dikendalikan secara jawab sendiri, dengan menggunakan SF 36. Instrumen SF 36 digunakan sebanyak empat kali (*pre-test*, Fasa 1, Fasa 2 dan Fasa 3). Langkah diulang ANOVA digunakan untuk menganalisis nilai yang berbeza daripada kualiti hidup antara kumpulan A dan B, manakala pengaruh masa kualiti hidup diantara fasa juga dikenalpasti perbezaannya. Keputusan kajian menunjukkan skor kualiti hidup SF 36 untuk kumpulan B mempunyai skor yang lebih tinggi bermakna p <0.05 berbanding dengan kumpulan A. Pengaruh masa untuk SF 36 menunjukkan bahawa hanya ada satu pasangan (t1 dan t0) yang tidak ada perbezaan yang signifikan dengan p-value> alpha 0.05. Perbezaan untuk semua pasangan lain yang signifikan dengan alpha <p-value 0.05. Hasil kajian menunjukkan skor lebih tinggi untuk kumpulan B berbanding dengan kumpulan A untuk SF 36. Kesimpulannya didapati program rehabilitasi kardiak modul B (IREKAF) adalah modul yang labih baik diintervensikan dikawasan klinikal untuk meningkatkan kualiti hidup pesakit selepas pembedahan jantung. Kajian ini menyarankan masa yang paling berkesan untuk menilai kualiti hidup adalah selepas 12 minggu pesakit mengikuti program pemulihan jantung.



**Kata kunci :,Intensif Rehabilitasi Kardiak, , Penilaian ,Impak, Kualiti hidup, Pembedahan jantung.**

**Intensive Cardiac Rehabilitation(ICR) : Evaluation and impact on quality of life after cardiac surgery in Kelantan**

*Abstract*

Intensive cardiac rehabilitation is the best practice for all cardiac patient and it's shown can increased the quality of life after patients ongoing cardiac surgery. This quasi-experimental study was done to evaluate the quality of life of cardiac surgery patient after following the intensive cardiac rehabilitation. In this pilot study a total of 30 patients with cardiac problem was admitted to Coronary Intensive Care Unit (CICU), HUSM for cardiac surgery were selected using purposive sampling. Patient were divided into two group. Group A (Control group) were followed Intensive cardiac rehabilitation (ICR) module A(HUSM) and group B (Study group) were followed ICR module B (IREKAF). Quality of life (QOL) measurements by self-administered, using the generic SF 36 . Instrument SF 36 were used for four times (pre-test , phase 1, phase 2 and phase 3). The repeated measure ANOVA were used to analyses the different score of QOL among group A and B and the time effect of QOL when patient following ICR. The result shown the score QOL of SF 36 for group B have higher means score $p<0.05$ compared to group A. The time effect for SF 36 shows that there is only one pair (t1 and t0) for which there was no significant difference with p-value >alpha 0.05. The differences for all the other pairs are significant with p-value < alpha 0.05. Finding shows the score is higher for group B compare to group A for SF 36. In generally based on the result we concluded that , the ICR module B is better module to improve the QOL patients after cardiac surgery. This study suggested the effective time to evaluate quality of life after 12 weeks of cardiac rehabilitation.

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