



UNIVERSITI PUTRA MALAYSIA

**HEALTH-RELATED QUALITY OF LIFE AMONG HYPERTENSIVE
PATIENTS ATTENDING MEDICAL AND NEPHROLOGY CLINICS OF
SERDANG HOSPITAL, SELANGOR**

KHAW WAN-FEI

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PATIENTS ATTENDING MEDICAL AND NEPHROLOGY CLINICS OF
SERDANG HOSPITAL, SELANGOR**

By

KHAW WAN-FEI

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfilment of the Requirements for the Degree of Master of Science**

October 2010

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment
of the requirement for the degree of Master of Science

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October 2010

Chairman : Syed Tajuddin Syed Hassan, PhD

Faculty : Faculty of Medicine and Health Sciences

It has been suggested that hypertension affects patients' quality of life, possibly due to hypertension itself, treatment, and psychological conditions. Complication in hypertension is a major cause of morbidity and mortality, as well as deterioration in a patient's daily life. The purpose of this study was to examine the relationship between hypertension and health-related quality of life (HRQOL) and to explore the effects of complications on people with hypertension.

This study was a cross-sectional in design that involved 388 hypertensive patients receiving treatment at the medical and nephrology outpatient clinics in Serdang Hospital, Selangor. Socio-demographic data, clinical status and lifestyle behaviours were obtained from the patients. The SF-36 questionnaire was administered by interview to the participants to measure their HRQOL. The SF-36 scores of hypertensive subjects were compared with the Malaysian norm. Independent

association of hypertension with each quality of life domain was analysed using multiple linear regression, so were the effects of complications on the HRQOL of hypertensive patients.

Respondents scored lower than general population in six SF-36 dimensions except for bodily pain and role emotional dimensions. Out of 388 respondents, 293 (75.5%) were diagnosed as having complications. In regression models, age affected physical health domain negatively (physical functioning: $\beta = -0.180$, $p < 0.01$) but affected mental domains positively (vitality: $\beta = 0.151$, $p < 0.05$; mental health: $\beta = 0.197$, $p < 0.01$). Women generally scored lower in mental health than men did ($\beta = -0.114$, $p < 0.05$). Chinese rated significantly better in the social functioning domain ($\beta = 0.116$, $p < 0.05$), but Indians had significantly lower vitality score ($\beta = -0.107$, $p < 0.01$). Educational level affected five of the domains, especially the mental constructs. Other socio-economic variables include working status, marital status and family income had no impact on HRQOL. The presence of heart disease, diabetes mellitus, stroke, nephropathy, and visual impairment were also major determinants of the HRQOL among respondents. Healthy lifestyle behaviours such as physically active and consuming five or more servings of vegetables and fruits daily were significant positive predictors of perceived HRQOL. Older age increased participants' likelihood of experiencing complications 1.2 times relative to younger participants (odds ratio = 1.24, Wald = 11.29, $p = 0.001$). Multivariate analysis of covariance, controlling for socio-demographic, clinical, and lifestyle variables, revealed that hypertensive patients with health complications scored significantly lower on physical component summary compared with hypertensive patients without

health complications ($p = 0.004$), but no differences emerged on the mental component summary. Analysis of covariance on the subscale scores revealed that, hypertensive patients who had health complications scored significantly lower on the physical functioning ($p = 0.003$), role physical ($p = 0.006$), vitality ($p = 0.008$), and general health ($p = 0.021$).

The study provides evidence for a model that links patients' status with regard to demographic, clinical, healthy behaviours and HRQOL, which may help clinicians to increase their effectiveness in planning therapeutic interventions that will ensure desirable HRQOL as well as controlling of blood pressure. Hence, subsequent interventions can reduce complications or adverse cardiovascular events.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk ijazah Master Sains

**KUALITI KESIHATAN HIDUP DI KALANGAN PESAKIT HIPERTENSI
YANG MENGHADIRI KLINIK PERUBATAN DAN KLINIK NEFROLOGI
DI HOSPITAL SERDANG, SELANGOR**

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Oktober 2010

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Kajian lalu mendapati hipertensi menjejaskan kualiti kesihatan hidup. Ini mungkin disebabkan oleh penyakit hipertensi sendiri, rawatan atau keadaan psikologi. Komplikasi hipertensi merupakan punca utama kemorbidan dan kemortalan, seterusnya, kemerosotan dalam kualiti kehidupan harian. Tujuan kajian ini adalah untuk memeriksa hubungan antara hipertensi dengan kualiti kesihatan hidup dan meneliti kesan-kesan komplikasi ke atas individu yang menghidap penyakit hipertensi.

Kajian ini adalah dalam bentuk keratan rentas yang melibatkan 388 pesakit tekanan darah tinggi yang menerima rawatan di klinik perubatan dan klinik nefrologi di Hospital Serdang, Selangor. Data demografi, status klinikal dan gaya hidup telah diperolehi dari pesakit. Soal selidik SF-36 telah diberikan secara temuduga untuk mendapatkan maklumat kualiti kesihatan hidup mereka. SF-36 skor bagi subjek

hipertensi telah dibandingkan dengan skor norma penduduk awam Malaysia. Perkaitan bebas antara hipertensi dengan setiap domain kualiti hidup dianalisis dengan menggunakan regresi linear berganda. Begitu juga analisis dilakukan bagi mengenalpasti kesan-kesan komplikasi terhadap kualiti hidup di kalangan pesakit hipertensi.

Pesakit-pesakit hipertensi mencatatkan skor lebih rendah berbanding dengan penduduk awam dalam enam dimensi bagi SF-36 kecuali kesakitan badan dan peranan emosi. Daripada 388 peserta, 293 (75.5%) orang mengalami komplikasi akibat atau berkaitan dengan darah tinggi. Dalam model-model regresi linear berganda secara pengunduran, umur didapati menjejaskan domain kesihatan fizikal secara negatif (fungsi fizikal: $\beta = -0.180$, $p < 0.01$) tetapi meningkatkan skor domain mental (kecergasan: $\beta = 0.151$, $p < 0.05$; kesihatan mental: $\beta = 0.197$, $p < 0.01$). Wanita mencatatkan kemerosotan skor dalam kesihatan mental berbanding dengan lelaki ($\beta = -0.114$, $p < 0.05$). Responden Cina menyatakan skor lebih baik dalam domain fungsi social ($\beta = 0.116$, $p < 0.05$), manakala responden India menunjukkan skor kecergasan yang lebih rendah ($\beta = -0.107$, $p < 0.01$). Tahap pendidikan mempengaruhi lima domain, terutamanya dalam komponen mental. Pembolehubah sosio-ekonomi lain termasuk status pekerjaan, taraf perkahwinan, dan pendapatan keluarga tidak mempunyai kesan ke atas skor kualiti kesihatan hidup. Kewujudan penyakit jantung, kencing manis, strok, nefropati, dan kekejangan mata merupakan penentu utama kualiti kesihatan hidup pesakit hipertensi. Perlakuan gaya hidup yang aktif secara fizikal dan memakan sayur-sayuran serta buah-buahan sebanyak lima kali atau lebih sehari merupakan peramal positif yang signifikan bagi kualiti

kesihatan hidup. Umur yang lebih tua meningkatkan kemungkinan pesakit hipertensi mengalami penyakit komplikasi sebanyak 1.2 kali berbanding dengan pesakit yang lebih muda (Nisbah odds = 1.24, Wald = 11.29, $p = 0.001$). Analisis kovarians multivariat dengan kawalan pembolehubah-pembolehubah sosio-demografi, klinikal, dan gaya hidup, mendedahkan bahawa pesakit hipertensi dengan komplikasi mencatatkan skor lebih rendah secara signifikan pada ringkasan komponen fizikal jika dibandingkan dengan pesakit hipertensi tanpa komplikasi ($p = 0.004$). Namun demikian, tiada perbezaan skor bagi ringkasan komponen mental. Analisis kovarians bagi skor-skor subskala menunjukkan bahawa pesakit hipertensi dengan komplikasi mencatatkan kemerosotan skor secara signifikan pada fungsi fizikal ($p = 0.003$), peranan fizikal ($p = 0.006$), kecergasan ($p = 0.008$), dan kesihatan umum ($p = 0.021$).

Kajian ini telah menghasilkan bukti bagi satu model yang menghubungkan status pesakit hipertensi dengan demografi, klinikal, gaya hidup dan kualiti kesihatan hidup. Ini dapat membantu doktor dalam usaha untuk meningkatkan keberkesanan perancangan intervensi terapeutik bagi menjamin kualiti kesihatan serta mengawal tekanan darah. Justeru, intervensi juga turut mengurangkan komplikasi hipertensi atau peristiwa kardiovaskular yang tidak diingini.

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I certify that an Examination Committee has met on 5 October 2010 to conduct the final examination of Khaw Wan-Fei on her thesis entitled “Health-related Quality of Life among Hypertensive Patients Attending Medical and Nephrology Clinics of Serdang Hospital, Selangor” in accordance with Universities and University College Act 1971 and the constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

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DECLARATION

I declare that the thesis is my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously, and is not concurrently, submitted for any other degree at Universiti Putra Malaysia or at any other institution.

KHAW WAN-FEI

Date: 5 October 2010

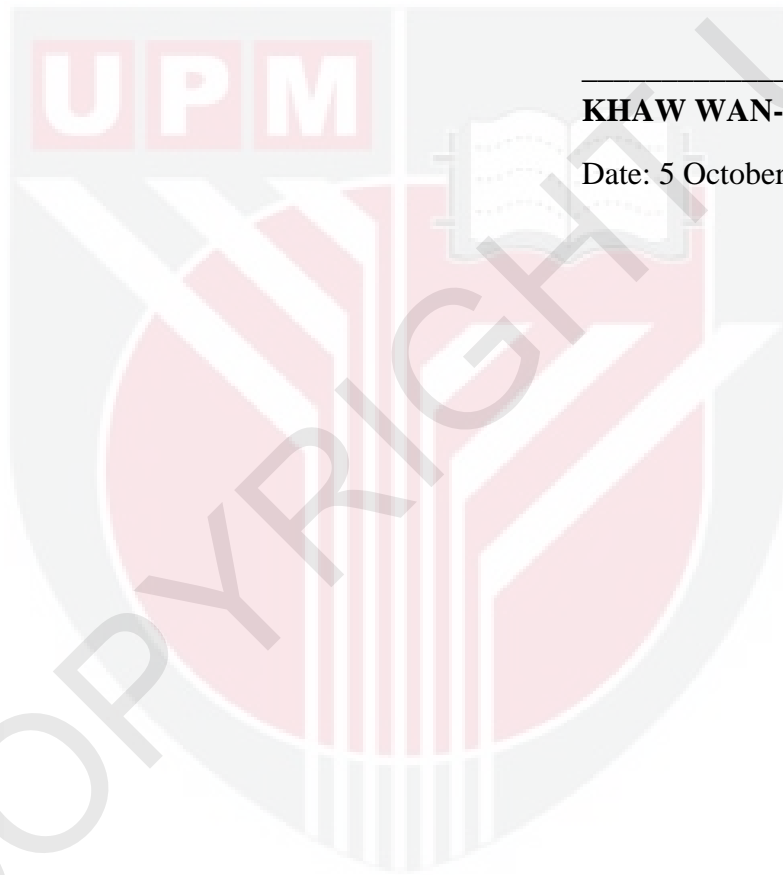


TABLE OF CONTENTS

	Page
ABSTRACT	ii
ABSTRAK	v
ACKNOWLEDGEMENTS	viii
APPROVAL	ix
DECLARATION	xi
LIST OF TABLES	xv
LIST OF FIGURES	xvii
LIST OF ABBREVIATIONS	xviii
CHAPTER	
1 INTRODUCTION	1
1.1 Introduction	1
1.2 Problem statement	3
1.3 Research questions	6
1.4 Significance of study	7
1.5 Objectives of study	9
1.6 Research hypotheses	10
1.7 Conceptual framework	11
2 LITERATURE REVIEW	14
2.1 Introduction	14
2.2 Overview of hypertension	15
2.2.1 Definition and classification of hypertension	15
2.2.2 Epidemiology	16
2.2.3 Complications of hypertension	20
2.3 Health-related quality of life	22
2.3.1 The concept of quality of life	23
2.3.2 Measurement of quality of life	25
2.4 The Short Form-36 (SF-36) instrument	27
2.4.1 Malay version of the SF-36	28
2.4.2 Psychometric properties	29
2.4.3 SF-36 Norms of Malaysian General Population	32
2.5 Health-related quality of life of hypertensive patients	33
2.6 Factors contributing to health-related quality of life among hypertensives	36
2.6.1 Age	37
2.6.2 Gender	38
2.6.3 Marital status	40
2.6.4 Income	41
2.6.5 Educational levels	42
2.6.6 Ethnicity	42
2.6.7 Comorbid conditions	44
2.6.8 Fruit and vegetable consumptions	47
2.6.9 Physical activity	48
2.7 Conclusion	50

3	METHODOLOGY	51
	3.1 Study location	51
	3.2 Study design and duration	51
	3.3 Study population	52
	3.4 Sampling population	52
	3.5 Sample size calculation	54
	3.6 Sampling method	55
	3.7 Study variables	56
	3.7.1 Dependent variables	56
	3.7.2 Independent variables	57
	3.8 Research instruments	59
	3.8.1 Measure of health-related quality of life	59
	3.8.2 Lifestyle behaviours assessment	62
	3.8.3 Clinical characteristics	64
	3.9 Pre-testing and validity and reliability of SF-36 measurement	66
	3.10 Study approval	67
	3.11 Data analysis	68
4	RESULTS	73
	4.1 Socio-demographic characteristics of respondents	73
	4.2 Clinical characteristics of respondents	76
	4.3 Lifestyle behaviour characteristics of respondents	79
	4.4 Quality of life of respondents	80
	4.5 Relationship between socio-demographic characteristics and health-related quality of life	82
	4.5.1 Age	82
	4.5.2 Gender	83
	4.5.3 Ethnicity	84
	4.5.4 Marital status	85
	4.5.5 Educational level	86
	4.5.6 Working status	88
	4.5.7 Family income	89
	4.6 Relationship between clinical characteristics and health-related quality of life	90
	4.6.1 Duration of hypertension and number of antihypertensive medication	90
	4.6.2 Body Mass Index	91
	4.6.3 Blood pressure controlled and uncontrolled groups	92
	4.6.4 Comorbidities	93
	4.7 Relationship between lifestyle behaviours and health-related quality of life	97
	4.8 Multiple regression predicting health-related quality of life	99
	4.9 Factors predicting presence of health complications	104
	4.10 The effect of health complications on health-related quality of life	109

5	DISCUSSION	112
	5.1 Introduction	112
	5.2 Health-related quality of life of respondents	112
	5.3 Factors associated with health-related quality of life among hypertensives	116
	5.3.1 Socio-demographic characteristics	116
	5.3.2 Clinical characteristics	122
	5.3.3 Lifestyle behaviours	128
	5.4 Factors predicting presence of health complications	131
	5.5 Effect of health complications in hypertension on HRQOL status	133
	5.6 Hypothesis testing	137
	5.7 Study limitations	140
6	CONCLUSION AND RECOMMENDATIONS	142
	6.1 Conclusion	142
	6.2 Implications	144
	6.3 Recommendations for future research	145
	REFERENCES	147
	APPENDICES	162
	BIODATA OF STUDENT	182