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

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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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By

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

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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, kemerokosotan 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 kesehatan 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 kejejasan 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 kmerosotan skor secara signifikan pada fungsii 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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Date: 13 January 2011
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
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