

QUALITY OF LIFE AMONG HYPERTENSIVE POPULATION AGED 45 YEARS AND ABOVE IN KATHMANDU VALLEY: A HOSPITAL BASED CROSS-SECTIONAL STUDY FROM NEPAL

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ABSTRACT:

Background: Hypertension is the humongous health issues which is not the disease; it is a medical condition of an individual. Quality of life is a concept used to assess the factors other than illness that are responsible for affecting the health of the people. Prevalence of hypertension has increased in low income countries in recent years while remaining stable or having decreased in high income countries. WHO data have estimated that, by 2030, almost 23.6 million people will die from CVD, mainly from heart disease and stroke. The purpose of this study was to determine and evaluate the various factors influencing the quality of life in a hypertensive population aged 45 years and above in Kathmandu valley.

Methods: Hospital based cross-sectional study was undertaken. Non probability and convenience technique was used for selecting study area. Cochran formula was used to calculate the sample size taking 2006 based year, having 23% prevalence of hypertension. Descriptive statistics and analytical statistics were used to summarize the characteristics and measured the nature and degree of association between the independent and dependent variable respectively. Statistical tool used include one-way ANOVA, frequency, percentage, mean and standard deviation.

Results: Among collected 300 samples, 55.3 % were male and rests were female. Most people who were suffering from the hypertension were 51-60 and least from 71 and above age group. About 86.7% were the married population, 12% respondents did not have any formal schooling. Of all, 56.3% of the non-smokers and 59% non-alcoholic users were also suffering from the hypertension. About 64% of the respondents did not have any kind of comorbidities, however 20.3% had diabetes. Analytical statistics showed age, income, duration of anti-hypertensive medication; and presence of comorbidities showed the association with the total score of the WHOQL-BREF. However, gender, marital status, caste/ethnicity, education, alcohol consumption and smoking cigarettes showed no association.

Conclusions: From our research finding; hypertensive people need to focus on presence of commodities, the level of the income; and their lifestyle were strongly associated for influencing the quality of life of the hypertension patients.

Keywords: Co-morbidities; Hypertension; Quality of life; Smoking; Alcohol; Nepal

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INTRODUCTION

Hypertension is the humongous health issue and is one of the biggest health threats in the 21st century.

Estimated total number of hypertensive patients were 972 million in 2002, of which 333 were seen in economically developing countries and 639 were seen in economically developed countries, the result predicted in 2025 case will be around 60% of the total population, and this also predicts risk of

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chronic disease burden in the world which is seriously linked to hypertension. The prevalence of hypertension in various parts of Nepal ranged between 3.3% and 44.9%. Several studies were done repeatedly in a rural Kathmandu, stated that the prevalence of hypertension was tripled from 6% in 1990 to 18% in 2006 [1].

Hypertension has become one of the public health challenges [2]. According to data published in April 2011 by WHO, hypertension death in Nepal was 5,570 or 3.75% of total death. The adjusted death rate of age is 40.37 per 100,000 of the total population and the world rank is 51. The burden of high blood pressure is increasing severely in Nepal ruling about 55% out of pocket expenditure for NCD for the health care expenses [3].

According to the epidemiological survey done by the USA, there is an increasing rate of hypertension among women, the prevalence of uncontrolled hypertension in women increases from 17% to 22% in the early 1990s and 2000s, where the rate of having hypertension in men is decreased from 19% to 17% at the same time. This gender difference may be due to the variety of awareness rates among hypertensive female compared to male. A survey done by the National Health and Nutrition Examination to view the trends in the prevalence, control and awareness of hypertension in the USA concluded that, female had more rates of awareness and control of hypertension compared with male from 1988 to 1994, however in the 1999-2000 survey, there was no significant difference in gender. Furthermore, the studies stated that the females are the strong one of poor hypertension control. It also states that the Asian women have the lower pervasiveness of high blood pressure (about 150.4 per 1,000) worldwide [4].

Quality of life is a concept used by the health care providers to assess the factors other than illness that are responsible for affecting the health of the people. It will help to know the different variations within the patient's life and provide the information of patient's knowledge of the illness. It emphasizes the people thinking and positioning themselves in life in relation to the values and culture in which they live expectations concerns and standards. It mainly focuses on domains that are important to health and are influenced by factors like economical, sociological, psychological spiritual and psychosocial. For the chronic disease, hypertension is stated as the important factors in decreasing life expectancy [5]. Moving our concern to the health care system in

Nepal, the knowledge of the quality of life is not known hypertension and Nepal, "quality of life and age above 45 years and above" very few researches on quality of life and just a single research in quality of life among patients with age above 45 years and above were found. Therefore, this study on quality of life is an endeavor to identify and address the factors that influence quality of life in age above 45 years and above patients in hopes of maintaining their versatility, dynamic commitment to society and independence, helping them deal with the challenges of age and bring about constructive and positive experience of ageing. Therefore, this pioneer study in Nepal is to evaluate the quality of life of hypertensive patients in order to get a clear view of the present health situation of the people having hypertension.

METHODS

A hospital based cross-sectional study was undertaken among 300 participants from Kathmandu Diabetes and Thyroid Centre Pvt. Ltd during the study period to identify and evaluate the various factors which are responsible for affecting the quality of life of the hypertension patient aged 45 and above. As there was no any evidence to figure out the total population of hypertension patient in Kathmandu valley or in Nepal, the mathematical calculation model was inapplicable to calculate the sample size. Therefore, to find out the sample size and study area, non-probability sampling and convenience technique was used. However, the sample size was calculated by using Cochran formula taking the prevalence of hypertension in 2006 which was 22.7%, i.e. 300 sample size was considered for this research work. For data collection, a well-structured questionnaire was used that contained two sections; Socio-Demographic section to determine the general characteristics of the respondents, WHO guideline WHOQL-BREF [6] to find out the health behavior and the presence of comorbidities of the respondents, those were the independent variable for our research work. The objectives of conducting this research were explained briefly before response collection and responses were collected only from those participants who wanted to be the part of this research work. The Cronbach alpha coefficient value was 0.662, and considered as the internal consistency of our scale.

For data management and analysis, MS Excel and SPSS were used respectively. The analysis

Table 1 Number and percentage of the 300 hypertensive respondents by level of quality of life

Quality of life	Level of quality of life					
	Low		Moderate		High	
	N	%	N	%	N	%
Overall and general health	11	3.7	289	96.3	0	0
Physical health	6	2	293	97.3	1	0.3
Psychological	15	5	282	94	3	1
Social relationships	12	4	149	49.7	139	46.3
Environment	27	9	239	79.7	34	11.3

Table 2 Relationship between quality of life score and respondents' characteristics (n=300)

		N	Mean	SD	p-value
Age (years)	45-50	95	1.74	0.44	.022*
	51-60	131	1.85	0.36	
	61-70	54	1.7	0.46	
	71 and above	20	1.6	0.5	
Gender	Male	166	1.76	0.42	0.617*
	Female	134	1.78	0.41	
Marital status	Unmarried	11	1.82	0.4	0.251*
	Married	260	1.78	0.41	
	Widow/Widower	24	1.63	0.49	
	Divorcee	5	1.6	0.54	
Income (Rupee)	<10,000	39	70.36	8.34	0.001*
	10,000-30,000	138	73.63	7.35	
	>30,000	123	78.46	6.82	
Cast/Ethnicity	Brahmin	130	1.74	0.441	0.469*
	Chetri	43	1.84	0.374	
	Newari	46	1.74	0.444	
	Others	81	1.8	0.401	
Education	No school	36	1.69	0.46	0.603*
	Grade 1-10 primary level	46	1.74	0.44	
	Grade 10-12 secondary level	92	1.79	0.4	
	Bachelor and above	126	1.79	0.41	
Duration of hypertension (years)	<2	42	1.76	0.431	.925*
	2-5	152	1.76	0.427	
	> 5	106	1.78	0.414	
Duration of anti-hypertensive medication (years)	Past 1	44	78.82	10.2	.998*
	2-5	151	74.81	7.2	
	>5	105	74.2	7.12	

Table 3 Relationship between quality of life score and health behavior and co-morbidities (n=300)

		N	Mean	SD	p-value
Alcohol	No	177	1.8	0.404	0.239*
	1-2 Glasses/day	5	1.71	0.458	
	3 or more glasses/day	32	1.66	0.483	
	Social occasions	46	1.8	0.401	
Smoke	No	169	1.8	0.398	0.134*
	Less than 10	22	1.64	0.492	
	10 or more	98	1.73	0.444	
Co-morbidities	No	192	1.82	0.387	0.027*
	DM	61	1.74	0.444	
	Stroke, MI, Renal disease	6	1.67	0.516	
	DM & stroke, MI, Renal disease	41	1.61	0.494	

included the two parts; descriptive statistic was used to find the characteristics of the hypertension patients and analytical statistic was performed to identify the nature and strength of relationship between dependent and independent variables.

RESULTS

Distribution by gender and age group

Among collected 300 samples, 55.3% of the respondents were male participants and remaining were female.

Table 1, the results of the portion of the questionnaire were analysed according to the four domains that comprise the overall quality of life score and then again divided into the three categories; (1) low (2) moderate and (3) high, where low is labeled as 1 moderate is labeled as 2 and high is labeled 3. While examining the domain 1: physical health, the majority of the respondents demonstrated as moderate level of quality of life. For the domain 2: psychological health, and domain 3: social relationship, and environmental health, also has the moderate level quality of life. The overall quality of life also has the moderate level.

Table 2, One-way ANOVA was used to analyze the relationship between socio demographic characteristics and total score of WHOOL-BREF. The Analysis showed statistically significant relationship in age (p -value = 0.022), income (p -value = 0.001), There are no statistically significant relationships between gender, marital status, caste/ethnicity, education, duration of hypertension and duration of taking anti-hypertensive medications (p value > 0.05) and total score of WHOOL-BREF

Table 2, among the four age groups considered for this research work, 95 participants who were suffering from hypertension were from age group 45-50 and 131 participants were from age group 51-60, 54 were from 61-70 age group, and 14 was from the 71 and above age group

Table 2, most participants were the married, have income more than 10,000 Rupee. 88% have formal school education. Brahmin were the most ethnic participants. Age and Income level are associated with the quality of life. Other socio-demographic characteristics like; gender, marital status, ethnicity and education, duration of hypertension and duration of anti-hypertensive medication level were not associated with the quality of life.

Table 3, showed the relationship between health behavior and total score of OL. There is no

statistically significant relationship between alcohol (p value= 0.239), smoke (p - value =0.134) and total score of QOL and co-morbidities. The table also showed statistically significant relationship (p -value=0.027) between co-morbidities (DM, stroke, MI, renal disease), and total score of QOL of 300 hypertensive respondents.

DISCUSSIONS

On performing one-way ANOVA analysis between alcohol consumption, smoking and presence of comorbidities and the total score of quality of life, the presence of comorbidities were associated with the quality of life. However, most of the previous research has indicated that, smoking and drinking alcohol were also responsible for influencing the quality of life of the hypertension patient aged 45 years and above [7], but our research did not find those two factors as the influencing factor for quality of life.

Socio-demographic factor; age has the inverse relation to the capacity of doing work and income also has the similar nature of the relation [8]. The increased age leads to the various chronic diseases such as high blood pressure, diabetes, coronary heart disease, and cancer being reported most among the elder population [9]. Those two factors are directly involved in affecting the quality of life of the hypertensive patient of elderly aged. However, other factors like socioeconomic status, education level, and race/ethnicity, habit of smoking and alcohol consumption were also equally responsible for affecting the quality life. But our research found out that age, income and the presence of comorbidities were associated with the quality of life of the hypertensive patients

CONCLUSION

Age, income level, and co morbidities were associated with the quality of life of hypertensive patients and these are the factors which influences quality of life of hypertensive patients in this study.

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