Journal of Applied Pharmaceutical Science Vol. 6 (05), pp. 143-147, May, 2016
Available online at http://www.japsonline.com
DOI: 10.7324/JAPS.2016.60522
ISSN 2231-3354

Assessment of Quality of Life in Hypertensive Patients

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ARTICLE INFO

Article history:
Received on: 17/11/2015
Revised on: 16/12/2015
Accepted on: 09/02/2016
Available online: 28/05/2016

Key words:
Hypertension, quality of life, mental health, patient awareness.

ABSTRACT

Assessing the quality of life of hypertensive patients is an important issue as it's much worse than healthy individuals. The aim of the study was to assess the quality of life in the hypertensive patients and to evaluate the functional capacity, physical aspects, pain, general health, vitality, social aspects, emotional aspects and mental health of the patient. The Study was conducted in a Tertiary care Hospital, Erode. A total of 300 patients were selected in the study period of 6 months. Short form 36 item (SF-36) health survey questionnaire was used in this study to assess the quality of life in hypertensive patients. In the present study, mental health (Avg. score 25.8) was the component mostly affected in hypertensive patients followed by emotional aspects (Avg. score 33.43) and vitality (Avg. score 36). Social aspects (Avg. score 83.14), physical aspects (Avg. score 75.4) and functional capacities (Avg. score 67.1) appear to be least affected. Pain (Avg. score 49.3) was moderately affected and physical aspect (Avg. score 75.4) was least affected by hypertension. Proper treatment and awareness about hypertension is necessary for the patient's mental and emotional well being.

INTRODUCTION

Hypertension is considered one of the leading causes of death and disability, and its prevalence is rapidly increasing in developing countries. Hypertension is reported to be the fourth most common cause of premature death in developed countries and the seventh in developing countries (Reddy, 1996). Recent reports indicate that nearly 1 billion adults (roughly a quarter of the world's population) have hypertension, and this rate is predicted to increase to 1.56 billion by the year 2025. In India 20-40% of adult hypertensive patients are from urban area and 12-17% from rural area. Worldwide 15% of uncontrolled hypertensive patients are in India (Brown, 1994, Kearney *et al.*, 2005). Assessing the quality of life of hypertensive patients is an important issue. Quality of life (QOL) is a central issue for patients, providers, and policy makers, and interest in health-related quality of life (HRQOL) has increased markedly in recent years (Smith *et al.*, 1999). QOL is of particular concern to those with chronic disease for which a cure is unlikely (Guyatt *et al.*, 1993). Persons with chronic disease may be most concerned with function and well-being, rather than the physiologic measures that providers find useful (Idler and Benyamini, 1997). In addition, psychosocial factors can influence health outcomes; self-assessed health status has been shown to be a better predicator of mortality and morbidity than many objective measures of health (Joshua *et al.*, 2002). The HRQOL of hypertensive patients is much worse than healthy individuals (Bardage and Isacson, 2011; Liu *et al.*, 2005; Banegas *et al.*, 2011; Wang *et al.*, 2009; Raskeliene *et al.*, 2009; Kwasniewska and Drygas., 2005). The quality of life of hypertensive patients is dependent on blood pressure, organ damage, comorbidities and treatment (Kawecka *et al.*, 2006). Most of the studies have shown that hypertension impairs vitality, social functioning, mental health, mood and psychological functioning (Bardage and Isacson, 2011). It has also been found that many hypertensive patients suffer from headache, dizziness, depression, anxiety and tiredness and many studies have revealed an association between hypertension and these symptoms (Kjellgren *et al.*, 1998; Moller *et al.*, 1996).

Several studies have shown that individuals with hypertension report lower scores in most dimensions of the short form 36 (SF-36) health survey questionnaire-for example physical capacity and vitality compared to the general population (Bardage and Isacson, 2011, Lam and Lauder, 2000, Lopez *et al.*, 1994). Health-related QOL can be measured with generic measures that are intended to be applicable across different diseases, treatments, or interventions (Patrick and Deyo, 1989).

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These include measures such as the Sickness Impact Profile (Patrick and Chiang, 2000) and the Nottingham Health Profile (Bergner *et al.,* 1981), among many others. One of the most widely used generic instruments is the 36-item short form of the Medical Outcomes Study questionnaire (SF-36) (Hunt *et al.,* 1981) which was designed as a generic indicator of health status for use in population surveys and studies of health policy (Ware and Sherbourne, 1992). It was designed to be applicable to a wide range of conditions, and covers both physical and mental concepts in eight multi-item scales: physical function; role limitations due to physical health problems; bodily pain; social functioning; general mental health (covering psychological distress and well-being); role limitations due to emotional problems; vitality, energy, or fatigue; and general health perceptions (Hunt *et al.,* 1981). There is an additional question covering change in health status over the past year. Internal reliability and validity are considered excellent in a broad range of patient populations and the SF-36 appears sensitive to changes in health status (Ware and Sherbourne, 1992; Andresen, 1997; Ware and Snow, 1993; McDowell *et al.,* 1996). This study was to assess the quality of life in the hypertensive patients and to evaluate the functional capacity, physical aspects, pain, general health, vitality, social aspects, emotional aspects and mental health of the patient

MATERIAL AND METHODS

The Study was conducted in a Tertiary care Hospital, Erode. A total of 300 patients were selected in the study period of 6 months.

Inclusion criteria

Patients diagnosed with hypertension; blood pressure >140/90 mmHg, patients having hypertension for more than 3 years, subjects aged 30 years and older.

Exclusion criteria

Patients with abnormal mental status, pregnant and lactating women, hypertensive patients with normal blood pressure and patients below 30 years.

Short form 36 item health survey questionnaire is used in this study to assess the quality of life in hypertensive patients. The SF-36 Health Survey is a multi-purpose, short-form health survey which contains 36 questions. It yields an eight-scale profile of scores as well as summary physical and mental measures. The eight scales are Functional Capacity (10 Items), Physical Aspects (4 Items), Pain (Two Items), General Health (5 Items), Vitality (4 Items), Social Aspects (2 Items), Emotional Aspects (3 Items), Mental Health (5 Items).

For the evaluation of results, each question is scored. Each domains are considered separately and the scores are transformed into a scale of 0 to 100. In the scale 0 correspond to worst health where as 100 shows best health condition.

Data were analyzed using Graph pad prism version 6.6 and Microsoft excel. A descriptive analysis was performed in the statistical analysis (mean and standard deviation) and the results were presented using absolute figures and percentages.

RESULTS AND DISCUSSIONS

This study is intended to assess the quality of life in hypertensive patients. A total of 300 hypertensive patients were included in the study. The patients diagnosed with hypertension were selected and their problems are reported in one or more of the SF-36 dimensions.

Table 1: Gender wise distribution of hypertensive patients.

Gender	Frequency (n:300)	Percentage
Male	164	54.60%
Female	136	45.30%

Increased blood pressure was seen more among the patients > 60 years (44.3%) followed by patients in the age group 46-60 years (36.1%) (Table 2). The study conducted by Bardage *et al.,* (2003) and Wang *et al.* (2009) showed similar findings where they concluded that hypertension was more prevalent among elder population and reduced their quality of life. It may be due to influences of environmental factors and the effect of genetically programmed senescence in the body systems (Kokiwar *et al.,* 2012). During the aging process, health hazards may arise as a result of physiological and functional changes, making the individual more vulnerable to chronic diseases.

Table 2: Age wise distribution of hypertensive patients.

Category	Frequency (n:300)	Percentage
30-45 years	59	19.60%
46-60 years	108	36.10%
>60 years	133	44.30%

In this study 45.3% patients were affected with diabetes mellitus, it was the commonly seen co morbid disease among the patients (Table 3). Yadav *et al.,* (2008) also reported similar findings where it was found that lower HRQOL in hypertensive patients was associated mainly with diabetes. This coexistence may be due to the increase in total exchangeable sodium in diabetic patients which increases the water reabsorption leading to hypervolemia. These further increases the blood pressure (Vukovich *et al.,* 1992). Diabetes mellitus also promotes atherosclerosis by retarding fibrinolytic process. This can also increase the blood pressure and lead to cardiovascular complications (Vukovich *et al.,* 1992).

Table 3: Distribution of Co morbid diseases of hypertensive patients .

Co morbidities	Number of patients (n=300)	Percentage
Diabetes mellitus	136	45.30%
Dyslipidemia	106	35.30%
Cardiovascular disorders	68	22.60%
Others (arthritis, COPD, neurotic disease etc)	112	37.30%

Hypertensio has a major impact on quality of life. Roca-Cusachs *et al.,* (2001) reported that hypertensive patients had a

significant reduction in quality of life compared to normotensive patients. While Brito *et al.* (2008) who evaluated the impact of hypertension on HRQOL only in hypertensive patients observed that, although these patients consider hypertension not severe and curable, it interferes with their HRQOL. This may be due to the changes in physical and psychological functions among the affected individuals. It allows a better knowledge about the patient and their adaptation to the unhealthy condition (Carvalho *et al.*, 2012).

In the present study, mental health (Avg. score 25.8) was the component mostly affected in hypertensive patients followed by emotional aspects (Avg. score 33.43) and vitality (Avg. score 36) (Table 11).

Table 4: Distribution of hypertensive patients doing exercise.

Exercise	Number of patients (n=300)	Percentage
Yes	114	38%
No	186	62%

Table 5: Distribution of smoking of male hypertensive patients.

Smoking	Number of patients (n=164)	Percentage
Never	29	17.60%
Ex smokers	57	34.70%
Smokers	78	47.60%

Table 6: Distribution of alcoholism among male hypertensive patients.

Alcoholism	Number of patients (N=164)	Percentage
Yes	121	73.70%
No	83	26.20%

Table 7: Blood pressure classification among the hypertensive patients according to JNC 8.

Blood pressure classification	Number of patients (n=300)	Percentage
Stage 1 (140-159/90-99mmHg)	164	54.6%
Stage 2 (≥160/≥100mmHg)	136	45.3%

The studies which correlate with our present studies are Saboya *et al.* (2010), Wang *et al.* (2009) and Santos *et al.* (2013) in which they concluded that mental and emotional aspects are one of the main factors that deteriorate quality of life in hypertensive patients. It may be due to the relevant psychosocial factors that can affect the mental and emotional status of the patient. Family stress, family coping, health stress, and the patient's personality can be a major factor that affects the mental health. These variables taken together may produce an "at risk mental state" in which individuals may not have coping abilities. This state may increase the patient's suffering and lead them to perceive their illness as intolerable. This can badly affect their mental health (Gianluca *et al.*, 2010).

Silqueira *et al.*, (2005) states that, although feelings such as anxiety and depression were often identified in hypertensive patients, clinical practice shows that such feelings are more common in patients with newly diagnosed hypertension.

In our studies social aspects (Avg. score 83.14), physical aspects (Avg. score 75.4) and functional capacities (Avg. score 67.1) appear to be least affected (Table 11). In the studies conducted by Bardage *et al.* (2003), Raskeliene *et al.* (2009) and Wang *et al.*, (2009) similar findings were seen. They concluded that patients had lower scores in physical functioning, general health, vitality, and social functioning. This conclusion was may be due to the co morbidities present in the patients. Co morbidities and number of medications are one of the primary factors associated with lower health related quality of life in hypertensive patients (Kearney *et al.*, 2005).

In the present study, pain (Avg. score 49.3) was moderately affected (Table 11). The study conducted by Liu *et al.* (2005) concluded that physical symptoms and pain were moderately affected in hypertensive patients. This may be seen in patients with insufficiently controlled blood pressure with longer duration of treatment and presence of co morbidities.

Table 8: Duration of hypertension.

Duration	Number of patients(n=300)	Percentage
3years-10years	278	92.6%
>10years	22	7.3%

Table 9: Marital status among hypertensive patients.

Marital status	Number of patients (n=300)	Percentage
Married	216	72%
Widowed/single	84	28%

Table 10: Employment status among hypertensive patients.

Employment status	Number of patients (n=300)	Percentage
Working	148	49.30%
Not working	152	50.60%

Table 11: Scores for each domain of SF-36.

Sl. No	Domains	Average score	Standard deviation
1	Physical aspects	75.40	2.752
2	Vitality	36.00	5.477
3	Emotional aspects	33.43	2.959
4	Functional capacities	67.10	5.689
5	Pain	49.30	2.828
6	General health	54.25	6.042
7	Mental health	25.80	2.588
8	Social aspects	83.14	2.652

Table 12: Quality of life assessment.

Sl. No	Components	Average score	Standard deviation
1	Physical component	61.39	11.75
2	Mental component	44.54	26.06

Our study also indicates that hypertension affects vitality (Avg. score 36) of the patients (Table 11). This results coincides with the results of the study conducted by Gusmao *et al.* (2009) and Silqueira *et al.* (2005) which found lower scores (worse HRQOL) in the vitality domain, showing that vitality was the important component that worsens the quality of life of hypertensive patients. This may be due to lack of disposition and enthusiasm and because of the association of hypertension with symptoms such as headache, anxiety, asthenia, and the effects of antihypertensive drugs, such as fatigue and sleep disorders. Low scores in vitality also tells that the patient have decreased energy

levels. It may be due to lack of exercise and unhealthy life styles. This further increases the blood pressure and causes inadequate blood and oxygen supply to the vital organs leading to very low energy levels. In our study physical aspect (Avg. score 75.4) (Table 11) was least affected by hypertension which deviates from the study conducted by Trevisol *et al.* (2008) in which physical component greatly worsens the quality of life in hypertensive patients. Hypertensive patients presented a lower HRQOL scores in SF-36 than the general population. The HRQOL is reduced in hypertensive patients with diabetes mellitus. Mental components play a major role in our study for lowering of HRQOL.

CONCLUSION

This study highlights the fact that proper treatment and awareness about hypertension is necessary for the patient's mental and emotional well being. Hypertension is a preventable cause of death and its proper treatment can reduce cardiovascular disorders to a greater extent (Degl *et al.*, 2004). From our study the reduced quality of life in hypertensive patients was mainly due to mental and emotional aspects than of physical health. Future studies can focus on proper patient intervention that can improve the quality of life of hypertensive patients. Future studies can focus on proper patient intervention that can improve the quality of life of hypertensive patients. Physicians, nurses, and other health care professionals should be alert to the quality of life related to patients with hypertension.

Hypertension markedly impairs quality of life in terms of both physical and mental health. Co morbidity further deteriorates HQOL among people with hypertension. So, it is important to prevent and treat co morbidity of hypertension. Physicians who treat patients with arterial hypertension along with treatment should include appropriate patient education and reinforcement in their care. Several recommendations are chosen to increase the HRQOL; increase awareness on health promotion and hypertension among population, especially people with low income and education levels, regular checkups. This can help in early diagnosis of any health problem and maintaining the HRQOL of the individual.

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How to cite this article:

Kaliyaperumal S, Hari SB, Siddela PK, Yadala S. Assessment of Quality of Life in Hypertensive Patients. J App Pharm Sci, 2016; 6 (05): 143-147.