STUDY ON QUALITY OF LIFE IN HYPERTENSIVE PATIENTS

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ABSTRACT

The study titled, “Study on quality of life in hypertensive patients” was a prospective study conducted in a 640 bedded multispeciality hospital in the department of Cardiology for a period of ten months from June 2011- March 2012. A total of 170 hypertensive patients were enrolled in the study. The patients diagnosed with hypertension at least 6 months before getting enrolled in this study. The specific objectives are to evaluate whether patients enrolled in the study is associated with improved Health related Quality of Life (HRQOL).

A baseline study was conducted at the time of enrolment for control and intervention group to assess the patients’ perception about hypertension and their medications. Patients were also divided into an intervention and control group. Intervention group received pharmaceutical care through patient counselling, life style modifications whereas the control group patients were not provided any pharmaceutical care till the end of the study. Quality of Life of patients in both the groups was assessed at regular intervals using the SF 36 health survey questionnaire. In the baseline study, the short form SF-36 Health Survey questionnaire was provided to the control group and intervention group. The baseline study was performed at the time of enrolment for both the control and intervention group. For control group, SBP and DBP values during the baseline study was 151.29±12.32 mmHg and 95.76±6.79 mmHg. The average SBP and DBP values for intervention group during the baseline study were 149.88±12.77 and 92.82±5.48 mmHg respectively. The average BMI was 26.32 ± 3.73 kg/m2 for control & 25.90 ±3.73 kg/m2 for intervention group during the baseline period respectively.

The mean scores for the control group patients at the baseline were physical functioning (42.20±28.72), limitation due to physical health (33.58±18.77), limitation due to emotions (30.29±21.15), vitality (35.46±14.67), bodily pain (32.33±16.70), social functioning (39.95±18.94), general health (25.60±14.47) and mental health (28.80±15.08) respectively. The intervention group patients showed an improvement in the mean scores at the baseline were physical functioning (48.12±27.15), limitation due to physical health (52.54±23.21), bodily pain (55.49±20.64), social functioning (58.18±22.41), general health (58.55±19.12), mental health (49.95 ±18.75), vitality (52.86±21.02), limitation due to emotions (47.61±24.21) respectively. The p value between the two groups at initial and final visit showed a significant difference (<0.05). The results concluded that by providing good pharmaceutical care services, pharmacists can help hypertensive patients to achieve a desired blood pressure control and thereby to lead better Quality of life.
INTRODUCTION

Hypertension is a worldwide challenge because of its high prevalence in the adult population. In most countries, 15% to 30% of the adult population and more than 50% of the elderly population suffer from high blood pressure, making it a clear general public health problem. There is evidence that antihypertensive treatment significantly decreases cardiovascular morbidity and mortality. Despite this evidence, it has been observed that the proportion of hypertensive patients in which blood pressure is adequately controlled is relatively low. In the United States, data from the National Health and Nutrition Examination Survey (NHANES) showed that 70% of hypertensive patients were aware of having the disease, 59% were under treatment, but only 34% had their hypertension under control. An important aspect in the treatment of hypertension that must be considered is that treatment should not interfere with patient’s quality of life. Adverse effects from treatment drugs, diseases associated with hypertension, and simply being diagnosed with the disease since it is related to increased mortality can all decrease patient quality of life. As such, the interest in assessing the health-related quality of life (HRQOL) has increased significantly in the past few decades. One example of this interest is the Dietary Approaches to Stop Hypertension Trial (DASH), which has analyzed how effective three diets were for lowering blood pressure and preserving the HRQOL. The DASH Diet (rich in fruits, vegetables, and low-fat dairy products and reduced in saturated and total fat) decreased blood pressure significantly and increased the HRQOL as assessed by the Medical Outcomes Study Short Form-36 (SF-36) questionnaire in all groups studied. In studies such as TOHP (Trials of Hypertension Prevention) and TOMHS (Treatment of Mild Hypertension), the decreased in blood pressure decrease was followed by an improvement in the HRQOL.

COMPLICATIONS OF HYPERTENSION:

[Shahina P 2010), Kilter M (2001)] Hypertension is one of the major causes of morbidity and mortality due to CVD. It affects nearly 26 per cent of the adult population worldwide. By 2025 it is projected that 29% of the world’s population (over 1.56 billion adults) will have hypertension. The various complications due to hypertension are as follows:

Renal failure: High blood pressure can rupture the small blood vessels of kidney and cause renal failure.

Diabetes Mellitus: Insulin resistance is mainly due to the link between insulin and sympathetic nervous system resulting in increased sodium retention and thereby causing an increase in blood pressure. Hence, an increase in blood sugar can increase the risk of diabetes.

Heart Failure: High blood pressure can cause the heart to work harder and cause the enlargement of heart.
Atherosclerosis: High blood pressure develops when the lipids, cholesterol get deposited on the arterial wall leading to thickening of arterial wall thereby causing stroke, heart failure, kidney failure.

RISK FACTORS:
(JNC, Yousaf S.) Age, Gender, Ethnicity, Tobacco use, Obesity, Sodium intake, Alcohol consumption, Family history, Physical exercise, and Stress are some of the risk factors for hypertension.

OBJECTIVES

• To study the impact of pharmacist intervention in blood pressure control in hypertensive patients admitted in the department of Cardiology.

• To improve patient understanding of the disease and treatment.

• To evaluate whether the Health Related Quality of Life (HRQOL) of patients enrolled in the intervention group has improved.

METHODOLOGY

Study site

The study was conducted at a 640 bedded multispeciality hospital in the Department of Cardiology.

Study Period

Ten Months - From June 2011 to March 2012

Study design

Prospective – Randomised study

Selection Criteria

Inclusion

• The patients who had been confirmed diagnosed of hypertension and taking antihypertensive medication at least 6 months prior to this study.

• The patients who can understand English.

• Patients having no infectious diseases.

Exclusion

Those who are unwilling to participate in the Hypertension education programs.
Consent

Permission to carry out the study permission was obtained from the hospital authorities and concerned department head, of the study hospital after submitting the study protocol. Patients were enrolled according to the inclusion and exclusion criteria of the study. Patients were briefed on the project through Patient information form and there after obtained consent form signed from them.

Questionnaire

The hypertension Quality of life questionnaire HQLQ(S) was selected for the work and it consists of 36 questions grouped into 8 domains which are based on physical function, limitations due to physical health problem, limitations due to emotions, vitality, general health, bodily pain, mental health and social functioning. Scores expressed on the scale range from 0-100. Higher scores indicate better health and lower scores reflect poor health of the patient. It takes only 5-10 minutes to complete the questionnaire.

Educating Tools

A patient education leaflet was designed and printed both in English and Tamil for educating the patient on the proper use of antihypertensive drugs and was given to the patients in the baseline study. The patient education leaflet was given only to the intervention group.

Method

Study group

170 patients were enrolled for the complete study. The patients were randomly divided into two: control group (85) and intervention group(85). Personal interviews were conducted with all the patients. Outcome measures included Quality of life scores and improvement in BP control. Intervention group received education and counselling till the end of the study, while the control group patients were not offered any intervention during the study period.

Follow-up
The interviews for the measurement of QOL were been conducted at 3 different timings ie, first was at the baseline, second was at the 30th day from baseline and 3rd was at the 60th day from the baseline.

**Statistical Analysis**

For the HQLQ the mean score was calculated for each of the 8 domains, and the overall score derived from the mean of all questions. Standard deviation was computed from the raw data. Mean changes from the baseline were analysed overall and for the 8 domains of HQLQ. P value <0.05 was considered statistically significant.

**DISCUSSION**

In the present study, the mean duration of hypertension for the intervention and control group was 8.42±4.94 and 6.94±5.16 respectively and 39% of patients had hypertension for a period of 5 to 10 years. Social habits such as smoking and alcoholism seems to have greater impact on hypertensive patients. About 57.05% had the habit of smoking and 63.52% were alcoholics, drinking more than 2 drinks per day. In our study, majority of the patients were suffering from cardiovascular diseases: coronary artery disease (24.7%), congestive cardiac failure (14.11%), ischemia and myocardial infarction(54.7%) .

Major risk factors analysed revealed that, BMI more than 30 in 56% of patient, no regular physical activity in 61% of study population and family history in 48.23 % were the risk factors prevailing in hypertension patients studied. By regular exercises and involving in stress free activities, the physical and mental health of the patients were improved

The major category of concurrent drugs prescribed include anticoagulants (95.29%), sedatives (95.85%), lipid lowering agents (90%), antibiotics (88.23%), & Proton pump inhibitors (84.11%). An attempt was made to know the reason for admission gave an insight that fatigue and giddiness were the major reason for admission in 53.52% of cases followed by radiating chest pain in 51.17%. A study by Mamas Theodorou et.al (2011) also suggested that hypertensive patients reported more bodily pain than the normotensive subjects. This shows that bodily pain also reflects the quality of life of hypertensive patients. This could be improved by involving in stress free activities like meditation, yoga.

In our study, the mean scores for the intervention group during baseline interview were: physical functioning (25.88±24.83), limitation due to physical health (31.29±16.98), limitation due to emotions (27.94±18.47), vitality (33.70±15.12), bodily pain (37.64±13.37), social functioning (35.23±13.45), general health (43±15.59) and mental health (33.2±11.32) respectively. During the baseline study, intervention group patients reported with lower scores had a poor quality of life, especially their physical and emotional components had a negative impact in their quality of life. The improvements observed in these two domains (physical functioning, mental health) were very apparent in the study group. This study also indicates that intervention of pharmacist has a positive impact in the quality of life of hypertensive patients.
Similar study conducted by Palain S (2006) also indicated that pharmacist can bring about a drastic improvement in the quality of life of hypertensive patients.

In our study for control group, SBP and DBP values during the baseline study was 151.29±12.32 mmHg and 95.76±6.79 mmHg. The average SBP and DBP values for intervention group during the baseline study were 149.88±12.77 and 92.82±5.48 mmHg respectively. The result of the study demonstrated that the intervention group which was provided with pharmaceutical care reported a good improvement in the quality of life and the mean SBP and DBP values reduced significantly. Patients were satisfied with the pharmaceutical care services provided for hypertension. Patients with improved quality of life had a better blood pressure control.

Among the drugs prescribed Diuretics and Beta blockers take major share of 48.82% respectively. Other major category of drugs prescribed include angiotensin receptor antagonist and calcium channel blockers. It was alarming to note that the microvascular complications prevailing in hypertensive study population include retinopathy in 49.41% and nephropathy in 33.52%. Poor medication adherence and lack of knowledge and awareness on hypertension are the major reasons for poor BP control which is largely related to deterioration in a patient's quality of life.

The mean scores for the intervention group during final interview were: physical functioning (48.12±27.15), limitation due to physical health (52.54±23.21), limitation due to emotions (47.61±24.21), vitality (52.86±21.02), bodily pain (55.49±20.64), social functioning (58.18±22.41), general health (58.55±19.12) and mental health (49.95±18.75) respectively.

There was noticeable improvement in the scores of the intervention group when compared to control group.

**CONCLUSION**

Quality of-life assessment measures changes in physical, functional, mental, and social health in order to evaluate the human and financial costs and benefits of new programs and interventions. Our study also indicates that intervention of pharmacist has a positive impact in the quality of life of hypertensive patients. The results of study revealed that active partnership of pharmacist together with other healthcare professionals can improve blood pressure control and compliance to hypertension drug therapy.

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