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Assessment of Depression among Hypertensive Patients Visited in Hospital: A Prospective Study

Original Article

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ABSTRACT

Background: *Hypertension is the leading risk factor for morbidity and mortality worldwide. Depression is a significant contributor to the global burden of disease. More and more psychologist have recognized addressing patients' mental needs as their priority research fields. Hence; we planned the present study to assess the prevalence of depression among hypertensive patients.*

Materials & Methods: *A total of 60 hypertensive patients were included in the present study. We included only those patients in the present study which were diagnosed as suffering from hypertension. A questionnaire was prepared which comprised of questions pertaining to the demographic details, factors associated with hypertension and back depression inventory scale. All the results were recorded on the Microsoft excel sheet and were analyzed by SPSS software.*

Results: *Depression was found to be present in 58.3 percent of the hypertensive patients in the present study. We obtained while significant results while comparing the prevalence of depression among hypertensive patients divided on the basis of marital status, gender and educational qualification.*

Conclusion*: Depression is a common problem encountered among hypertensive patients.*

Key words: *Depression, Hypertension, Prevalence.*

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INTRODUCTION

Hypertension is the leading risk factor for morbidity and mortality worldwide. Effective management of hypertension reduces the risk of stroke, myocardial infarction, congestive heart failure, and overall mortality. Patients with depression and/or anxiety represent a particularly vulnerable population as they are at higher risk for developing hypertension. In addition, patients with co-morbid hypertension and mental health disorders are a higher-risk population for cardiovascular disease related mortality.[1-3]

Depression is a significant contributor to the global burden of disease. The World Mental Health Survey conducted in 17 countries found that on average about 1 in 20 people reported having an episode of depression in the previous experience. It is estimated that depression affects 350 million people around the world, with a lifetime risk of 7%.[4-6] Many people diagnosed with hypertension usually have tough experience such as somatic symptoms, lower quality of life, and role impairment.8 Above all of these factors may make them easier to get psychological distress, especially depression. Improving psychosocial aspects of living have been becoming an important part of building better health care, particularly for patients with hypertension. More and more psychologist have recognized addressing patients' mental needs as their priority research fields.[5-7] Hence; we planned the present study to assess the prevalence of depression among hypertensive patients.

METHODS

The present study was planned in the department of General Medicine of R.B.M. Hospital, Bharatpur, Rajasthan, India. Ethical approval was obtained from the ethical committee of

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the institution and written consent was obtained after explaining in detail the entire research protocol. The present study included evaluation of prevalence of depression among hypertensive patients. A total of 60 hypertensive patients were included in the present study, out of which, 35 were males and the remaining 25 were females. We included only those patients in the present study which were diagnosed as suffering from hypertension. A questionnaire was prepared which comprised of questions pertaining to the demographic details, factors associated with hypertension and back depression inventory scale.[8] For diagnosing depression, Beck Depression Inventory (BDI) is a routinely used tool; comparison of 21 questions with answers ranging from 0 to 3. Score of 10 of above is the standard cut point for confirming the presence of depression. We collected data by interviewing the hypertensive patients.

Statistical analysis

All the results were recorded on the Microsoft excel sheet and were analyzed by SPSS software. Student t test and one-way ANOVA were used for assessment of level of significance. P- value of less than 0.05 was taken as significant.

RESULTS

In the present study, we included a total of 60 hypertensive patients with mean age of 48 years. Out of 60, 35 were males and the remaining 25 were females. 5 patients out of 60 were single, while 53 and 2 patients were married and divorced respectively. 12 patients in the present study were illiterate while 15 and 8 patients were educated up to level of graduation and post-graduation respectively. Depression was found to be present in 58.3 percent of the hypertensive patients in the present study. We obtained while significant results while comparing the prevalence of depression among hypertensive patients divided on the basis of marital status, gender and educational qualification.

Table 1: Demographic and clinical details of the patients

Parameter		Number
Mean age (years)		48
Gender	Male	35
	Female	25
Marital status	Single	5
	Married	53
	Divorced	2
Educational qualification	Illiterate	12
	Primary	10
	Secondary	15
	Graduate	15
	Post-graduate	8

DISCUSSION

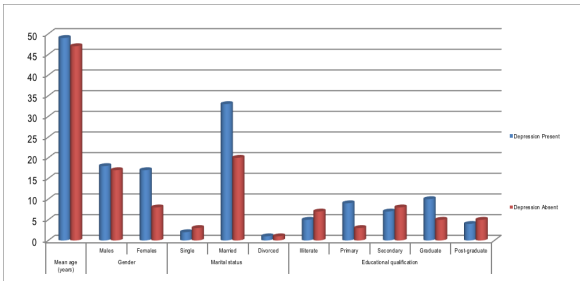
In the present study, we observed that depression was present in 58.3 percent of the hypertensive patients. Cheung BM et al studied the association between hypertension and anxiety or depression in adults from Hong Kong, China. Patients with diagnosed hypertension (n=197) were recruited to complete the Hospital Anxiety and Depression Scale (HADS) questionnaire. The control group comprised 182 normotensive subjects recruited using random telephone numbers. The score in the anxiety subscale (HADS-A) of the HADS correlated with age (r= −0.23, P<0.001) and sex (r=0.11, P=0.042), and was found to be higher in women. The score in the depression subscale (HADS-D) correlated with age (r=0.17, P=0.003) and hypertension (r=0.12, P=0.039), but not with sex (r=0.02, P=0.68). When the control subjects were matched for sex and age with the subjects with hypertension, the mean HADS-A score was 5.51±0.41 in 113 hypertensive subjects and 4.38±0.39 in 113 normotensive subjects (P=0.047). The mean HADS-D score was 5.56±0.39 in the hypertensive and 4.76±0.32 in the normotensive subjects (P=0.11). Multiple regression analysis using data from both groups indicated that the HADS-A score was related to the HADS-D score (β=0.49, P<0.001), age (β= −0.25, P<0.001) and sex (β=0.12, P=0.01) (R2=0.28), whereas the HADS-D score was related to the HADS-A score (β=0.48, P<0.001), age (β=0.30, P<0.001), positive smoking status (β=0.13, P=0.004) and lack of exercise habit (β=0.12, P=0.008) (R2=0.31). Hypertension was related to waist circumference, history of parental hypertension and age (R2=0.38, P<0.001). Anxiety and depression scores were rejected as independent variables. Hypertension was associated with anxiety but not depression; however, age, history of parental hypertension and central obesity appeared to have a stronger association with hypertension in adults from Hong Kong.[9]

Table 2: Depression among hypertension patients

Parameter		Depression		P- value
		Present	Absent	
Mean age (years)		49	47	0.25
Gender	Males	18	17	0.01*
	Females	17	8	
Marital status	Single	2	3	0.02*
	Married	33	20	
	Divorced	1	1	
Educational qualification	Illiterate	5	7	0.01*
	Primary	9	3	
	Secondary	7	8	
	Graduate	10	5	
	Post-graduate	4	5	

*: Significant

Graph 1: Depression among hypertension patients



Li Z et al conducted a systematic review and meta-analysis of observational studies to summarize the point prevalence of depressive symptoms in adults with hypertension. Comprehensive electronic searches of PubMed, Web of Knowledge, China National Knowledge Internet (CNKI), Wangfang, and Weipu databases were conducted to identify any study in each database published from initial state to November 31, 2014, reporting the prevalence of depression in hypertensive patients. Random-effects model was used to estimate the prevalence of depressive symptoms. They also limited the analyses to studies using clinical interview and

prespecified criteria for diagnosis. All statistical calculations were made by using the Stata Version 12.0 (College Station, TX) and Statsdirect Version 2.7.9. They identified 41 studies with a total population of 30,796 in the present meta-analysis. The summarized prevalence of depression among hypertensive patients is 26.8% (95% confidence interval (CI): 21.7%–32.3%). Subgroup analysis shows the following results: for male 24.6%, 95% CI: 14.8%–35.9%, for female 24.4%, 95% CI: 14.6%–35.8%. For China: 28.5% (95% CI: 22.2%–35.3%); for other region (22.1%, 95% CI: 12.1%–34.1%); for community: 26.3% (95% CI: 17.7%–36.0%), for hospital: 27.2% (95% CI: 20.6%–34.5%). Estimated prevalence by interview was 21.3% (95% CI: 14.2%–30.0%); prevalence of depressive symptoms adjudicated by self-rating scales was 29.8% (95% CI: 23.3%–36.7%). The observed heterogeneity in depression prevalence of hypertension may be attributed to differences in method of evaluation. Self-report scales should be cautious of estimating the presence of depression. Thus, interview-defined depression affects approximately one third of hypertensive patients.[10] Grimsrud A et al examined the association between hypertension and depression and anxiety in South Africa. Data come from a nationally-representative survey of adults (n=4351). The Composite International Diagnostic Interview was used to measure DSM-IV mental disorders during the previous 12-months. The relationships between self-reported hypertension and anxiety disorders, depressive disorders and comorbid anxiety-depression were assessed after adjustment for participant characteristics including experience of trauma and other chronic physical conditions. Overall 16.7% reported a previous medical diagnosis of hypertension, and 8.1% and 4.9% were found to have a 12-month anxiety or depressive disorder, respectively. In adjusted analyses, hypertension diagnosis was associated with 12-month anxiety disorders [Odds ratio (OR)=1.55, 95% Confidence interval (CI)=1.10–2.18] but not 12-month depressive disorders or 12-month comorbid anxiety-depression.

Hypertension in the absence of other chronic physical conditions was not associated with any of the 12-month mental health outcomes (p-values all <0.05), while being diagnosed with both hypertension and another chronic physical condition were associated with 12-month anxiety disorders (OR=2.25, 95% CI=1.46–3.45), but not 12-month depressive disorders or comorbid anxiety-depression.

These are the first population-based estimates to demonstrate an association between hypertension and mental disorders in sub-Saharan Africa.[11]

CONCLUSION

Under the light of above results, the authors concluded that depression is a common problem encountered among hypertensive patients. Therefore, adequate treatment for the same is required in hypertensive patients undergoing medical treatment.

REFERENCES

1. Lim SS, Vos T, Flaxman AD, Danaei G, Shibuya K, Adair-Rohani H, et al. A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. Lancet. 2012;380:2224–2260.
2. Chobanian AV, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JL, Jr, et al. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: the JNC 7 report. JAMA. 2003;289:2560–2572.
3. Ginty AT, Carroll D, Roseboom TJ, Phillips AC, de Rooij SR. Depression and anxiety are associated with a diagnosis of hypertension 5 years later in a cohort of late middle-aged men and women. J Hum Hypertens. 2013;27:187–190.
4. Steyn KA, Gaziano TABE, Bradshaw DC, Laubscher RD, Fourie JA, et al. Hypertension in South African adults: results from the Demographic and Health Survey, 1998. Journal of Hypertension. 2001;19:1717–25.
5. Jones DR, Macias C, Barreira PJ, Fisher WH, Hargreaves WA, et al. Prevalence, Severity, and Co-occurrence of Chronic Physical Health Problems of Persons with Serious Mental Illness. Psychiatric Services. 2004;55:1250–7.
6. Palmer S, Vecchio M, Craig JC, et al. Prevalence of depression in chronic kidney disease: systematic review and meta-analysis of observational studies. Kidney Int 2013; 84:179–191.
7. Rutledge T, Reis VA, Linke SE, et al. Depression in heart failure a meta-analytic review of prevalence, intervention effects, and associations with clinical outcomes. J Am Coll Cardiol 2006; 48:1527–1537.
8. Lee E-H, Lee S-J, Hwang S-T, Hong S-H, Kim J-H. Reliability and Validity of the Beck Depression Inventory-II among Korean Adolescents. Psychiatry Investigation. 2017;14(1):30-36. doi:10.4306/pi.2017.14.1.30.
9. Cheung BM, Au T, Chan S, et al. The relationship between hypertension and anxiety or depression in Hong Kong Chinese. Experimental & Clinical Cardiology. 2005;10(1):21-24.
10. Li Z, Li Y, Chen L, Chen P, Hu Y. Prevalence of Depression in Patients With Hypertension: A Systematic Review and Meta-Analysis. Hsueh W, ed. Medicine. 2015;94(31):e1317. doi:10.1097/MD.0000000000001317.
11. Grimsrud A, Stein DJ, Seedat S, Williams D, Myer L. The Association between Hypertension and Depression and Anxiety Disorders: Results from a Nationally-Representative Sample of South African Adults. Miranda JJ, ed. PLoS ONE. 2009;4(5):e5552. doi:10.1371/journal.pone.0005552.