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A CROSS SECTIONAL STUDY OF DEPRESSION AMONG PATIENTS WITH HYPERTENSION IN A TERTIARY CARE HOSPITAL

Psychiatry

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ABSTRACT

INTRODUCTION: Hypertension and Depression are among the most common public health issues affecting population around the world. One of the mental health disorders commonly associated with any chronic medical condition is depression, and hypertension is no exception.

METHODOLOGY: Eligible subjects in this cross sectional study were screened with MINI 6.0. HAM-D scale was administered for patients with a diagnosis of depression.

RESULTS: 58% were males and 42% were females. Mean age was 50.12 (SD= 5.43). Mean BMI was 25.030 (SD= 3.1184). Mean HAM-D score was 7.18 (SD= 5.189). Factors such as being female (x2= 4.059; p= 0.044), urban background (x2= 4.504; p= 0.034), education (x2= 35.294; p= 0.000), duration (x2= 7.712; p= 0.005) were associated with depression There was a negative correlation between age and HAM-D scores (r= -0.370, p= 0.008)

CONCLUSION: Undiagnosed depression among patients with chronic medical illness like hypertension can be more common than one may think.

KEYWORDS

Depression, Hypertension

INTRODUCTION:

Hypertension and Depression are among the most common public health issues affecting population around the world. One of the major contributor of global disease burden is depression. One of the mental health disorders commonly associated with any chronic medical condition is depression, and hypertension is no exception. The overall prevalence of depression in Urban part of South India is estimated to be 15.1% (Poongothai, Pradeepa, Ganesan, & Mohan, 2009)

There can be many direct and indirect factors leading to depression in a patient with hypertension including the deterioration in Quality of Life, associated somatic symptoms, etc., (Almas et al., 2014). Chronic or uncontrolled hypertension also stands as a risk factor of developing depression (Rubio-Guerra et al., 2013).

Prevalence of depression among the people with Hypertension in urban part of South India is about 33.3% (T., Varghese, Dev V., & J., 2017)

Considering the burden of illness among this subgroup, we conducted this study to identify various factors associated with depression and hypertension so as to aid in early intervention.

METHODOLOGY:

The study was conducted in a tertiary health care hospital at Chennai during the period of November 2015 to December 2015. This is a cross sectional study done in a sample of 50 subjects, including the patients attending the Out Patient unit of General Medicine Department during that period, in the age group of 18-59 years, both sexes, diagnosed to have Hypertension of >1 year duration and on antihypertensive medication, who gave informed consent for participation, no other physical co-morbid illness, no family history of psychiatric illness, no past history of psychiatric illness or treatment were included and co-morbid substance use disorders, patients whose family member (parent, sibling, spouse and child) died in last 6months, patients who lost their job during the past 6 weeks were excluded.

All the eligible participants were consecutively screened with MINI 6.0 (Sheehan et al., 1998). Tailor made study pro forma was filled. For Patients with primary diagnosis of depression, HAM-D scale was administered and patients with diagnosis of depression were referred to the Department of Psychiatry.

RESULTS:

Among the study population 58% (n=29) were males and 42% (n=21) were females. All the subjects were married and the mean age was found to be 50.12 (SD= 5.43). The mean Body Mass Index was found to be 25.030 (SD=3.11) and the mean HAM-D score was 7.18 (SD=5.18). It is found that 80% (n=40) of the subjects were from a rural background and 20% (n=10) were from urban areas. 40% (n=20%) of the subjects had an education of higher secondary and graduate level, 46% (n=23) had up to primary education and 14% (n=7) were illiterate. 34% (n=17) of individuals belonged to lower middle socioeconomic class as compared to 22% (n=11) of upper middle, 2% (n=1) upper and upper lower (n=1) socio economic classes. Among the subjects 70% (n=35) had the duration of Hypertension more than 5 years and 30% (n=15) had 1-5 years of duration of Hypertension. 72% (n=36) of patients did not have any family history of Hypertension and 28% (n=14) had the family history. Also we found the study group had no family history of any psychiatric illness. 54% (n=27) of subjects falls under "over-weight" criteria based on their BMI, while 44% (n=22) had "normal" BMI and 2% (n=1) under "obese class I" with mean BMI of 25.030 (SD=3.12). 58% (n=29) had no exercise in their daily schedule and 42% (n=21) had exercise in their daily schedule. On basis of the HAM-D rating scale, 68% (n=34) of individuals with Hypertension scored in the normal range, while 16% (n=8) had mild depression, 14% (n=7) had moderate and 2% (n=1) had severe depression.

There was a significant association between sex (female) and depression (x^2= 4.059; p= 0.044). There was a statistically significant association between background (urban) and depression (x^2= 4.504; p= 0.034). Significant association between education status and depression (x^2= 35.294; p= 0.000). No association between socio-economic status and depression. Duration was categorized into 1 to 5 years and >5 years for statistical convenience and there was association between duration of hypertension (1 to 5 years) and depression (x2= 7.712; p= 0.005). There was no statistically significant association between socio-economic status, family history of hypertension, exercise level and depression. There was a negative correlation between age and HAM-D scores (r= -0.370, p= 0.008) which means as the age increases, the HAM-D scores decreases. There was no significant correlation between the HAM-D scores and BMI (r= 0.128, p= 0.377).

DISCUSSION:

Owing to increasing prevalence of depression in patients with chronic medical illness such as Hypertension, Diabetes, renal disease etc., many researches are being undertake in these areas to stress the importance of psychiatric intervention and burden of disease so as to

aid in treatment, improving quality of life and drug compliance. In a country like India where there is rapid urbanization, the prevalence of depression in rural areas were found to be lesser than that of the urban areas (Abhishekh, Raghuram, Shivakumar, & Balaji, 2013) and our study showed a similar finding. The shift from joint family culture to nuclear families, daily life hassles and stressors may contribute to that fact. There was not much variation with regard to the gender and age distribution among the study population. A meta-analysis and systematic review on prevalence of depression in hypertensive patients showed equal distribution of prevalence among both sexes (Li, Li, Chen, Chen, & Hu, 2015) which is in contrary to our results which had female subjects (x2= 4.059; p= 0.044). There was an association between gender (female) and depression in our study which was in concordance with a study done by Dinesh Neupane (Neupane et al., 2015). But a meta-analysis and systematic review on prevalence of depression in hypertensive patients showed equal distribution of prevalence among both sexes which is in contrast to our finding probably owing to a larger sample size which may explain the variation. There was a negative correlation between age and depression severity as depicted by HAM-D scores in our study. This is in contrast to a study done by Mirowsky on Age and depression (Mirowsky & Ross, 1992). This variation could be due to the inclusion criteria for age in our study wherein the prevalence of depression could increase in the elderly. There was an association between education status and depression in our study which is in concordance with the study done in China which showed higher education was associated with risk of Major Depressive Disorder and recurrence of episodes (Gan et al., 2012). Some pan-European studies showed the level of education acts as a protective factor for depression (Alonso et al., 2004). This discrepancy in the findings between the developing and the developed countries could be due to multiple factors. Increasing BMI is a risk factor for developing any metabolic disease including Hypertension (Dua, Bhuker, Sharma, Dhall, & Kapoor, 2014) and in our study majority of subjects were found to be "overweight". But there was no correlation between Body Mass Index and depression. Although the concept of positive family history carries the risk of hypertension (Ranasinghe, Cooray, Jayawardena, & Katulanda, 2015), in our study many of the subjects did not have family history of hypertension. As with a study done in South India, our study too showed similar findings of low mood followed by tiredness as a presenting feature which accounts for mild symptoms (Poongothai et al., 2009) and severe symptoms amounting to Major Depressive Disorder were less frequent. There was an association between duration of hypertension and depression wherein subjects with 1-5 years of hypertension showed association with depression when compared to subjects with more than 5 years duration of hypertension. This is in contrary to a study done in Trivandrum which showed higher prevalence of depression with increasing duration of hypertension (M. T, Varghese, Dev V, & J, 2017). The life style modifications which the individual has to blend in to his daily routine following the diagnosis of hypertension might pose the individual at a greater risk of depression than at a later stage where acceptance and adaptation might come into play.

LIMITATIONS:

1) As it is a cross sectional study we cannot infer causality.
2) Smaller sample size
3) Other metabolic parameters such as waist circumference, blood glucose level, lipid level were not considered.
4) Antihypertensive drugs itself might cause depression.

CONCLUSION:

Undiagnosed depression among patients with chronic medical illness like hypertension can be more common than one may think. Prompt recognition and intervention of hypertension and depression goes in tandem with each other so as to foster a symbiotic relationship between interventions for these two conditions rather than the intervention for the former culminating in the later.

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