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MIGRAINE AND ITS PSYCHIATRIC CO-MORBIDITY

Psychiatry

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ABSTRACT

The aim of the study is to assess the prevalence and type of co-morbid psychiatric illness in migraine and to assess the relationship between the severity and disability of migraine to psychiatric illness. The sample comprises of 60 consecutive patients attending the neurology OPD, Government Rajaji Hospital, Madurai, a tertiary care center for a period of 6 months, who were diagnosed to have migraine by the IHS(International Headache Society) criteria by a neurologist and age group between 18-65yrs were taken up for the study. Minimum duration of illness is 3 months. Mini International Neuropsychiatirc interview, Migraine disability assessment questionnaire (MIDAS) and Migraine Severity Questionaire (MIGSEV) were used. The present research found that, Migraine is more common in females (Females have high prevalence of co-morbid psychiatric disorders than males). Anxiety was the most common psychiatric disorder followed by depression. Co-morbid psychiatric illness increases the migraine severity and increases the disability in migraine.

KEYWORDS

Migraine, Psychiatric comorbidity, Anxiety, Depression,

INTRODUCTION

Migraine is largely familial, highly prevalent disorder characterized by episodic, mostly unilateral, pulsatile headaches beginning in childhood, adolescence or early adult life and occurs with diminishing frequency during advancing years. An important aspect of heterogeneity of migraine is its comorbidity with other illness, mostly neurological, cardiovascular and psychiatric. The scope of the present study is to delineate the psychiatric comorbidities in migraine and assess the severity of migraine attacks and disability due to migraine. Migraine is one of the common forms of headache and many a times it could be severely incapacitating. International Headache Society (IHS) (Subcommittee IHSC 2004) – 5 main criteria which predict the diagnosis are (Detsky et al, 2006): Pulsating, duration between 4-72 hours, unilateral, nausea, disabling. The female to male ratio is about 3:1 and the lifetime prevalence is 16% (Hirtz et al, 2007).

The most common age of onset is the childhood period or early adult life. Migranous headache usually lasts for 8-24 hours but rarely present for several days. Pain is throbbing in nature which is aggravated on coughing or jolting. Photophobia and intolerance of sounds occurs during the attack in about one-third of cases preceded by an aura, the syndrome is known as migraine with aura (classic migraine).After the age of 50 years the prevalence is found to decrease.(Steiner et al, 2003)

PSYCHIATRIC ASPECTS OF MIGRAINE

Many studies have been done to assess the association of anxiety and depression, with migraine. The risk is two to three times more than the general population. Breslau et al (1991) studied in a sample size of 1007. The lifetime prevalence according to their study was 12.8% and the one year prevalence was 9.2%. Compared to 9.2% of the non migraine subjects, who had major depression, about 26.5% of migraine patients were suffering from major depression. Anxiety had prevalence of 53% among migraineurs, compared to 27% among non migraineurs. Rajdeep kaur et al (2010) investigated the impact of depression in migraine found out that – 73% of the study sample were females, longer duration of illness and higher frequency of attacks , is more frequently associated with depression, co morbid depression increases the duration , frequency and severity of migraine, migraine with co morbid depression is resistant to treatment.

AIM

The aim of the study is to assess the prevalence and type of co-morbid psychiatric illness in migraine and to assess the relationship between the severity and disability of migraine to psychiatric illness.

OBJECTIVES

1. To study the prevalence of psychiatric co morbidity in migraine.
2. To assess the severity of migraine, disability due to migraine and associate it with psychiatric comorbidity.
3. To assess the relationship between duration of illness, psychiatric comorbitidy, severity and disability in migraine.

METHODOLOGY:

The study was conducted at Government Rajaji Hospital, Madurai, a tertiary care center for a period of 6 months. The sample comprises of 60 consecutive patients attending the neurology OPD who were diagnosed to have migraine by the IHS(International Headache Society) criteria by a neurologist and age group between 18-65yrs were taken up for the study. Minimum duration of illness is 3 months. Both newly diagnosed patients and patients already on follow up who fulfill the inclusion criteria were taken up for the study. Patients with other types of headaches, with comorbid medical illness were not included. The study was approved by Institutional Ethical Committee, Government Rajaji Hospital. Complete physical examination including a detailed neurological evaluation was done.Mental status examination was done.All subjects were screened for the presence of psychiatric illness using MINI neuropsychiatric interview by WHO. The severity of migraine attacks were quantified using MIGSEV scale. The disability due to migraine in the past 3 months was quantified using MIDAS questionnaire. The obtained data was interpreted by using descriptive statistics and chi-square test.

PROFORMA:

Proforma includes personal demographic details, present history, past history, Family history, duration of illness, severity of illness, physical and mental status examination and Biochemical Investigations.

MINI INTERNATIONAL NEUROPSYCHIATRIC INTERVIEW:

The M.I.N.I. is a structured interview for diagnosing the major Axis I psychiatric disorders in DSM-IV and ICD-10. The interview is short and takes about 15 minutes to administer. It can be administered after a brief training. It is a useful instrument in epidemiological studies and trials. It has precise questions about psychological problems and the answers are in yes or no format. The M.I.N.I. is divided into 16 modules identified by letters, each corresponding to a diagnostic category. Validation and reliability on comparing with several structured interviews were found to be good.

MIGRAINE DISABILITY ASSESSMENT QUESTIONNAIRE (MIDAS):

It is a questionnaire to measure the impact of migraine on the patients life. It is helpful to determine the level of pain and disabilities caused by headaches and find the best treatment. It assess the impact of headache over the last 3 months. It measures the workdays lost due to headache at work or school, at household and at leisure and social activities. It also measures the frequency of headache in the last 3 months and also the severity on a scale of 0-10. The frequency and severity are not quantified. The lost work days are stratified and given

grades from 1-4, ranging from no disability to severe disability. This questionnaire is validated by so many large studies and considered to be a primary tool to assess the disability due to migraine both for treatment and research purposes.

MIGRAINE SEVERITY QUESTIONNAIRE (MIGSEV):

It is a simple measure of severity used to describe and categorize the severity of migraine attacks for the diagnosis and treatment of patients with migraine. It uses four variables to quantify the severity of each migraine attack. Intensity of pain, nausea, disability in daily activities and tolerability are quantified using 3-4 grades and stratified as low, intermediate and high grades. The scale has been validated by a large study and found to be a reliable tool for assessing the severity of migraine attacks.

RESULTS

TABLE NO: 1: TABLE SHOWING SOCIODEMOGRAPHIC VARIABLES AND DURATION OF ILLNESS IN MIGRAINE PATIENTS

S.NO	VARIABLE		CASES	PERCENTAGE
1	AGE	<20YRS	2	3
		21-25YRS	15	25
		25-30YRS	28	47
		31-35YRS	7	12
		>36	8	13
2	SEX	MALE	12	20
		FEMALE	48	80
3	DURATION OF ILLNESS	<1YR	29	48
		1 TO 5 YRS	21	35
		>5 YRS	10	17

Majority of the patients, i.e., 47% of the patients belong to the age group of 26 – 30 years and 25% belong to the age group of 21-25 years, followed by 13% of patients >36 years, 12% of patients between 31-35 years and 3% of patients were under 20 years. Females constitute 80% of the study sample and males were 20%. 48% of patients had illness for less than one year, 35% had 1 to 5 years of illness and about 16% had more than 5 years of illness.

TABLE NO: 2: DISTRIBUTION OF PATIENTS BASED ON PSYCHIATRIC DIAGNOSIS AND DURATION OF ILLNESS

SL NO	Psychiatric diagnosis	Frequency	Percentage	DURATION OF ILLNESS						STATISTICAL VALUE
				<1YEAR		1-5 YRS		>5 YRS		
				N	%	N	%	N	%	
1	Depression	10	17	0	0	2	20	8	80	X^2 = 61.553 DF = 14 P<.000**
2	Anxiety	15	25	4	27	11	73	0	0	
3	Panic Disorder	2	3	1	50	1	50	0	0	
4	Bipolar	1	2	1	100	0	0	0	0	
5	Substance use	2	3	1	50	1	50	0	0	
6	Social Anxiety	2	3	1	50	1	50	0	0	
7	Dysthymia	3	5	0	0	1	33	2	67	
	Total no illness present	35	58	8	23	17	49	10	29	X^2= 22.8 Df = 2 P<.000**
8	NO ILLNESS	25	42	21	84	4	16	0	0	

*-P<0.05, **-P<0.01

From the above table, the study infers that around 58 % of the Migraine patients had a comorbid Psychiatric disorder. Among them, anxiety ranks first – 25%, followed by Depression – 16.7%, dysthymia – 5%, followed by Panic disorder, substance use and Social Anxiety Disorder. Bipolar disorder was found in 1.7% of patients. 41.7% of patients did not have any comorbid Psychiatric illness. Majority of the patients who suffer from psychiatric morbidity have a duration of illness 1 to 5 years. Majority of the patients without psychiatric morbidity have duration of illness below one year. This difference is found to be statistically significant at P value of <0.000. on Duration of illness and Psychiatric diagnosis - 80% of patients with depression have duration of illness more than 5 years.73.3% of patients with anxiety have duration of illness between 1 to 5 years and 66.7% of patients with dysthymia have duration of illness more than 5 years. About 84% of patients with Duration of Illness less than one year have no comorbid Psychiatric illness. This difference was found to be statistically significant at a P value of <0.001.

TABLE:3-DISTRIBUTION OF PATIENTS BASED ON MIDAS SCORING, MIGSEV GRADE AND DURATION ILLNESS.

S.NO	VARIABLE		CASES	PERCENTAGE	<1YEAR		1-5 YEARS		>5 YEARS		STATISTICAL VALUE
					N	%	N	%	N	%	
1.	MIDAS GRADE	MILD	33	55	25	76	8	24	0	0	X2=53.74** df = 4
		MODERATE	18	30	4	22	12	67	2	12	
		SEVERE	9	15	0	0	1	11	8	88	
2.	MIGSEV GRADE	LOW	22	37	18	82	4	18	0	0	X^2=50.21** df = 4
		INTERMEDIATE	29	48	11	38	16	55	2	7	
		HIGH	9	15	0	0	1	11	8	89	

*-P<0.05, **-P<0.01

Based on the frequency distribution of patients based on MIDAS scoring-55% had mild disability, 30% had moderate and 15% had severe disability. Based on MIGSEV scoring Migraine severity was intermediate in majority of the patients, about 48.3%. Low severity was found in 36.7% of patients and 15% of patients had high severity of Migraine. The distribution of patients based on Duration of Illness and MIDAS grade it is observed that 75.8% of patients with Duration of Illness less than one year have mild disability.66.7% of patients with Duration of Illness 1 – 5 years have Moderate disability.88.9% of patients with Duration of Illness more than 5 years have Severe disability. This difference was found to be statistically significant at a P value of <0.000. Evaluating the distribution of patients based on Duration of illness and MIGSEV grade - 81.8% of patients with Duration of illness less than one year have low MIGSEV grade.55.2% of patients with Duration of Illness 1 -5 years have intermediate MIGSEV grade.88.9% of patients with Duration of Illness more than 5 years have severe MIGSEV grade. This difference was found to be statistically significant at P value of <0.000

TABLE NO: 4: DISTRIBUTION OF PATIENTS BASED ON MIDAS, MIGSEV GRADE AND PSYCHIATRIC DIAGNOSIS

PSYCHIATRIC DIAGNOSIS	MIDAS GRADE		MIGSEV GRADE									
	MILD		MODERATE		SEVERE		MILD		MODERATE		SEVERE	
MAJOR DEPRESSION	N	%	N	%	N	%	N	%	N	%	N	%
	0	0	4	22	6	67	0	0	4	14	6	67
GAD	4	12	11	61	0	0	0	0	15	52	0	0
PANIC DISORDER	1	3	1	6	0	0	0	0	2	7	0	0
BIPOLAR DISORDER	1	3	0	0	0	0	1	5	0	0	0	0

SUBSTANCE USE	2	6	0	0	0	0	1	5	1	3	0	0
SOCIAL ANXIETY	1	3	1	6	0	0	0	0	2	7	0	0
DYSTHYMIA	0	0	0	0	3	33	0	0	0	0	3	33
NO ILLNESS	24	72	1	6	0	0	20	90	5	17	0	0
STATISTICAL VALUE	X^2 =70.79** df = 14						X^2 = 77.45**					

*P<0.05, **P<0.01

Table shows the distribution of patients based on MIDAS grade and Psychiatric diagnosis.96% of patients with no Psychiatric comorbidity had only mild disability. 73.3% of patients with anxiety disorders have moderate disability. 60% of patients with depression and 100% of patients with dysthymia have severe disability. This difference is statistically significant (X2 =70.79**) atP<0.01.When Migraine Severity was of low grade about 80% of patients did not have any Psychiatric comorbidity. When migraine severity was of Intermediate grade most of the patients had comorbid Anxiety disorders. When the severity of Migraine was of high grade, all patients had either dysthymia or depression.

TABLE NO:5 : DISTRIBUTION OF PATIENTS BASED ON MIGSEV GRADE AND MIDAS GRADE.

S,NO	MIGSEV GRADE	MIDAS GRADE						STATISTICAL VALUE
		MILD		MODERATE		SEVERE		
		N	%	N	%	N	%	X^2 = 84.82 df = 4
1	LOW	22	100	0	0	0	0	
2	INTERMEDIATE	11	38	18	62	0	0	
3	HIGH	0	0	0	0	9	100	

*-P<0.05, **-P<0.01

All patients with mild disability have low grade MIGSEV scores. Likewise, all patients with severe disability have a high grade of severity on MIGSEV. 67% of patients with moderate disability and 33% with mild disability have an intermediate grade of MIGSEV.

DISCUSSION

Predominant psychiatric comorbidity is Anxiety disorder, Dysthymia and Depression. This finding is consistent with numerous international studies which state that the incidence of co-morbid psychiatric disorders increases with increasing duration of illness. (Kai-dihjuang et.al.) Anxiety disorder is predominant in patients with short duration of illness but as the duration increases to >5 yrs the predominant psychiatric comorbidity is dysthymia and depressive disorder and there are no patients with anxiety disorder. It can also be indicated that earlier phase of migraine has anxiety disorder as comorbidity but as duration of migraine illness increases it culminates into a depressive disorder. This is in consistent with the landmark prospective study conducted by Merikangas et al 1994, which states that anxiety precedes the development of depression in patients with migraine. It is also noted in this study that as the duration of illness increases the migraine severity (as measured by MIGSEV) and disability due to migraine (as measured by MIDAS) increases. In the present study when considering the disability due to migraine and severity of migraine in relationship with psychiatric comorbidity it is striking to note that when the severity increases the psychiatric comorbidity also increases. All the patients who showed severe grades in MIDAS and MIGSEV had psychiatric comorbidity and it is only Dysthymia and Depressive disorder. When there are less severe grades the associated comorbidity is predominantly Anxiety disorder. As the migraine severity increases the disability due to migraine also increases.

CONCLUSIONS

The present research concluded that, Migraine is more common in females (Females have high prevalence of co-morbid psychiatric disorders than males). Anxiety was the most common psychiatric disorder followed by depression. Co-morbid psychiatric illness increases the migraine severity and increases the disability in migraine.

LIMITATIONS

- The treatment of migraine was not considered in the study. This has important implications ,as the drug treatment of migraine, both abortive and preventive have an impact on all the important variables considered in the study.
- The types of migraine were not delineated in the study.
- Most of the patients with duration of illness for more than 5 years had chronic migraine (CDH),whereas the patients with the duration of illness between 0-5 years had episodic migraine, mostly Common Migraine(without aura). This is likely to have implications in the variables considered in the study. The sample size is limited compared to the prevalence of migraine in the population.
- Two important confounding variables, duration of treatment and drugs used for treatment were not considered. This may have impact on the severity of disability in migraine and also the psychiatric co-morbidity.

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