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## RESEARCH ARTICLE

### A STUDY ON IMPACT OF ANXIETY IN MIGRAINE

<sup>1,\*</sup>Dr. Pradeep, R., <sup>2</sup>Dr. Harsha, S., <sup>3</sup>Dr. Keshava, B. S., <sup>1</sup>Dr. Vivek Karan and <sup>4</sup>Dr. Praveen Kulkarni

<sup>1,2,3</sup>Department of Neurology, JSS Medical College and Hospital, JSS University, Mysore

<sup>4</sup>Department of Preventive and Social Medicine, JSS Medical College and Hospital, JSS University, Mysore

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#### ABSTRACT

Migraine is a common type of primary headache. Anxiety is seen more commonly in migraineur's than general population. Presence of Anxiety in migraineur's also significantly effect the quality of life. The present study was done to look for the presence of anxiety among migraine patients and normal individuals and also to compare quality of life in migraineur's with and without anxiety.

**Materials and Methods:** In this case control study 127 individuals with migraine and 30 age and sex matched healthy individuals were studied. The International Headache Society's International Classification of Headache Disorders, 3rd Edition, (ICHD-III) was followed to diagnose Migraine with or without aura. Head ache impact test was used to assess severity of headache. Migraine disability assessment scale (MIDAS) was used to assess migraine related disability. Mini-International Neuropsychiatric Interview (M.I.N.I.) PLUS questionnaire was used to screen for the presence of anxiety. Hamilton Anxiety Rating Scale was used for assessing severity of anxiety. WHO Quality of Life -BREF questionnaire was used to assess quality of life.

**Results:** Anxiety was present in 36(28.34%) with migraine while 3(5%) in control group had anxiety. In females anxiety was found in 33.7% while in males anxiety was found in 15.78%. Quality of life was significantly affected in those with anxiety.

**Conclusion:** The occurrence of anxiety as comorbid condition with migraine is common. Anxiety is more common in females. The quality of life is negatively impacted in those with comorbid anxiety.

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## INTRODUCTION

Migraine is a common cause of primary headaches. According to World Health Organization (WHO) anxiety and migraine are among top 10 leading causes of disability worldwide<sup>1</sup>. Migraine is responsible for 1.4% of total years of life lost due to disability (Leonardi *et al.*, 2005). The presence of migraine and comorbid anxiety results in greater use of health resources (Jette *et al.*, 2008). Recognizing this comorbidity in migraine alters the treatment course.

### Aims and Objectives

The present study was done to look for prevalence of anxiety among people with migraine, factors affecting Quality of life in those with and without anxiety.

## MATERIALS AND METHODS

This study was done in Department of Neurology, JSS Hospital, Mysore, Karnataka. 127 consecutive individuals

diagnosed to have migraine and 30 age and sex matched healthy individuals were studied. The ICHD-III criteria were used to diagnose Migraine with or without aura (ICHD, 2013). Headache impact test was used to assess severity of headache (Kosinski *et al.*, 2003). Migraine disability assessment scale (MIDAS) was used to assess migraine related disability (Stewart *et al.*, 2001). Mini-International Neuropsychiatric Interview (M.I.N.I.) PLUS questionnaire was used to screen for the presence of depression (Sheehan *et al.*, 1998). Hamilton Anxiety Rating Scale was used for assessing severity of anxiety (Hamilton, 1959). WHO Quality of Life -BREF questionnaire used to assess quality of life (Skevington *et al.*, 2004).

## RESULTS

Of the 127 individuals with migraine 89 were females and 38 were males. 60 age matched controls were studied of which 30 were females and 30 males. Maximum participants were housewives. The mean age of study participants was 32.33±7.83yrs. The mean age of female migraineur's was 32.58±7.85yrs where as in healthy females the mean age was 32.56±8.62yrs. The mean age of male migraineur's was 32.9±7.85yrs, whereas the mean age of healthy males was 32.9±7.65yrs.

\*Corresponding author: Dr. Pradeep, R.

Department of Neurology, JSS Medical College and hospital, JSS University, Mysore

**Table 1. Mean age of cases and controls**

	Female (n=89)	Female (n=30)	p value	Male (n=38)	Male (n=30)	p value
Age(yrs)	32.58±7.85	32.56±8.62	0.99	32.9±7.85	33.9±7.65	0.6

**Table 2. Age and headache characteristics of the migraineurs**

	Mean	Std. Deviation
Age (Yrs)	32.33	7.83
Migraine duration(Yrs)	3.51	3.23
Duration of acute headache (Hrs.)	19.22	18.61
Frequency/month	5.91	3.49
Migraine days/month	6.94	4.94

**Table 3. Age of migraineurs with and without comorbid anxiety**

	Migraine with anxiety(n=36 )	Migraine without anxiety(n= 91 )	P value
	Mean±std.dev.	Mean±std.dev.	
Age (yrs)	32.39±7.72	32.33±7.83	0.96

**Table 4. Headache characteristics and QOL in those with and without anxiety**

	Anxiety present(N=36)28.34%	Anxiety absent(N=91)71.66%	p value
	Mean±std.dev.	Mean±std.dev.	
Head ache duration(yrs)	3.61±3.41	3.48±3.16	0.722
Duration of acute headache (hrs.)	28.39±22.61	15.59±15.47	<0.0001
Frequency/month	6.64±3.79	5.62±3.34	0.137
Migraine days/month	8.81±6.11	6.21±4.21	0.007
HIT	68.92±5.99	66.19±7.07	0.043
MIDAS	27.31±10.93	21.66±11.25	0.011
WHO QOL			
Physical health	45.03±12.27	52.65±8.47	<0.0001
Psychological	54.06±4.41	55.47±7.02	0.263
Social relationships	54.94±9.85	62.12±10.81	<0.0001
Environment	68.03±7.62	73.76±5.74	<0.0001
Total score	53.01±4.87	61.28±7.15	<0.0001

**Table 5. Comparison of characteristics among males and females with anxiety**

	Males (N=6)33.7%.	Females (N=30)15.78%	p value
	Mean ±S.D	Mean ±S.D	
Age(yrs)	35±10.54	33.4±5.83	0.59
Headache duration(yrs)	2.16±1.29	3.88±3.65	0.36
Duration of each episode (hrs.)	28±16.39	28.46±23.89	0.96
Frequency per month	7.33±3.61	6.5±3.87	0.63
Migraine days	10±4.47	8.56±6.42	0.61
HIT	73.66±6.71	67.96±5.48	0.03
MIDAS	37.33±9.56	25.3±10.17	0.016

The mean age was similar in migraineur's with and without anxiety. The mean migraine duration was 3.51±3.23 yrs. The mean duration of acute headaches was 19.22 ±18.61 hours and the frequency of headaches was 5.91 ±3.49 per month. They had migraine on 6.94 ±4.94 days in a month. The duration of acute headaches and migraine days per month, HIT and MIDAS score was significantly higher in those with migraine and comorbid anxiety. Except for the psychological domain of WHO-QOL, The quality of life was also significantly affected in those with comorbid anxiety. Though male migraineur's had higher HIT and MIDAS score, females were more susceptible to have comorbid anxiety.

## DISCUSSION

Migraine is the most common disabling primary headache. According to Wolff (Wolff, 1937) migraine personality is

characterized by a set of psychosocial features which includes anxiety, depression and social phobia. Similar to our study many other studies (Merikangas *et al.*, 1990; Breslau *et al.*, 1991; Breslau and Davis, 1993 and Breslau, 1998) done showed anxiety disorders were more commonly associated with those with migraine. A population based study by Jette *et al.* (2008) found that migraineur's with anxiety were greater health resource users than those without anxiety. This study shows anxiety is more common in migraine. Individuals with longer duration of acute headaches, higher migraine days per month and higher migraine related disability have more propensity of having comorbid anxiety with migraine. Similar to our study Hung *et al.* (2008) also showed that quality of life will be negatively impacted in those with comorbid anxiety. The association of migraine and anxiety may be a result of chance, migraine may cause anxiety or anxiety may precipitate

migraine or there may be shared etiological factors/common determinants (Sheftell and Atlas, 2002).

## Conclusion

The occurrence of anxiety as comorbid condition with migraine is common. Anxiety is more common in females. The quality of life is negatively impacted in those with comorbid anxiety.

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