

Study of psychiatric comorbidity in patients with headache using a short structured clinical interview in a rural neurology clinic in Western India

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ABSTRACT

Background: Psychiatric disorders are common in patients attending neurology clinics with headache. Evaluation of psychiatric comorbidity in patients with headache is often missed in the busy neurology clinics. **Aims:** To assess the prevalence of Axis-I DSM-IV psychiatric disorders in patients with primary headache disorders in a rural-based tertiary neurology clinic in Western India. **Settings and Design:** A cross-sectional observation survey was conducting assessing all patients with migraine, tension-type headache and chronic daily headache attending the Neurology Clinic of Shree Krishna Hospital, a rural medical teaching hospital in Karamsad, in Gujarat in Western India. **Materials and Methods:** A total of 101 consecutive consenting adults with headache were interviewed using Mini International Neuropsychiatric Interview (M.I.N.I.), a structured diagnostic clinical interview to assess prevalence of Axis-I DSM-IV psychiatric disorders. **Statistical Analysis:** Descriptive statistics were calculated using SPSS software version 16 and a binomial regression model was used to study the relationship of psychiatric co-morbidity with patient-related factors. **Results:** 49 out of 101 (48.5%) patients with headache suffered from depressive disorders (dysthymia or depression or suicidality), 18 out of 101 patients with headache (17.90%) suffered from anxiety related disorders (generalized anxiety disorder or agoraphobia or social phobia or panic disorder). **Conclusions:** Axis-I psychiatric disorders are a significant comorbidity among patients with headache disorders. M.I.N.I. can be used as a short, less time consuming instrument to assess all patients with headache disorders.

Key words: Anxiety, depression, headache, migraine, tension-type headache

Introduction

Migraine and tension-type headache (TTH) are most common neurological disorders present in the community and in patients attending the outpatient clinics of hospitals. TTH and migraine rank second and third in prevalence among other diseases in the world.^[1] Studies in general population and clinical settings have indicated that there is increased risk of affective and anxiety disorder in individuals with

migraine and chronic daily headache as compared to those not suffering from migraine.^[2,3] Recognition and treatment of psychiatric co-morbidity in patients with chronic and recurrent headaches is necessary to improve quality of life, prognosis and reduce the risk of chronicity of the disease. Most of the current available studies have assessed patients using either patient-generated scores like Hamilton Anxiety Scale (HAS) and Hamilton Depression Scale (HAD) that are subjective screening instruments or have used detailed evaluation instruments like the Schedule for Clinical Assessment in Neuropsychiatry (SCAN) and Composite International Diagnostic Interview (CIDI), which are extensively time consuming and difficult to use in the routine general practice. Mini International Neuropsychiatric Interview (M.I.N.I.) is a short, less time consuming, valid and reliable structured clinical interview for Axis-I DSM-IV disorders.^[4,5] There is a paucity of literature from Gujarat and India regarding

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prevalence of psychiatric co-morbidity in patients with migraine, TTH and CDH. Therefore, we conducted this study to assess the prevalence of Axis-I DSM-IV disorders using M.I.N.I. in patients with headache.

Materials and Methods

A cross-sectional, observational study approved by Institutional Ethics Committee of H. M. Patel Centre for Medical Care and Education was conducted at Shree Krishna Hospital, a rural-based medical teaching hospital associated with Pramukhswami Medical College, located in Karamsad in Gujarat State in Western India, over a period of 60 days between April and June 2012. We recruited a total of 101 consecutive consenting adult (age > 18) patients attending neurology clinic with diagnosis of migraine, TTH and CDH after obtaining informed consent. The diagnosis of headache disorders was made according to International Classification of Headache Disorders [ICHD] 2004.^[6] CDH is a descriptive term defined as headaches on 15 or more days in a month for at least 3 months.^[7]

We used M.I.N.I. English version 5.0.0 to assess the patients for recognizing psychiatric co-morbidity. M.I.N.I. is a structured diagnostic interview for diagnosis of DSM-IV psychiatric disorders. It was originally developed with the aim of efficient and accurate assessment of DSM-IV psychiatric disorders.^[4] Descriptive statistics were calculated using SPSS software version 16 and a binomial regression model was used to study the relationship of psychiatric co-morbidity with various patient related factors such as age, gender, type of headache, duration and frequency of headache.

Results

We studied 101 patients (80 females, 21 males). Their age ranged from 18 to 64 years (mean = 35 years). An average headache patient visiting our center was a middle-aged literate Hindu female. Majority of headache patients were either students or homemakers. Duration of headache ranged from 1 to 244 months (mean = 47.64, standard deviation = 49.625) and frequency of headaches per month ranged from 2 to 30 days per month (mean = 13.46, standard deviation = 8.847). Among patients with headache disorders, migraine was present in 50 (49.5%), TTH was seen in 23 (22.8%), CDH in 34 (33.66%), chronic migraine (CM) in 24 (23.76%). Nineteen out of 101 (18.81%) patients had more than one type of headache [Table 1].

49 out of 101 (48.5%) patients with headache suffered from depressive disorders (dysthymia or depression or suicidality), 18 out of 101 patients with headache (17.90%) suffered from anxiety related disorders (generalized anxiety disorder or agoraphobia or social phobia or panic disorder). No patient in our study suffered from posttraumatic stress disorder or obsessive compulsive disorder [Table 2].

Among the patients, a depressive disorder was present in 46% of patients with migraine, 47.8% of patients with TTH and 62.5% of patients who had both migraine and TTH in combination (see supplementary Table 3). Anxiety-related disorders (either of generalized anxiety, agoraphobia, social anxiety or panic disorder) was present in 22% of patients with migraine, 13% of patients with tension-type headache and 17.6% of patients with chronic daily headache (see supplementary Table 4).

Linear regression findings showed that depression correlated with the headache frequency per month (sig. = 0.33), but not with any other variables. Also, linear regression findings of anxiety did not correlate with any demographic, clinical features and headache types.

Table 1: Distribution of headache type

Type of headache	Number of patients*	Percentage
Migraine	50	49.50
Migraine with aura	7	6.9
Tension-type headache	23	22.8
Chronic daily headache	34	33.66
Chronic migraine	24	23.76
Medication overuse headache	2	2

*Some the patients had more than one type of headache and hence total exceeds 101

Table 2: Prevalence of Axis-I DSM-IV psychiatric disorder in patients with headache

Axis-I DSM-IV psychiatric disorder	Number of patients*	Percentage
Depression	34	33.7
Dysthymia	40	39.6
Suicidality	16	15.8
General anxiety	16	15.8
Agoraphobia	7	6.9
Social phobia	3	3
Panic disorder	2	2
Psychotic disorder	1	1
Mania or hypomania	1	1
Depression or dysthymia or suicidality	49	48.5
General anxiety or agoraphobia or social phobia or panic disorder	18	17.9

*Some of the patients had more than one coexisting disorder hence total exceeds 101. DSM: Diagnostic and statistical manual

Discussion

We used ICHD 2004 to diagnose headache type in this cross-sectional observational study. Although psychiatric comorbidity in patients with headache has been studied for long, a comparison across all the previous investigations is not possible due to different classification and case definition of headaches. For example, before 2004, certain headache types such as chronic migraine, which are frequently known to be comorbid with psychiatric disorders, were not defined by diagnostic criteria.

We studied psychiatric comorbidity by using M.I.N.I. in patients with headache visiting our neurology clinic.

Table 3: Headache types with prevalence of depressive disorders

Disorder	Depression	Dysthymia	Suicidality	Depression or dysthymia or suicidality
Migraine (n=50)	17 (34)	20 (40)	9 (18)	23 (46)
Tension-type headache (n=23)	11 (47.82)	11 (47.82)	4 (17.39)	11 (47.82)
Migraine+ tension-type headache (n=08)	5 (62.5)	5 (62.5)	2 (25)	5 (62.5)
Chronic daily headache (n=34)	12 (35.29)	13 (38.23)	7 (20.58)	17 (50)

Figures in parenthesis indicate percentage

Table 4: Headache types with prevalence of anxiety disorders

Disorder	Generalized anxiety	Agoraphobia	Social phobia	Panic disorder	Generalized Anxiety or agoraphobia or social phobia or panic disorder
Migraine (n=50)	8 (16)	3 (6)	3 (6)	2 (4)	11 (22)
Tension-type headache (n=23)	2 (8.69)	2 (8.69)	0	0	3 (13)
Migraine+Tension-type headache (n=08)	0	1 (12.5)	0	0	0
Chronic daily headache (n=34)	5 (14.70)	1 (2.95)	0	0	6 (17.64)

Figures in parenthesis indicate percentage

Table 5: Prevalence of depression in individuals with migraine in different studies

Study	Year	Inclusion criteria and setting	Diagnostic tool	Prevalence of depression (%)
Present study	2012	101 patients aged 18 to 64, diagnosed with migraine, TTH, CDH in tertiary care clinic	M.I.N.I.	34
Samaan <i>et al.</i> ^[8]	2009	189 patients diagnosed with migraine in a case control study	SCAN, BDI	81.5
Hung <i>et al.</i> ^[9]	2009	Clinic-based study	HAMD-S DSSS	47.9
Ratecliffe <i>et al.</i> ^[10]	2009	Population-based study	CIDI	14.8
Camarda <i>et al.</i> ^[11]	2008	Population-based study	CES-D	47.0
Jette <i>et al.</i> ^[12]	2008	Population-based study	CIDI	8.6
Lannteri-Minet <i>et al.</i> ^[13]	2005	Population-based study	HADS	23.2
Kececi <i>et al.</i> ^[14]	2003	Population-based study	DSM-IV	32.5

HAMDS Somatic items of the Hamilton depression rating scale, DSSS: Depression and somatic symptoms scale, CES-D: Centre for epidemiologic studies depression scale, HADS: Hospital anxiety and depression scale, SCAN: Schedule for clinical assessment in neuropsychiatry, BDI: Beck depression inventory, CIDI (SF): Composite international diagnostic interview (short form), M.I.N.I.: Mini international neuropsychiatric interview, DSM-IV: Diagnostic and statistical manual-IV

Researchers from different parts of the world have used other diagnostic tools in clinic and community settings.^[8-17] We observed that depression was prevalent in 34% of individuals with migraine in our study. However, the prevalence across different studies has ranged from 8.6% to 81.5% (see supplementary Table 5). Similarly, we observed a prevalence rate of 17.64% for anxiety-related disorders in patients with CDH, while the prevalence across different studies has ranged from 17% to 56% (see supplementary Table 6).

Our results are in concurrence with several previous reports indicating an association between migraine, other headache types and psychiatric disorders. Though our findings are based on a relatively smaller sample from hospital setting, the strength of our study lies in inclusion of well-defined cases of headache by a single neurologist and personal interview of patients for prevalence of DSM-IV psychiatric disorders using M.I.N.I.

Most studies have used other tools like Hamilton depression scale or BDI which are subjective and do not give a diagnosis on Axis-I DSM-IV classification and only judge patients to have “depressive” or “anxious” features on basis of their responses to questions. Scales like CIDI, SCID and SCAN give a detailed diagnosis on DSM-IV classification but are too lengthy for use in the outpatient clinic setting. We demonstrated that M.I.N.I. can be used in the outpatient setting easily and routinely in identifying psychiatric disorders among patients with headache.

Table 6: Prevalence of anxiety disorders in individuals with headache in different studies

Study	Year	Setting	Diagnostic tool	Prevalence of anxiety disorders (%)
Present study	2012	Tertiary care clinic	M.I.N.I.	17.64
Holryd <i>et al.</i> ^[15]	2000	Population-based study	BDI	17
Puca <i>et al.</i> ^[16]	1999	Tertiary care clinic	CIDI	56
Verri <i>et al.</i> ^[17]	1998	Population-based study	SCID-P	GAD: 69.3

M.I.N.I.: Mini international neuropsychiatric interview, SCID: The structured clinical interview for DSM-IV, GAD: Generalized anxiety disorder, BDI: Beck depression inventory, CIDI: Composite international diagnostic interview

Studies on psychiatric comorbidity among headache patients have demonstrated association of psychiatric disorder with chronic pain. Headache patients with long history and high frequency of headaches have higher prevalence of anxiety or depression.^[15,17-21] In our study we observed a correlation between frequency of headache and depressive disorders, however such a correlation was not found between anxiety disorders. Headaches comorbid with psychiatric disorders decrease the quality of life and result in worse prognosis, chronicity of disease and worse response to treatment. Improvement in mental health among such patients may improve the long-term pharmacotherapy of headache.^[3,21] Among drugs used for prophylactic management of migraine, beta blockers may aggravate depressive symptoms, whereas tricyclic antidepressants are beneficial in patients.^[22] Thus, identifying psychiatric comorbidity is also important in selection of therapeutic agent.

Conclusion

The present study has shown a significant prevalence of Axis-I DSM-IV psychiatric disorders in patients with headache reporting to our tertiary care neurology clinic. We found Mini International Neuropsychiatric Interview (M.I.N.I.) was found to be short, less time consuming, valid and reliable structured clinical interview for Axis-I DSM-IV disorders that can be easy to apply in clinic setting.

References

- Vos T, Flaxman AD, Naghavi M, Lozano R, Michaud C, Ezzati M, *et al.* Years lived with disability (YLDs) for 1160 sequelae of 289 diseases and injuries 1990-2010: A systematic analysis for the Global Burden of Disease Study 2010. *Lancet* 2013;380:2163-96.
- Antonaci F, Nappi G, Galli F, Manzoni GC, Calabresi P, Costa A. Migraine and psychiatric comorbidity: A review of clinical findings. *J Headache Pain* 2011;12:115-25.

- Pompili M, Di Cosimo D, Innamorati M, Lester D, Tatarelli R, Martelletti P. Psychiatric co-morbidity in patients with chronic daily headache and migraine: A selective overview including personality traits and suicide risk. *J Headache Pain* 2009;10:283-90.
- Mini International Neuropsychiatric Interview English Version 5.0.0 DSM IV. Available from: <http://www.nccpsychoinfo.org/File/MINI500.pdf>. [Last accessed on 2013 May 23].
- The Diagnostic and Statistical Manual of Mental Disorders DSM-IV TR. 4th text edition. [Text Revision: American Psychiatric Association; 2000]
- Headache Classification Subcommittee of the International Headache Society. The International Classification of Headache Disorders. 2nd ed. *Cephalalgia* 2004;24(Suppl 1):9-160.
- Olesen J, Bousser MG, Diener HC, Dodick D, First M, Goadsby PJ, *et al.*; Headache Classification Committee. New appendix criteria open for a broader concept of chronic migraine. *Cephalalgia* 2006;26:742-6.
- Samaan Z, Farmer A, Craddock N, Jones L, Korszun A, Owen M, *et al.* Migraine in recurrent depression: Case-control study. *Br J Psychiatry* 2009;194:350-4.
- Hung CI, Liu CY, Cheng YT, Wang SJ. Migraine: A missing link between somatic symptoms and major depressive disorder. *J Affect Disord* 2009;117:108-15.
- Ratcliffe GE, Enns MW, Jacobi F, Belik SL, Sareen J. The relationship between migraine and mental disorders in a population-based sample. *Gen Hosp Psychiatry* 2009;31:14-9.
- Camarda C, Pipia C, Tagliavori A, Di Fiore P, Camarda R, Monastero R. Comorbidity between depressive symptoms and migraine: Preliminary data from the Zabùt Aging Project. *Neurol Sci* 2008;29(Suppl 1):S149-51.
- Jette N, Patten S, Williams J, Becker W, Wiebe S. Comorbidity of migraine and psychiatric disorders--a national population-based study. *Headache* 2008;48:501-16.
- Lantéri-Minet M, Valade D, Géraud G, Chautard MH, Lucas C. Migraine and probable migraine--results of FRAMIG 3, a French nationwide survey carried out according to the 2004 HIS classification. *Cephalalgia* 2005;25:1146-58.
- Kececi H, Dener S, Analan E. Co-morbidity of migraine and major depression in the Turkish population. *Cephalalgia* 2003;23:271-5.
- Puca F, Genco S, Prudenzeno MP, Savarese M, Bussone G, D'Amico D, *et al.* Psychiatric comorbidity and psychosocial stress in patients with tension-type headache from headache centers in Italy. The Italian collaborative Group for the study of psychopathological factors in primary headaches. *Cephalalgia* 1999;19:159-64.
- Holroyd KA, Stensland M, Lipchik GL, Hill KR, O'Donnell FS, Cordingley G. Psychosocial correlates and impact of chronic tension-type headaches. *Headache* 2000;40:3-16.
- Verri AP, Proietti Cecchini A, Galli C, Granelle F, Sandrini G, Nappi G. Psychiatric comorbidity in chronic daily headache. *Cephalalgia* 1998;18(Suppl 21):45-9.
- Mitsikostas DD, Thomas AM. Comorbidity of headache and depressive disorders. *Cephalalgia* 1999;19:211-7.
- Zwart JA, Dyb G, Hagen K, Ødegård KJ, Dahl AA, Bovim G, *et al.* Depression and anxiety disorders associated with headache frequency. The Nord-Trøndelag Health Study. *Eur J Neurol* 2003;10:147-52.
- Yong N, Hu H, Fan X, Li X, Ran L, Qu Y, *et al.* Prevalence and risk factors for depression and anxiety among outpatient migraineurs in mainland China. *J Headache Pain* 2012;13:303-10.
- Hamelsky SW, Lipton RB. Psychiatric comorbidity of migraine. *Headache* 2006;46:1327-33.
- Silberstein SD, Lipton RB. Overview of diagnosis and treatment of migraine. *Neurology* 1994;44 (10 Suppl 7):S6-16.

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