Panacea Journal of Medical Sciences 2024;14(3):696–700

Content available at: https://www.ipinnovative.com/open-access-journals

Panacea Journal of Medical Sciences

Journal homepage: http://www.pjms.in/

Original Research Article

Headache: A primary indicator for depression in out patient department at a teritiary care hospital

Ritika Divan[1]*, **Santosh Kumar Chaurasia**[2], **Sonu Kumar**[3]

[1]*Dept. of Psychiatry, Maharshi Devraha Baba Medical College (MDBMC), Deoria, Uttar Pradesh, India*
[2]*Dept. of Pathology, Gouri Devi Institute of Medical Sciences and Hospital, Durgapur, West Bengal, India*
[3]*Dept. of Physiology, Maharshi Devraha Baba Medical College (MDBMC), Deoria, Uttar Pradesh, India*

ARTICLE INFO

Article history:
Received 26-06-2023
Accepted 20-10-2023
Available online 21-12-2024

Keywords:
Headache
Migraine
Depression
Anxiety
Mental health

ABSTRACT

Background: Headache is a very frequently reported complaint in psychiatric out patient department which is the most neglected symptom in now a days hectic life scenario until and unless it will not hampers the daily routine activities of a human being. Both Headache and low mood are very common but still the frequency of patients attending an outpatient department is far lesser for depression compared to headache whereas Headache is quite a very common presenting complaint reported by the patients.
Materials and Methods: 100 patients presenting with chief complaints of headache were taken from Psychiatric outpatient department of Maharishi Devraha Baba Autonomous State Medical College from august 2022 to november2022. All patients were assessed for routine pathological blood investigation, psychological testing mental status examination and clinical examination.
Results: On testing questionnaire on all 100 patients who were taken in this study all of them shows symptoms that fulfils the criteria for Depression 5% of the patients exhibits mild Depression,12%of the patients shows borderline Depression,70% of the patients shows moderate Depression whereas 8% of the patients shows severe Depression.
Conclusion: This study emphasizes the importance of accurate diagnosis of depression, emphasizing the need for proper analysis of patient complaints, particularly headaches, to prevent misdiagnosis.

1. Introduction

Headache as well as being sad is a feeling that is perceived by all of us at a certain moment of time and will have no effect on our body if it comes and goes but it would be very dangerous if it stays for a longer duration of time. Various factors played a role and involvement of multiple factors were reported like genetic, chemical, biological and environmental.[1] Therefore it is extremely important to deal with actuality of emotions that were related to a disease.[2] Co-existence of both headache and migraine as a comorbidity will definitely results in decline in the prognosis, genes also played a role in disorders like headache, anxiety, depression, they all shares a common core feature of tendency to be repeatable.[3] Fluctuations in mood and pain both are inter connected to each other in various ways.[4] There is a presence of coexisting boundaries between certain symptoms of low mood, inappropriate sleep pattern, headache, persistent gastritis as well as panic attack.[5] More than 80% of patients with migraine co morbidly suffers from depression also.[6] In order to establish the relationship between the role of headache in depression studies are done both is retrospective as well as prospective directions in terms of burden of expenses on health.[7] A broad variability in mood is shown in headache, a proper calm mind can all of a sudden react angrily along with crying spells due

* *Corresponding author*.
E-mail address: divandr.ritika@gmail.com (R. Divan).

https://doi.org/10.18231/j.pjms.2024.124

to unbearable pain.[8] Persistent complaint of headache, body ache, nausea, vomiting will slowly get converted into major depressive disorder.[9] Prognostic factors for chronic headache are also very important in understanding the prognosis of depression.[10] Depression is a persistent low mood that affects the entire routine of a person even without affecting the external appearance of that person.[11] Studies shows that it is very important to understand the actual pathology and physiology behind depression from the role of monoamines and other neurogenic factors.[12] Headache specific to migraine presented with nausea, vomiting, giddiness and intolerance to loud noise and bright light.[13] Pain as a first identity of somatic complaint is found to be a common finding in Depression, Cognitive behaviour therapy also plays a good role in treatment along with medications.[14] A person suffering from migraine will have various complaints of psychological imbalance where we can found that the symptoms depression were also found frequently in them.[15] Treatment of patients that includes relief and subsides the symptoms with medicines that includes antidepressants, mood stabilizers, benzodiazepines along with NSAIDS, antacids and antiemetic's. Use of certain medicines and relief in the symptoms indicates towards the role of Depression in patients[16] which is in the form of multiple somatic complaints that includes low mood, inappropriate sleep, aggression, irritability along with Headache and an overall impairment in the performance of an individual which overall lowers the productive work efficacy of an individual. It is seen very prominently reported in previously done studies that headache is found frequently in patients with Depression. The level of extents of Headache is actually far beyond other non-communicable disorder ,low back pain is also a most frequently reported complaint along with headache as a comorbidity in patients with Depression.[17] Experiencing headache is quite a frequent complaint and it is very necessary to get it known that whether it is a primary headache or a secondary headache with having a possibility of comordity with other disorders also, and that is evaluated by taking a proper history along with the clinical and pathological examination regarding the mode of onset(early or late)(acute or chronic), intensity (mild, moderate or severe) ,duration(lasting for a shorter duration or longer lasting)(chronic and persistent) of headache and coincides with low mood decrease sleep, decrease appetite body ache.[18] Studies done previously proven the role of cognitive behaviour therapy in treatment of patients consulting in out patient department for Headache with comorbid psychological disturbances and symptoms of depressive disorder, other techniques like biofeedback, relaxation of mind ,yoga orientation were also broadly used in headache due to depression along with anti-depressive medications.[19] Regularly an up gradation and modification in treatment protocols is a challenging task for practitioners but still they were continuously taking an effort to get it done for the best of their patients which should include all sort of effective treatment and therapies by considering the sign and symptoms very sharply.[20] Major symptoms of Depression were associated with the impairment of proper functioning of a person socially, mentally and occupationally which affects the mental well being of an individual that cause Depression along with secondary impairment in functional activities.[21] Depression is very commonly found along with anxiety and panic attacks in patients complaining for headache and it also contributes to financial burden on the patient.[22,23] Migraine affects the maximum portion of population still there is a question mark that the mechanism of migraine is not very well understood because of its role in terms of affecting in various ways in clinical, biological and genetic and that needs to be elaborated and illustrated to be more understood.[24] Migraine is found very frequently with tension types headaches in adolescent age group who are more prone to be involved in stressed out behaviour.[25,26] Tension and headache are most commonly found in people who worked for prolong hours and sitting throughout several nights sleeplessly The existence of low mood and panic attack leads to migraine very commonly but the role of age differences along with gender is still need to be explored.[27]

2. Aim

Aim of this study is to assess the Depression in patients presenting an outpatient department of Psychiatry specifically for treatment of headache.

3. Materials and Methods

3.1. Study design

Cross sectional tertiary care hospital based study.

3.2. Venue

Maharishi Devraha Baba Autonomous State Medical College Deoria (U.P).

3.3. Sample size

1. 100 Subjects
2. 100 patients were selected from outpatient department of Psychiatric OPD from August 2022 to November 2022 who were mainly presented with chief complaints of Headache.

3.4. Inclusion criteria

1. Age group range between 18-45yrs.
2. Subjects willing for written informed consent.
3. Minimum 10th class education required.

3.5. Exclusion criteria

1. Patients pre diagnosed with depression OR Any other comorbid psychiatric illness were not included in the study.
2. Exposure to ECT in last one year of duration.
3. Comorbid medical illness.
4. Psychoactive substance abuse (excluding the tobacco).

3.6. Tools used in the study

1. Details of Socio-demographic profile and Clinical profile.
2. Beck Depression inventory.
3. Headache inventory test.

3.6.1. Procedure

Proper routine pathological blood investigations, psychological testing, mental status examination with clinical examination was done.

3.7. Statistical analysis

Appropriate method of statistics applied and all study variables were analysed using mean with standard deviation.

4. Results

A cross sectional study done at outpatient department of Psychiatric OPD of Maharishi Devraha Baba Autonomous State Medical College DEORIA including a number of 100 patients. The results were depicted in the tables shown below:

Table 1: Socio demographic profile of the patients

Variables used		Patients
Gender	Male	40
	Female	60
Marital status	Married	65
	Unmarried	35
Religion	Hindu	50
	Non hindu	50
Occupation	Employed	70
	Unemployed	30
Ses	Lower	40
	Middle	60
Domicile	Rural	25
	Urban	75

Table 1 shows the data of the demographic and social standard of the patients included in our study, our study had included 40% of male patients and 60% of female patients, 65% of the patients included in this study were married whereas 35% of them were unmarried, 50% of the patients involved in this study were belonged to Hindu families and rest of the 50% belongs to Non-Hindu families,70% of the patients were employed whereas rest of the 30% belongs to unemployed strata, 40%of the patients involved in our study belongs to a lower socioeconomic status whereas 60% of the patients belongs to middle socioeconomic status.25% of the patients belongs to rural background whereas 75% of the patients belongs to urban background.

Table 2 Shows the results of Beck Depression Inventory (BDI) in patients taken in this study. It is scale which includes a certain amount of questions which depicts us the status of variability in the mood of a person. Most of the patients in our study admitted here a state of low mood while perceiving a feeling of Headache. None of the patient in this study is reported to have no complaints of low mood or never experienced to be feeling low, 10%of the patients here shows a mild state of Depression,12% of patients have shown a state of borderline fluctuation in their depressive state,whereas70% of the patients have shown a moderate state of depression which is a big portion of the study subjects, while 8% of the patients were in a very severe state of Depressive episode, whereas none of the patient reported to have a condition of extreme level of depression.

Table 3 Shows the extent to which patients perceive Headache that make them visit an outpatient department of psychiatry when Headache Impact Test in the form of a questionnaire was applied where 15% of the patients presented with mild headache, 38% of patients were presented with moderate headache, 40% of the patients were presented with severe headache and 7% were presented with extreme headache.

Table 4 Shows Clinical history of the patients, where 18 to 45 years of of patients were involved in this study. The age of onset of symptoms (in years) lies in the range of 35 whereas the duration of illness of disease (in years) lies in the range of 11.

o.5Shows the treatment given to the patients involved in this study which includes the treatment of low mood with episodes of depression in patients attending the outpatient department for the complaint of Headache. 60%of the patients were on selective serotonin reuptake inhibitor whereas 20% were kept on serotonin modulator and stimulator, both of them were added for complaints of low mood and depression, 80%of the patients were given mood stabilizers for fluctuations and variability in their mood during the whole day with frequent episodes of crying without any specific reason with excessive anger outburst along with persistent irritable behaviour. 100%of the patients in the study were given NSAIDs for Headache, along with antiemetic and antacids for preventing gastric comfort caused by the medicine or due to severe episodes of Headache.

5. Discussion

15% of the patients in this study presented with mild grade of headache, 38% presented with moderate grade of headache, 40% of the patients presented with severe grade

Table 2: Shows results of beck depression inventory applied in all patients taken in the study.

	Normal	Mild	Borderline	Moderate	Severe	Extreme
% of patients	Nil	10%	12%	70%	8%	Nil
Mean SD	-	13.8 ±1.72	18.33 ± 1.8	25.66 ± 2.45	33.1± 3.1	-

Table 3: Shows the scoring of patients on Headache Impact test

	Normal	Mild	Moderate	severe	Extreme
% of patients	Nil	15%	38%	40%	7%
Mean SD	-	45.8 ± +1.5	57.13 ± 3.08	70.9 ± 3.25	76.75 ± 0.82

Table 4: Shows clinical history

Variables	Range	Mean ± SD
Onset (In years)	35	23.27 ± 6.77
Duration of illness (In years)	11	4.98 ± 2.8

Table 5: Shows the treatment given to the patients involved in this study.

Medicine	Number of patients receiving the treatment	Total percentage of patients receiving treatment
SSRI(Selective serotonin reuptake inhibitor), Escitalopram	60	60
Serotonin modulator and stimulator, Vortioxetine	20	20
NSAID (Non-steroidal antinflammatory drugs) specific to be non-selective COX 1 and COX 2 inhibitors	100	100
Antiemetics, Domperidome, Antacids, Pantoprazole	100	100
Mood stablizers, Sodium Valproate	80	80

of headache, whereas 7% of the patients presented with an extreme grade of headache on headache impact test.

When Beck Depression inventory was applied in these similar patients 5% of these patients presented with symptoms of depression, 12% of these patients were presented with symptoms of borderline depression. 70% of the patients were presented with symptoms of moderate depression, whereas 8% of the patients presented with severe symptoms of depression, none of the patients fulfils the criteria for extreme grade of depression in this study.

6. Conclusion

This study is done to understand the importance of properly analysing a case before making an appropriate diagnosis. Depression is a psychiatric disorder which can be very easily recognized by proper listening to the chief presenting complaints of the patient in order to prevent misdiagnosing a case. Headache is the first and foremost indicator for the long time underlying symptoms of Depression.

7. Source of Funding

None.

8. Conflict of Interest

The authors declare no conflict of interest.

9. Acknowledgement

None.

References

1. Hasler G. Pathophysiology of Depression: Do we have any solid evidence of interest to clinicians. *World Psychiatry*. 2010;9(3):155–61.
2. Hackley S. Finding Happiness with Migraines: a Do It Yourself Guide. Absolute Love Publishing; 2013. p. 56.
3. Fuller-Thomson E, Schrumm M, Brennenstuhl S. Migraine and Despair: Factors Associated with Depression and Suicidal Ideation among Canadian Migraineurs in a Population-Based Study. *Depress Res Treat*. 2013;p. 401487. doi:10.1155/2013/401487.
4. Constantinides E, Constantinides V, Anagnostou E, Paraskevas G, Christidi F, Zalonis I, et al. Relationship of intensity and special characteristics of migraine to depressive and anxious features. *Psychiatriki*. 2013;24(3):197–201.
5. Wei CB, Jia JP, Wang F, Zhou AH, Zuo XM, Chu CB, et al. Overlap between Headache, Depression, and Anxiety in General Neurological Clinics: A Cross-sectional Study. *Chin Med J (Engl)*. 2016;129(12):1394–9.
6. Leo RJ, Singh J. Migraine headache and bipolar disorder comorbidity: A systematic review of the literature and clinical implications. *Scand J Pain*. 2016;11:136–45. doi:10.1016/j.sjpain.2015.12.00.
7. Wu J, Davis-Ajami ML, Lu ZK. Impact of Depression on Health and Medical Care Utilization and Expenses in US Adults With Migraine:

A Retrospective Cross Sectional Study. *Headache*. 2016;56(7):1147–60.
8. Peres MFP, Mercante JPP, Tobo PR, Kamei H, Bigal M. Anxiety and depression symptoms of Migrane,a symptom based approach research. *J Headache Pain*. 2017;18(1):37. doi:10.1186/s10194-017-0742-1.
9. Amoozegar F. Depression comorbidity in Migraine. *Int Rev Psychiatry*. 2017;29(5):504–15.
10. Probyn K, Bowers H, Caldwell F, Mistry D, Underwood M, Matharu M, et al. Prognostic factors for chronic headache: A systematic review. *Neurology*. 2017;89(3):291–301.
11. Boku S, Nakagawa S, Toda H, Hishimoto A. Neural basis of major depressive disorder: Beyond monoamine hypothesis. *Psychiatry Clin Neurosci*. 2018;72(1):3–12.
12. Jesulola E, Michalos P, Baguley IJ. Understanding the pathophysiology of depression: From monoamines to the neurogenesis hypothesis model - are we there yet? *Behav Brain*. 2018;341:79–90. doi:10.1016/j.bbr.2017.12.025.
13. Bohm PE, Stancampiano FF, Rozen TD. Migraine Headache: Updates and Future Developments. *Mayo Clin Proc*. 2018;93(11):1648–53.
14. IsHak WW, Wen RY, Naghdechi L, Vanle B, Dang J, Knosp M, et al. Pain and Depression: A Systematic Review. *Harv Rev Psychiatry*. 2018;26(6):352–63.
15. Amiri S, Behnezhad S, Azad E. Migraine headache and depression in adults: a systematic Review and Meta-analysis. *Neuropsychiatr*. 2019;33(3):131–40.
16. Burch R. Antidepressants for Preventive Treatment of Migraine. *Curr Treat Options Neurol*. 2019;21(4):18. doi:10.1007/s11940-019-0557-2.
17. Steiner TJ, Stovner LJ, Jenser D, Katsarava Z. Migraine remains second among the world's causes of disability, and first among young women: findings from GBD2019. *J Headache Pain*. 2020;21(1):137. doi:10.1186/s10194-020-01208-0.
18. Robbins MS. Diagnosis and Management of Headache: A Review. *JAMA*. 2021;325(18):1874–85.
19. Bae J, Sung HK, Kwon NY, Go HY, Kim TJ, Shin S, et al. Cognitive Behavioral Therapy for Migraine Headache: A Systematic Review and Meta-Analysis. *Medicina (Kaunas)*. 2021;58(1):44. doi:10.3390/medicina58010044.
20. Ailani J, Burch RC, Robbins M. The American Headache Society Consensus Statement: Update on integrating new migraine treatments into clinical practice. *Headache*. 2021;61(7):1021–39.
21. Gururaj B, D'Souza L. Assessment of Depression in Headache patients: Influence of secondary variables. *Int J Psychosoc Rehabil*. 2021;25(1):69–80.
22. Alwhaibi M, Meraya AM, AlRuthia Y. Healthcare Expenditures Associated With Comorbid Anxiety and Depression Among Adults With Migraine. *Front Neurol*. 2021;p. 658697. doi:10.3389/fneur.2021.658697.
23. Icco RD, Tassorelli C. Headache in 2021: clinical, biological, and genetic advances. *Lancet Neurol*. 2022;21(1):6–8.
24. Shrestha O, Karki S, Thapa N, Shrestha KL, Shah A, Dhakal P, et al. Prevalence of migraine and tension-type headache among undergraduate medical students of Kathmandu Valley: A cross-sectional study. *Health Sci Rep*. 2022;5(5):747. doi:10.1002/hsr2.747.
25. Jafari E, Kazemizadeh H, Togha M, Haghighi S, Salami Z, Shahamati D, et al. The influence of anxiety and depression on headache in adolescent migraineurs: a case-control study. *Expert Rev Neurothe*. 2009;22(11-12):1019–23.
26. Lu G, Xiao S, He J, Xie W, Ge W, Meng F, et al. Prevalence of depression and its correlation with anxiety, headache and sleep disorders among medical staff in the Hainan Province of China. *Front Public Health*. 2023;11:1122626. doi:10.3389/fpubh.2023.1122626.
27. Duan S, Ren Z, Xia H, Wang Z, Zheng T, Li G, et al. Associations between anxiety, depression with migraine, and migraine-related burdens. *Front Neurol*. 2023;14:1090878. doi:10.3389/fneur.2023.1090878.

Author's biography

Ritika Divan, Associate Professor https://orcid.org/0000-0003-2655-1460

Santosh Kumar Chaurasia, Ex-Assistant Professor https://orcid.org/0000-0003-4877-8703

Sonu Kumar, Assistant Professor

Cite this article: Divan R, Chaurasia SK, Kumar S. Headache: A primary indicator for depression in out patient department at a teritiary care hospital. *Panacea J Med Sci* 2024;14(3):696-700.