Prevalence of Migraine amongst Undergraduate Dental Students in Sangli District - A Cross Sectional Study

Minaz Jamaluddin Naik[1], Aakanksha Joshi[2]

[1]Physiotherapy Intern, physiotherapy, College of physiotherapy Miraj
[2]Principal & professor, Cardiovascular respiratory physiotherapy, College of physiotherapy Miraj

ABSTRACT

BACKGROUND: Migraine is a complex brain event that produces a wide range of neurological, autonomic, and systemic symptoms of which headache is most prominent. University students frequently get migraines which are linked to poor academic performance and fewer daily activities. Since dentists play a crucial role in enhancing community health, their work severely impacts productivity and quality of life, putting a heavy burden on both individual and society. Limitations in everyday activities and employment could result from frequent and severe headaches, which could have a major influence on academic performance and quality of life.

AIM: To identify the migraine among undergraduate dental students in sangli district and also to find out the prevalence of migraine in undergraduate dental students in sangli district.

METHOD: The sample size comprises of 178 undergraduate dental students from in sangli district including both Males and females. A structured questionnaire will be given to the undergraduate dental students in sangli district. Migraine will be diagnosed using ID migraine Questionnaire (Identification of migraine Questionnaire). MIDAS Questionnaire (Migraine Disability assessment Scale) will be used to assess the severity of migraine

RESULT: The result proves that presence of Migraine was seen clinically and statistically significant in undergraduate dental students. Thus, there is a Prevalence of 73% of migraine in undergraduate dental students. Prevalence of migraine is higher in females was 73%, and lesser in male was 27%.

CONCLUSION: The study shows that there is higher prevalence of migraine in undergraduate dental students in sangli district. Compared with males, a female has a greater prevalence of migraine.

KEYWORDS: Migraine, photophobia, phonophobia, allodynia, Identification of migraine questionnaire, Migraine disability assessment scale.

INTRODUCTION

Migraine is a complex brain event that produces a wide range of neurological, autonomic, and systemic symptoms of which headache is most prominent. According to an updated global burden of disease

analysis from 2013, the number one cause of years lost to disability is migraine. The prevalence of migraine among people worldwide is 10%, according to Meta analysis study on the subject. Knowing their triggers can help them customise their treatment.[1] the seventh most detrimental disorders in society are migraines. 11 percent of people experience migraines worldwide. Due to their widespread incidence, primary headache disorders, such as migraine & TTH, are regarded as significant global health issues.[2]

Young adults are the most frequently afflicted populations by this issue. It is one of the persistent headache conditions that affect 15% of the population during their prime years of life. The sickness typically starts out without any warning signals, and sleep temporarily cures it. In other instances, the disease begins with prodromal symptoms like weariness, exhilaration, and depression. Undergraduate medical students frequently experience significant levels of stress and workload. Data from important research indicate that among these students, stress, poor sleep, anxiety, and overwork are some of the related migraine triggers.[3]

University students frequently get migraines, which are linked to poor academic performance, and fewer daily activities. Compared to other pupils, those who suffer from migraine headaches miss more school. It has harmful impacts for university students, who need to focus and perform at a high level.[4]

Around the world, 11 to 40% of medical students report having migraines. During the academic years of pupils, its incidence has increased. Medical student's experiences stress due to their assessments, high performance standards, lengthy training, and implicit responsiveness of the curriculum.[4]

Life quality is impacted by chronic pain. Students usually choose analgesics over treatment for headaches, which results in analgesic abuse headaches that further reduce quality of life. There has been wide range in the prevalence if migraines among college students (12.6% to 48%). The accompanying factors in medical students are photophobia, phonophobia, nausea, vomiting, allodynia, neck stiffness, dizziness, visual disturbances and weakness in limbs.[5]

Trigger Factor Sleep disturbance, Physical exertion, Mental stress, Exposure to sun, Odors, Emotional stress, Exposure to noise, Head movements, Menstruation, Smoking, Prolonged computer use.[6]Migraine headache are typically unilateral, throbbing, and accompanied by photophobia, phonophobia, and/or nausea. It could be so bad that it affects day-to-day activity. People who get migraines have pains and attacks as a result of the condition.[7]

The prevalence of migraines over a year varies from 2.6% to 21.7% globally, with women experiencing double or triple the prevalence of men. The lengthy medical education, rigorous course load, and onerous professional responsibilities are understandably the main sources of stress that may cause migraine attacks in medical students, who are considered to be a distinct type of university students.[8]

Since a dentist plays a crucial role in enhancing community health, their work severely impacts productivity and quality of life, putting a heavy burden on both individuals and society. Limitations in everyday activities and employment could result from frequent and severe headaches, which could have a major influence on academic performance and quality of life.[9] Very high proportion 88.2% of students reportedly, use over-the-counter medications without a doctor's prescription. Due to high rate of self-medication among students, it appears to urgent to raise awareness and encourage medical appointment in order to properly treat this ailments. This study shows high prevalence of recurrent headache 63.9% in which 16 (13.44%) diagnosed with migraine in dental students.[10]

In recent years, several studies on prevalence of migraine in different population groups are conducted in Maharashtra. There have been no studies conducted regarding prevalence of migraine among dental

students. Hence the present study aimed to determine prevalence of migraine among undergraduate dental students in sangli district.

MATERIALS
1. Pen
2. Consent Form
3. Questionnaire

METHODOLOGY
- Study Design – Observational study
- Study Setting- Dental colleges, sangli
- Study Duration- 6 months
- Study Population – UG Dental Students
- Sample Size- 178
- Sample Design- Convenience Sampling

RESULT
- Data analysis was performed using Wilcoxon Test. In this study 178 students were included, to identify and find the severity of migraine in UG Dental students.

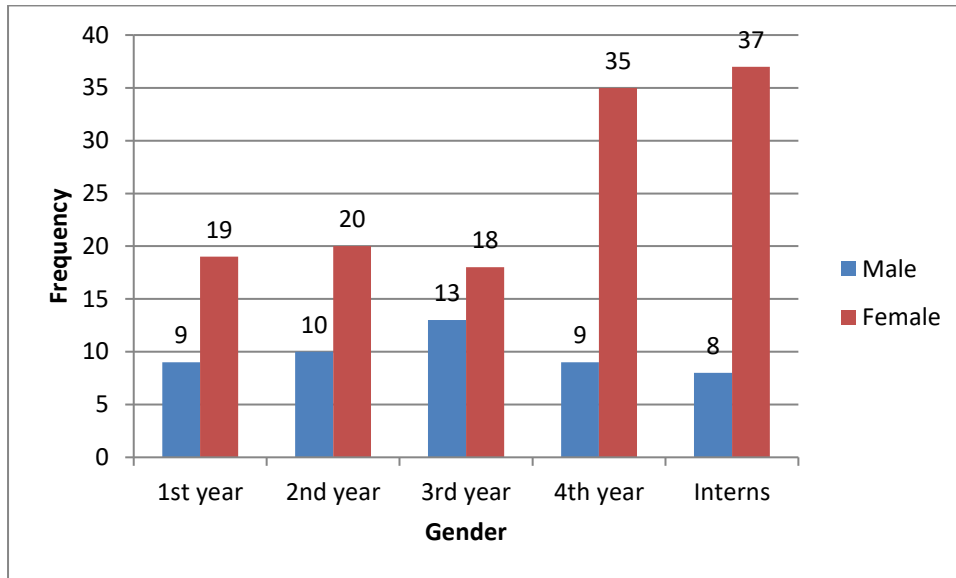| Age	Batch 1st year	2nd year	3rd Year	4th year	Interns	Total
18.00	1	0	0	1	0	2
19.00	5	1	0	0	0	6
20.00	19	8	9	6	0	42
21.00	3	13	12	21	4	53
22.00	0	8	8	14	15	45
23.00	0	0	1	1	14	16
24.00	0	0	0	0	9	9
25.00	0	0	1	1	3	5
Total	28	30	31	44	45	178

Table No 1: Batch Wise Frequency of Age
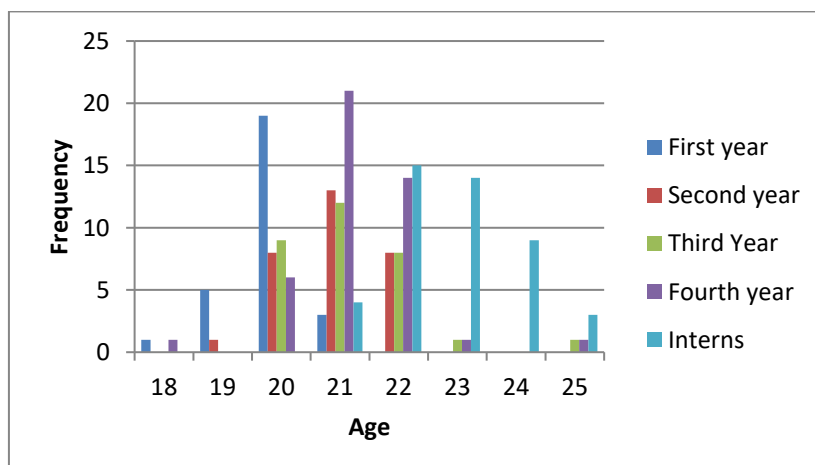
Graph No 1: Batch Wise Frequency of Age

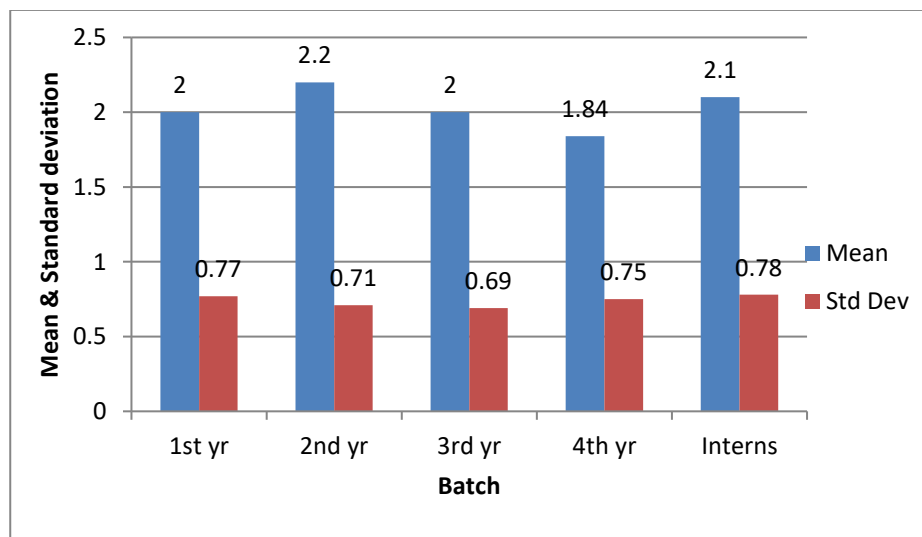| Gender	1st year	2nd year	3rd year	4th year	Interns	Total
Male	9	10	13	9	8	49
Female	19	20	18	35	37	129
Total	28	30	31	44	45	178

Table No 2: Batch Wise Frequency of Gender

Graph No 2: Batch Wise Frequency of Gender

| Particular	1st Year	2nd Year	3rd Year	4th Year	Interns
Mean	2	2.2	2	1.84	2.1
SD	0.77	0.71	0.69	0.75	0.78
Percent	67	73	67	61	69

Table No 3: Mean, Standard Deviation & Percentage Of ID Questionnaire Batch Wise.

Graph No 3: Mean, SD of ID Questionnaire Batch Wise.

| ID Questionnaire (Number of YES)	1st Year	2nd Year	3rd Year	4th Year	Interns	Total	Percent
1	8	5	7	16	12	48	27
2	12	14	17	19	18	80	45
3	8	11	7	9	15	50	28
Total	28	30	31	44	45	178	100

Table No 4: Frequency of YES In ID Questionnaire Batch Wise.
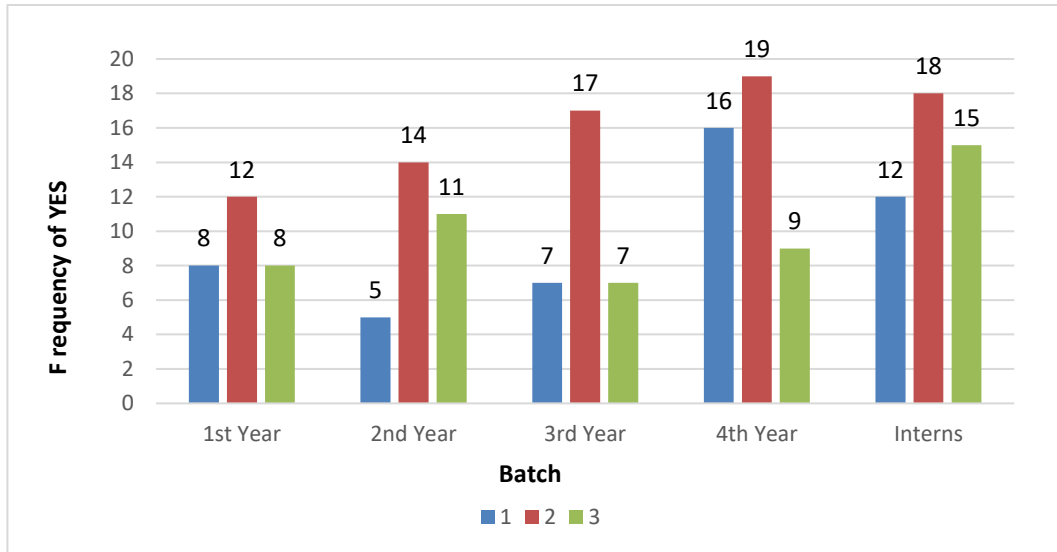
Graph No 4: Frequency of YES in ID Questionnaire Year Wise.

| ID Questionnaire(Number of YES)	Frequency	Percent
1	48	27
2	80	45
3	50	28
Total	178	100

Table No 5: Frequency of YES & Percentage of Total Students
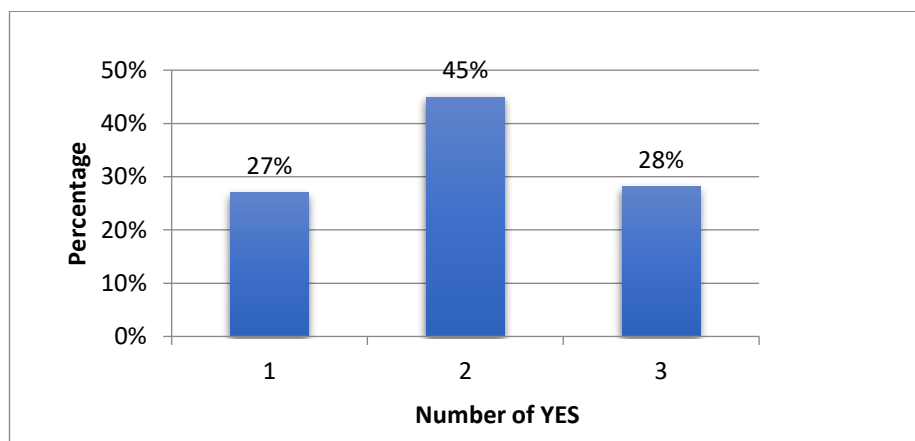
Graph No 5: Percentage of Number of YES MIDAS

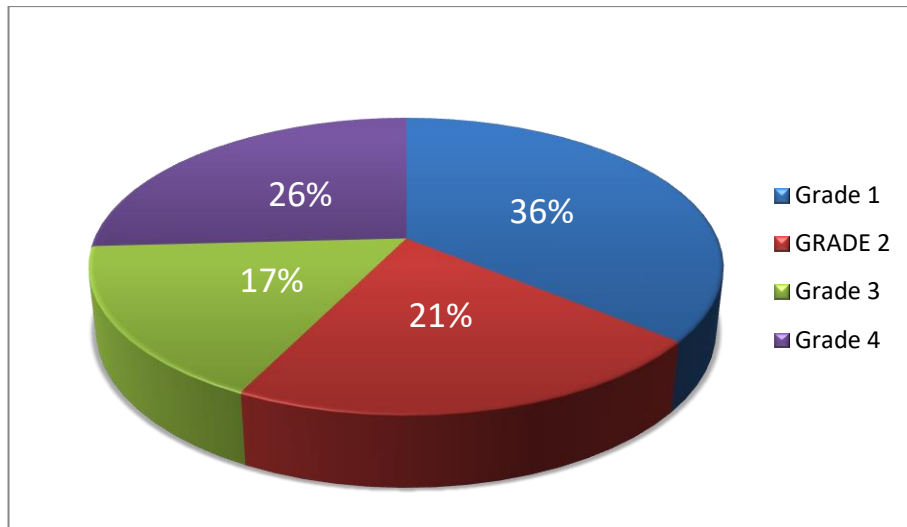| Particular	1st Year	2nd Year	3rd Year	4th Year	Interns
Mean	2.4128571	2.0667	1.93548	1.65909	2.46667
SD	1.6491139	1.41259	1.3889	1.41328	1.72679
Percent	54%	52%	48%	41%	62%

Table No 6: Mean, SD, & Percent of MIDAS
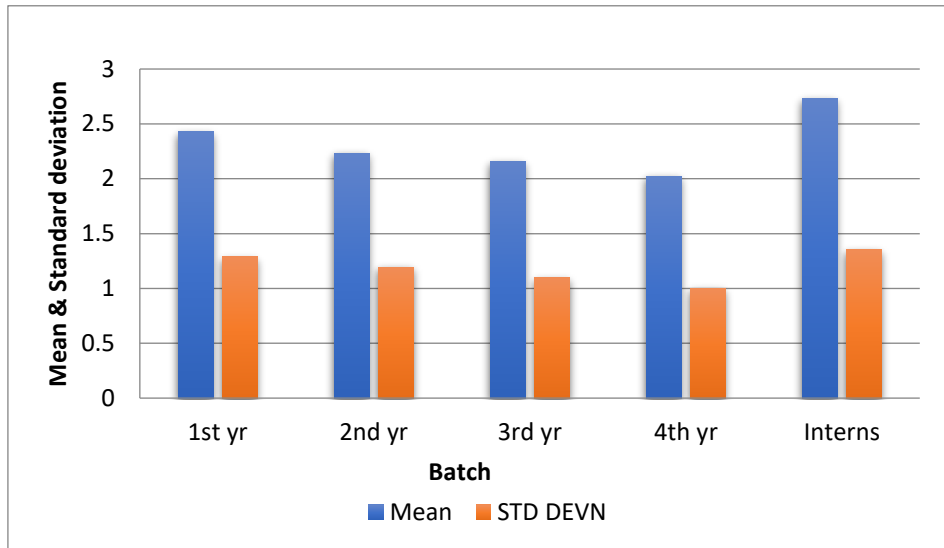
Graph No 6: Mean & SD of MIDAS Score Batch Wise.
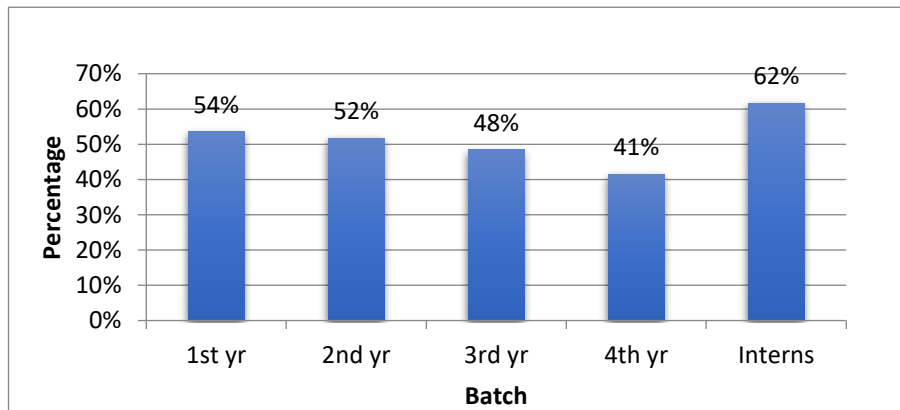
Graph No 7: Percentage of MIDAS Score Batch Wise

| Score	Frequency	Percent
Grade 1 (Little/No disability)	64	36
Grade 2 (Mild Disability)	38	21
Grade 3 (Moderate Disability)	30	17
Grade 4 (Severe Disability)	46	26
Total	178	100

Table No 7: MIDAS Score Frequency of Total Students.

Graph No 8: Percentage of MIDAS Score of Total Students.

MIDAS (Grades of severity)	1st year	2nd year	3rd year	4th year	Interns	Total	Percent
1	10	11	11	17	15	64	36
2	5	8	9	13	3	38	21
3	4	4	6	10	6	30	17
4	9	7	5	4	21	46	26
Total	28	30	31	44	45	178	100

Table No 8: Batch Wise Frequency of MIDAS (Grades of Severity)
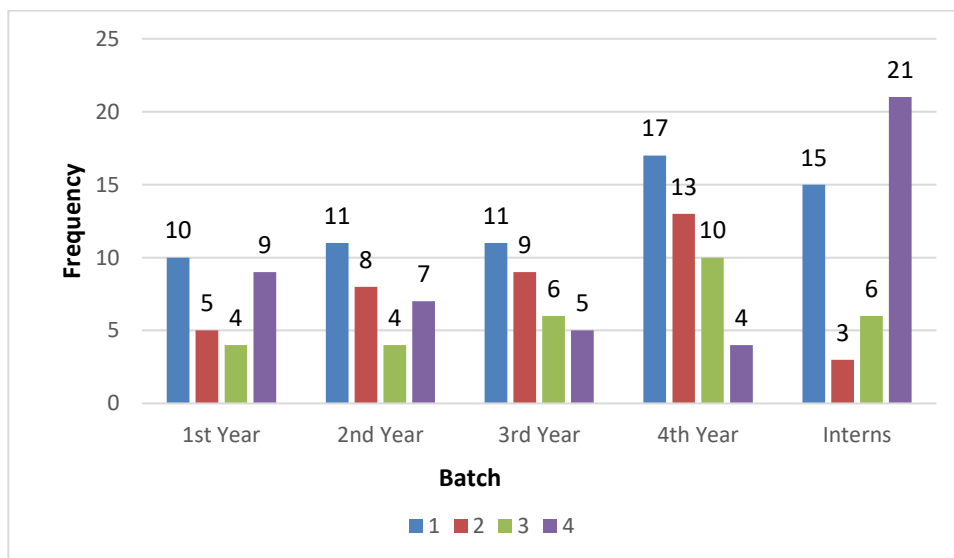
Graph No 9: Frequency of MIDAS Score Batch Wise.

WILCOXON Test

Gender	Rank
Male	1
Female	2

Table No 9: Rank of Gender

ID Questionnaire year wise rank

Number of YES	1st Year	2nd Year	3rd Year	4th Year	Interns
1	1	2	1	2	2
2	3	3	3	1	3
3	2	1	2	3	1

Table No 10: Batch Wise Rank of Number of YES

ID Questionnaire Rank of Total Students

Number of Yes	Rank
1	3
2	1
3	2

Table No 11: Rank of Number of YES of Total Students
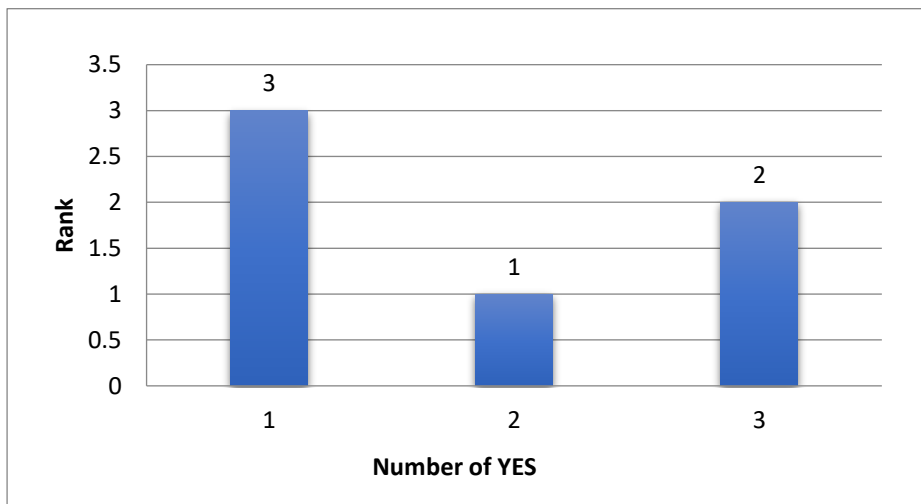
Graph No 10: Rank of Number of YES

MIDAS RANK

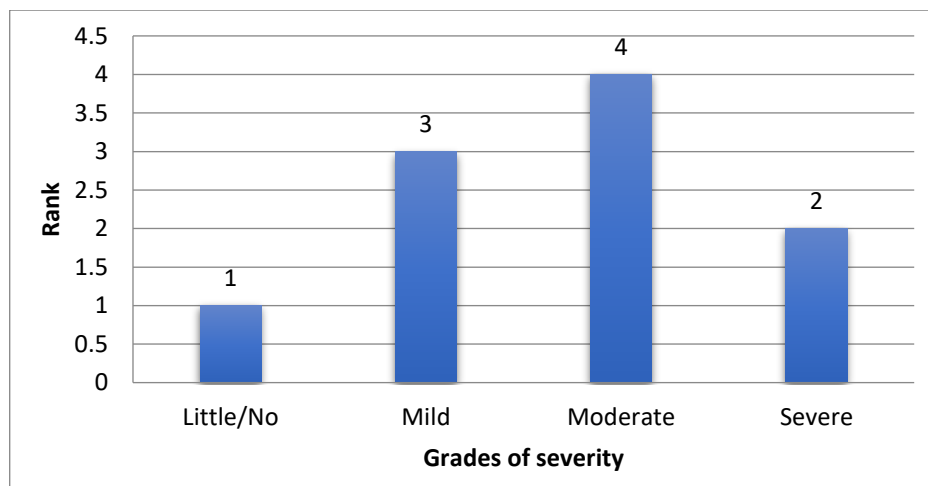| Grades of Severity	1st Year	2nd Year	3rd Year	4th Year	Interns
Little/No	4	4	4	4	4
Mild	2	2	2	2	3
Moderate	1	1	1	1	1
Severe	3	3	3	3	2

Table no 12: MIDAS Batch Wise Rank
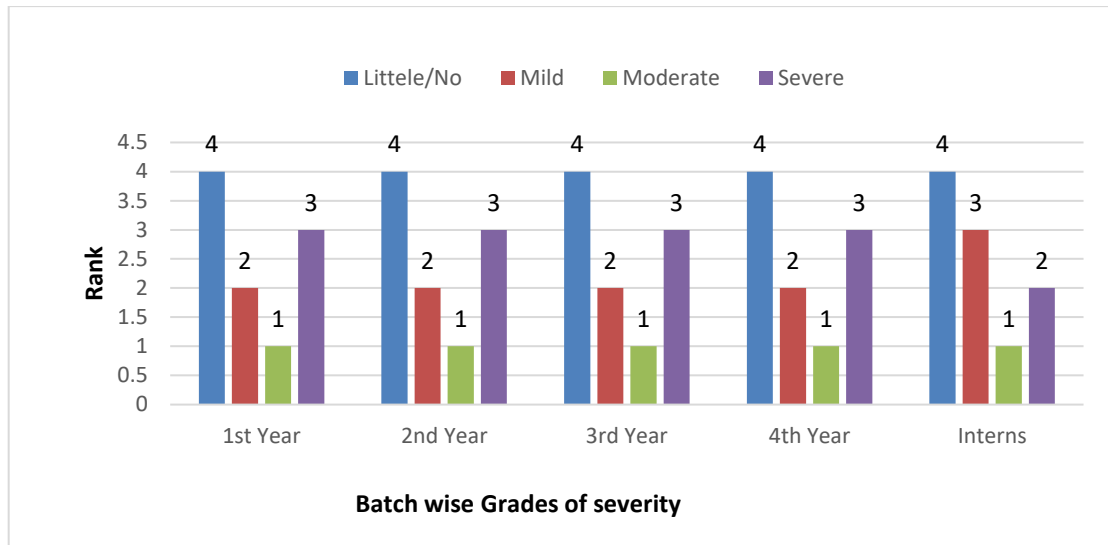
Graph No 11: MIDAS Batch Wise Rank

Grades of Severity	Total
Grade 1 (Little/No disability)	1
Grade 2 (Mild disability)	3
Grade 3 (Moderate disability)	4
Grade 4 (Severe disability)	2

Table no 13: MIDAS Rank of Total Students

Graph No 12: MIDAS Rank of Total Students

Results from analysis:

The data of 178 students were analysed using ID questionnaire & MIDAS questionnaire to identify the migraine and find the severity in UG dental students in sangli district

In our study (n=178), the prevalence of migraine was 73% (n=130). Prevalence of migraine is higher in females was 73% (n=95), and lesser in male was 27% (n=35). In ID Questionnaire, out 3 YES, 48 students has mark 1 YES, 80 students has mark 2 YES, 50 students has mark 3 YES.

According to the batch wise analysis, 2nd year batch has less no of students with headache while it was more in 4th year than interns than 1st year & than in 3rd year. Less no of students in 1th year batch has mark 2 number of YES while it was more in 4th year than interns than 3rd year & than in 2nd year. Less no of students in 3rd year has mark 3 no of YES while it was more in intern's batch than 2nd year than 4th year & than in first year. Out of total students, 64 students had Grade 1 disability (little or no disability), 38 students had Grade 2 disability (mild disability), 30 students had Grade 3 disability (moderate disability) and 46 students has Grade 4 disability (severe disability). Out of total students, highest number of students had grade 1 disability. According to the batch wise analysis, less no of students in first year has grade 1 disability while it was more in 4th year batch than interns and then 2nd & 3rd year batch. grade 2 disability was less in interns batch while it was more in 4th year batch . Among all the batches interns' batch had highest number of students having migraine and had higher grades of disability which was grade 4 (47%). According to wilcoxon test, students mark 1 yes has got rank 3, student's marks 2 yes got rank 1, and student's marks 3 yes got rank 2.

According to batch wise analysis, prevalence of migraine in 1st year batch was 11%, 2nd year batch was 14%, 3rd year batch was 14%, 4th year batch was 16%, and interns batch was 19%. A gradual increased in prevalence was seen from 1st year batch to Interns batch. The severity of migraine from 1st year to 4th year has Grade 1 (little or no disability) and interns had Grade 4 (severe disability).

According to wilcoxon test, MIDAS Score was, Grade 1 disability has got Rank 1, Grade 2 disability has got Rank 3, Grade 3 disability has got Rank 4, and Grade 4 disability has got Rank 2. The highest Rank which is Rank 4 had Grade 3 (moderate disability), it means majority of the students has moderate disability. Out of total students, 129 were females has got rank 2 and 49 were males has got rank 1.

Hence we may conclude that there is a high prevalence of migraine in UG dental students. There was a higher rate of females prevalence compared to males.

DISCUSSION

Migraine is a neurological condition in which the regulation & controls of afferents are disturbed. Despite the fact that migraine is an oddly common etiologic factor for temporary in capacity, most people with migraine (including those with incapacitating headache) do not typically contact doctors or neurosurgeons.

The data of 178 students were analysed using ID questionnaire & MIDAS questionnaire to identify the migraine and find the severity in UG dental students in sangli district. The prevalence of migraine in UG dental students in sangli district was 73%. There was a higher prevalence in females was 73% and in males was 28%.

Students with recurring headaches frequently report having trouble in working or studying. Along with nausea & vomiting, migraine sufferers reported photophobia, phonophobia & other symptoms that are already known to be related with and corroborate the diagnosis of migraine. Stress, noise, exams & erratic sleeping patterns were the most frequent headache triggers. Having a medical career, due to their rigorous academic environment & their obligations in the workplace these students are especially susceptible to these two triggers.

In our study, the majority of migraine sufferers provided a favourable history of medication use for migraine relief. Most migraineurs used over the counter medications to treat their headaches, with paracetamol being the most popular. This can be logically explained by the fact that students in the medical field have theoretical understanding of the medications.

The study conducted in Aleppo university by mohammad shadi alkarrash, mohammad nour shasha et. al which showed 9.9% prevalence of headache in UG dental students. This study showed the frequent trigger factors were irregular sleep, noise and exams [2].

In a study conducted among medical students of a tertiary care teaching medical college & hospital in south India by Sowmiraju, geetha s, by using ID questionnaire & MIDAS questionnaire. Prevalence of migraine was found to be 30%.In this study; the prevalence of migraine in female (63%) was higher than males nearly to our present study. Study showed that non-prescription drugs were taken by majority of the subjects to get relief from migraine headache, paracetamol was the most common [1].

A study conducted in narayana medical college in Andhra Pradesh on medical students by bindu menon, Neeharika kinnera, and the prevalence of migraine was found to be 28%. In this study there was a female preponderance of 62% [5].

A study conducted in Kuwait University among medical students by jasem y al-hashel et. al, the prevalence of migraine was found to be 27.9%. This study also showed high prevalence of migraine in females of 31% more than males [4].

In a study, conducted in tertiary care teaching dental hospital in northern India among dental students by Ruchika Nandha, Mahinder K. Chhabra, the prevalence of migraine was found to be 13.44% with a higher prevalence of females (87.5%) than males. This study also showed high prevalence of headache in dental students 63.9%. Stress & irregular sleep were the frequent trigger factors in migraineurs. Self medication were also showed in this study were simple analgesics [10].

A study conducted in southeast of iran in zahedan faculty of medicine among medical students by Mohammad R. Shahrakai, Hamide Mirshekari et.al. There were 7.14% migraine cases. The most frequent triggers were stress, lack of sleep, and excessive reading. It revealed a connection between the number of years of education and migraine frequency [12].

A study conducted in king abdulaziz university, Jeddah, Saudi Arabia among medical students. In medical students, migraine headache prevalence was 26.3%. Female gender and enrolment in the second academic year were the main migraine predictors. The most frequent causes were stress related to exams and sleep issues [13].

A study conducted in Egypt by Mohammed I. Oraby, Rasha H. Soliman et. al among medical students. 17.9% of people had migraine, which were moderately disabling. Migraine was significantly more prevalent and caused more disability among female students compared to males. Between migraine frequency, severity, and poor academic performance, a statistically significant positive connection was discovered [14].

In a study, conducted by X.Wang, H.B.Zhou et.al among university students. The prevalence of migraine was 16.1%, with males experiencing 11.3% and females experiencing 21.7%. Diagnostic standards and gender distribution significantly influence migraine prevalence, according to a subgroup analysis [15].

A study conducted in southern turkey by Sebnem bicakci, Nafiz bozdemir among university students. According to ID migraine, there were 11.5% females and 9.6% males with the prevalence of migraine reported to be 21.9% [16].

A study conducted in MGM medical college in Aurangabad on UG medical students, where prevalence of migraine was 36% [3].

Hence, compared to most of the studies the present study showed higher prevalence of migraine in dental students with higher preponderance of females migraineurs. Most of the students with frequent self medication for temporary relief but doesn't understand the severity of the condition. Students' awareness programming should be done to reduce the disability caused by migraine in day to day life.

CONCLUSION

Our study results, high prevalence of migraine (73%) among UG dental students in sangli district, Maharashtra. There was a female preponderance (73%), more than males. A gradual increased in prevalence of migraine was seen from 1st year to interns' batch. The most frequent triggering factors were irregular sleep, stress, exams and noise. The most common symptoms were nausea/vomiting, photophobia, phonophobia and trouble in working or studying. According to the study, majority of students self medicated, with paracetamol being the most often used drug. Chances of migraine get increased as the students get passed into next academic year. Student's awareness programme should be concluded for their better quality of life and to decrease the severity of migraine attacks.

The results of the study indicated that a high incidence of migraines and frequent headaches was the primary factor contributing to the majority of students' impairment of daily activities. The majority of the migraineurs had changeable triggers that could be identified. Therefore, teaching initiatives may be necessary in order for the subjects to comprehend the relevance of effective migraine therapy and to alter their treatment accordingly. Early migraine detection and effective migraine treatment will lessen migraine disability and improve migraineurs quality of life. It is obvious that a face-to-face verbal interview is the gold standard for migraine diagnosis and those additional researches with a particular focus are required

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