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INCIDENCE OF MIGRAINE IN THE DEPARTMENT OF NEUROLOGY AND ITS PRESCRIPTION PATTERN IN A TEACHING HOSPITAL: A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Background: Migraine is a common and chronic brain disorder with intermittent symptoms. These include moderate to severe headaches, gastrointestinal symptoms, and sensory disturbances such as sensitivity to light, sound, smell, and movement. We did observational study to know incidence of migraine and its prescribing patterns. Chi square is performed to know whether age and gender are significant or not with respect to migraine. **Methods:** We included out patients from neurology department. Patients were examined for the risk factors, symptoms they experience migraine episodes, disability due to migraine was assessed and prescription patterns to reduce disability was studied. **Results:** Out of total headache population of 1212 patients 138 patients were diagnosed as migraine among which 111 were females and 27 were males. Statistical analysis performed for gender and age group was chi square ($p=0.88 > 0.05$) indicating that there is no statistical significance of age and gender with relation to migraine. The major risk factor was stress effecting – 34.6% of females and 5.79% of males. Major symptoms of migraine were nausea affecting 28.9% patients. NSAIDS and antidepressants were the first line drugs in the migraine treatment. Migraine disability assessment questionnaire was asked from the patients to know their disability and to reduce it. **Conclusion:** Study outcomes helped us to know the incidence within Owaisi hospital, the extent of disability, burden on population and to know the treatment patterns. There by helps in reducing the disability and burden on society.

KEYWORDS: Incidence, migraine, disability, burden, observational study.

INTRODUCTION

Kulkarni et al The prevalence and burden of migraine in india- Karnataka state showed results that Migraine is highly prevalent in this part of India, and associated with substantial disability, especially among women and rural populations.

- The triggering factors causing migraine.
- Incidence of migraine.
- Types of migraine.
- Migraine affecting age and gender in general population.
- The prescription patterns.

There by helps in reducing the disability and burden on the society.

Chi square is performed to know whether age and gender are significant or not with respect to migraine. Hence the results of our hypothesis of study was chi square ($p=0.88 > 0.05$) indicating that there is no statistical significance of age and gender with relation to migraine.

METHODOLOGY

Study Site

Out patient/ Neurology Unit Department of Owaisi hospital and research centre.

Study Design

Single centre prospective observational study.

Sample Size

138.

Study Duration

6 Months.

Study Criteria

The following categories of patients will be enrolled into the study.

Inclusion Criteria

Patients both the genders (male and female).

1. Out patients

2. Patients of age above 18yrs are included.
3. History of headache > 4weeks
4. Headache with no neurologic deficit

Exclusion Criteria

1. Patients who are not willing to participate in the study.
2. Pregnant women are excluded.
3. Paediatric patients are excluded.
4. Headache due to drug induced
5. Secondary headaches such as due to tooth ache, eye, skeleton
6. Hypertensive patients.

Statistical Analysis

Null Hypothesis

There is NO significant difference of age and gender with relation to migraine.

Alternate Hypothesis

There is significant difference of age and gender with relation to migraine.

Observed Frequency: Table 1

GENDER	18-25	26-40	41-60	TOTAL
MALE	4	15	9	28
FEMALE	20	55	35	110
TOTAL	24	70	44	138

Expected Frequency: Table 2

GENDER	18-25	26-40	41-60	TOTAL
MALE	4.869565	14.2029	8.927536	28
FEMALE	19.13043	55.7971	35.07246	110
TOTAL	4.869565	14.2029	8.927536	138

Observed Frequency-Expected Frequency Table 3

GENDER	18-25	26-40	41-60	TOTAL
MALE	-0.86957	0.797101	0.072464	28
FEMALE	0.869565	-0.7971	-0.07246	110

(Observed Frequency – Expected Frequency) ^{2} Table 4

GENDER	18-25	26-40	41-60
MALE	0.756144	0.635371	0.005251
FEMALE	0.756144	0.635371	0.005251

(Observed Frequency–Expected Frequency) ^{2}/Expected Frequency: Table 5

GENDER	18-25	26-40	41-60
MALE	0.15528	0.044735	0.000588
FEMALE	0.039526	0.011387	0.00015

χ^2 Sum = 0.251666
Degree of freedom = (r-1) (c-1)
2-1x3-1=1x2
Degree of freedom (df) = 2
Probability level (α) = 0.05
P value of χ^2 = 0.881762291
Therefore Critical value of χ^2 = 0.2533

Statistical analysis

Performed for gender and age group was χ^2 ($p=0.88 > 0.05$) indicating that there is No significance of age and gender with relation to migraine. Hence NULL HYPOTHESIS is accepted and Alternate hypothesis is rejected.

RESULTS

Table 6: Total Op Population.

GENDER	POPULATION
MALE	2100
FEMALE	3365
TOTAL	5465

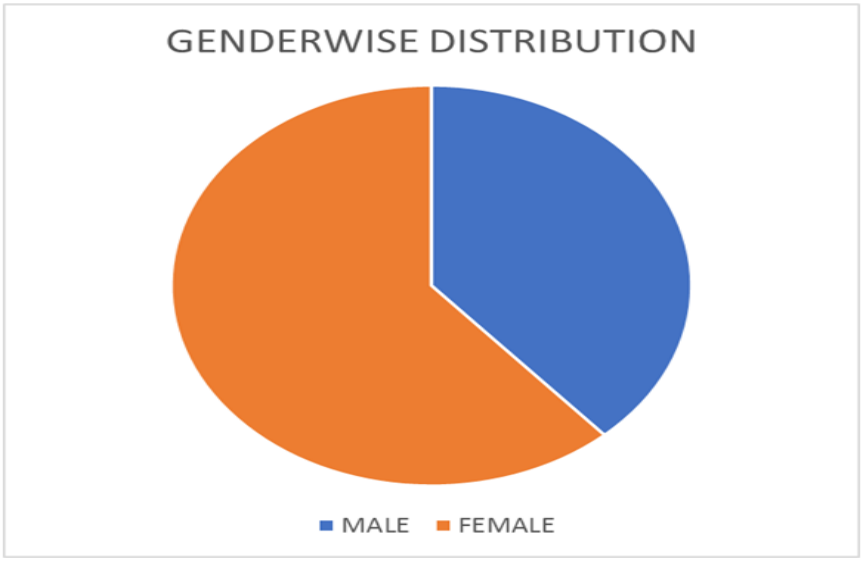

Fig. 1: Total Op Population-Pie Diagram.

Total Headache Population: Table 7

GENDER	NO OF PATIENTS
MALES	323
FEMALES	889
TOTAL	1212

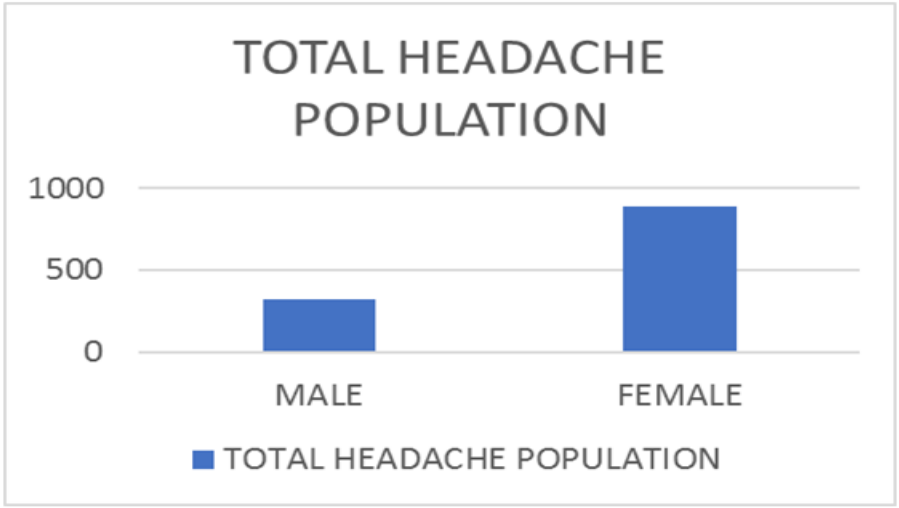

Fig. 2: Bar Diagram Showing Total Headache Population.

Total Migraine in Headache Population: Table 8

POPULATION	NO OF PATIENTS
HEADAHCE	1212
MIGRAINE	138

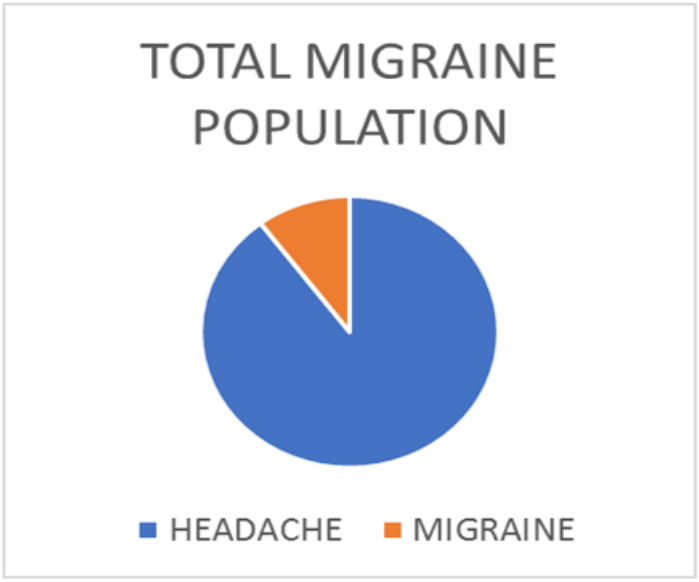

Fig. 3: Pie Diagram Showing Total Migraine Patients in Headache Population.

Migraine Population: **Table 9**

GENDER	NO OF PATIENTS
MALE	27
FEMALE	111
TOTAL	138

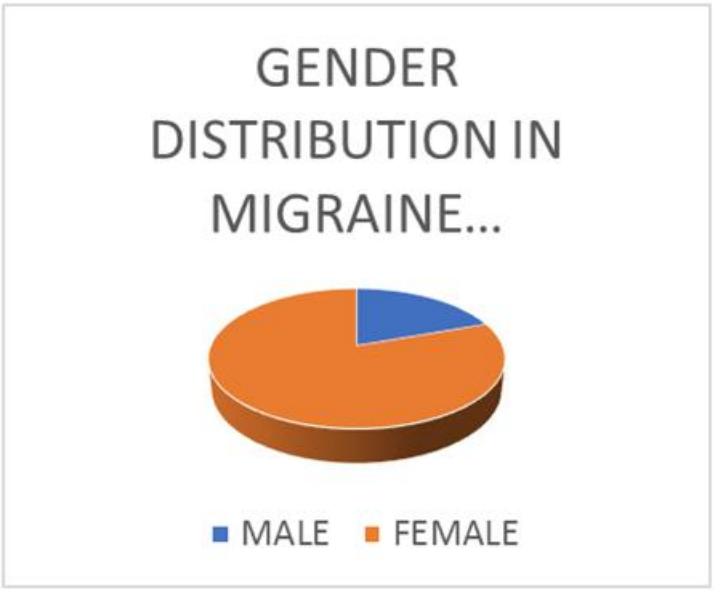

Fig. 4: Gender Wise Distribution in Migraine Population.

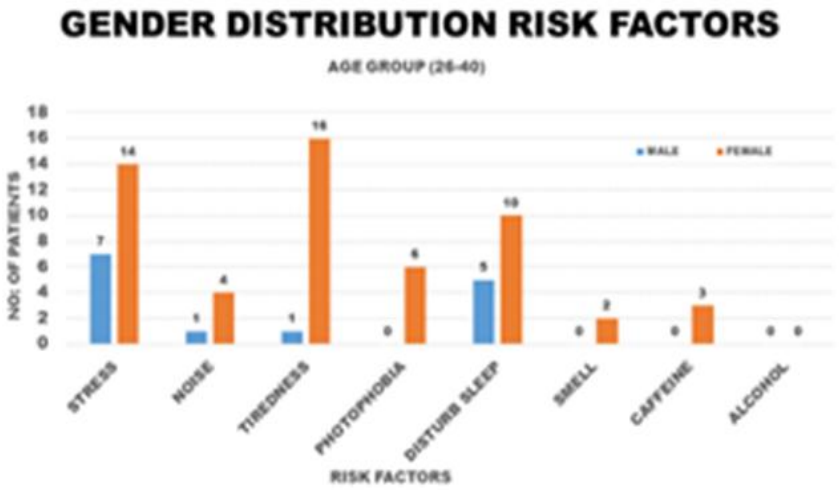

Fig. 5: Gender Distribution Risk Factors Age Group 20-40.

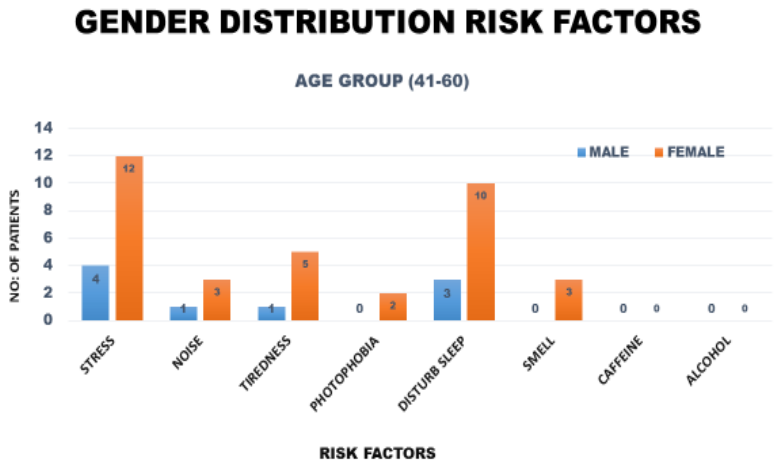

Fig. 6: Gender Distribution Risk Factors Age Group 41-60.

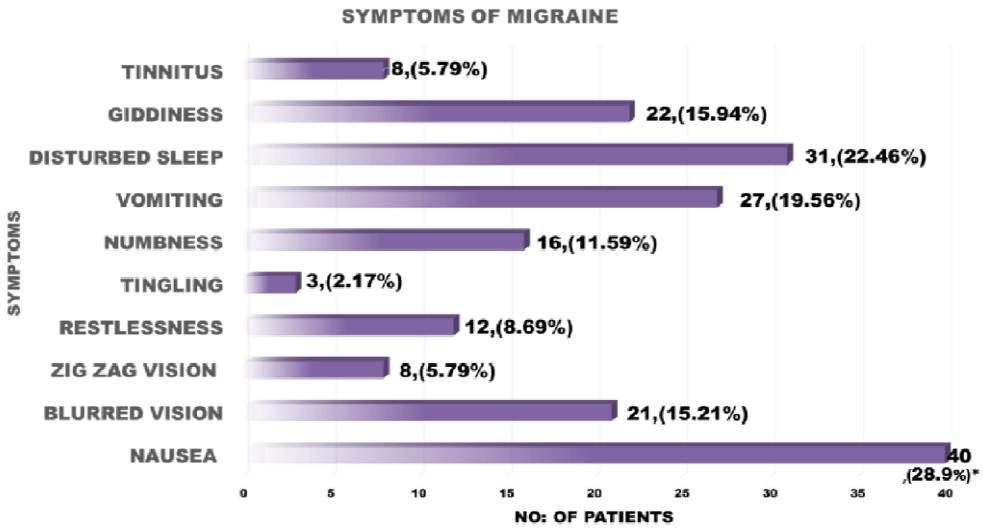

Fig. 7: Symptoms of Migraine.

TYPE OF MIGRAINE DIAGNOISED

TYPE	PATIENTS
HEMICRANIAL HEADACHE	39
SHIFTING TYPE	38
HOLOCRANIAL HEADACHE	39
INTERMITTENT	10
TENSION TYPE	5
TEMPORAL	3
OCCIPITAL	1
POSTURAL DEPENDANT	1
NON SPECIFIC	2

Table 11: Management of Migraine by Single Therapy.

SINGLE THERAPY				
MEDICATIONS	NO: OF PATIENTS			
	MALES	FEMALES	TOTAL	%
NSAID	5	22	27	19.5%
ANTIDEPRESSANT	3	26	29	21%

Table 12: Management of Migraine by Dual Therapy.

DUAL THERAPY				
MEDICATIONS	NO: OF PATIENTS			
	MALE	FEMALE	TOTAL	%
NSAID+Antidepressant	10	34	44	31.8%
NSAID+Antiemetic	2	9	11	8%
NSAID+BZD	2	3	5	3.6%
Antidepressant+BZD	1	3	4	2.9%
β-blocker+NSAID	0	2	2	1.4%

Table 13: Management of Migraine by Mu; Tip; E Therapy.

MULTIPLE THERAPY				
MEDICATIONS	NO: OF PATIENTS			
	MALE	FEMALE	TOTAL	%
Antidepressant+NSAID+Antiemetic	2	5	7	5.07%
β-blocker + Antidepressant + NSAID		2	2	1.44%
β-blocker + Triptans + calcium antagonist		1	1	0.7%
β-blocker + Antidepressant+ NSAID + Antiemetic		1	1	0.7%
β-blocker + NSAID + Antiemetic	1	1	2	1.45%
Antidepressant + NSAID + Triptans	1		1	0.7%
Calcium antagonist + NSAID + Antiemetic+β-blocker		1	1	0.7%
β-blocker + Antidepressant + Triptans		1	1	0.7%

Table 14: **Disability Score of Migrainuers.**

DISABILITY OF MIGRAINEURS BEFORE AND AFTER REVIEW

S NO:	AGE (YRS)	GENDER	DISABILITY GRADE BEFORE	TREATMENT VISIT 1	DISABILITY GRADE AFTER R/A	TREATMENT VISIT 2	DISABILITY GRADE AFTER VISIT 2	TREATMENT VISIT 3	DISABILITY GRADE
1	25	F	II	ANALGESIC (DOLO650)	I	NSAID+ANTIEMETIC (NAXDOM) 500MG	0	-	-
2	25	F	I	NSAID (KETOROL)	I	RICONIA+ANTIDEPRESSANT (ODEP)	0	-	-
3	27	F	I	NSAID (NAPROXEN)	I	ANTIDEPRESSANT (TRYPTOMER)+ NSAID (KETOROL)	0		
4	28	F	II	ANTIDEPRESSANT (TRYPTOMER)+β-BLOCKER (CIPLAR-LA) +ANALGESIC (LUPIRTIN)	I	β-BLOCKER (CIPLAR-LA) +NSAID (NAPROXEN) +BENEFIT	0		
5	28	F	I	CALCIUM ANTAGONIST (SIBELIUM) 10MG+ NSAID (KETOROL)	I	β -BLOCKER (INDERAL)+ ANTIDEPRESSANT (TRYPTOMER)+ NSAID+ANTIEMETIC (NAXDOM)	0		
6	30	F	II	NSAID (KETOROL)+ ANTIDEPRESSANT (TRYPTOMER)	I	ANTIDEPRESSANT (TRYPTOMER)	I	NSAID (KETOROL)	0
7	32	F	II	VERTIN+BZD (ANXIT)	I	NSAID (KETOROL) +POLYBION	0		

Table 15

S NO:	AGE (YRS)	GENDER	DISABILITY GRADE BEFORE	TREATMENT VISIT 1	DISABILITY GRADE AFTER R/A	TREATMENT VISIT 2	DISABILITY GRADE AFTER VISIT 2	TREATMENT VISIT 3	DISABILITY GRADE
8	33	F	II	NSAID+ANTIEMETIC (NAPRODOM)	0		I		O
9	36	F	III	ANTIDEPRESSANT (TRYPTOMER 10MG)	I	NSAID+ANTIEMETIC (NAXDOM) 500MG+ANTIDEPRESSANT (TRYPTOMER 10MG)	0	-	-
10	38	F	II	ANALGESIC (DOLONEX)	I	NSAID+ ANTIEMETIC (NAXDOM)+ ANTIDEPRESSANT (TRYPTOMER)	0		
11	45	F	I	OPIOD ANALGESIC (ULTRACET)	I	ANTIDEPRESSANT (TRYPTOMER)+ POLYBION	0		
12	50	F	III	CALCIUM ANTAGONIST (SIBELIUM)+NSAID+ANTIEMETIC (NAXDOM)+ β –BLOCKER (CIPLAR-LA) +MSTRONG	II	β-BLOCKER (INDERAL)+ANTIDEPRESSANT (TRYPTOMER)+ TRIPTANS (HEADSET)	I	ANTIDEPRESSANT (TRYPTOMER) + NSAID (KETOROL)	0
13	55	F	I	NSAID+ANTIEMETIC (NAXDOM)	I	NSAID (KETOROL)+ANTIDEPRESSANT (TRYPTOMER)	0		
14	55	F	I	NSAID (KETOROL)+ANTIDEPRESSANT (TRYPTOMER)	I	NSAID (KETOROL) +BZD (ETILITE)	0		

Table 16 Disability Score Grade Wise.

MIGRAINE DISABILITY ASSESSMENT GRADE IN AGE GROUP

AGE GROUP	GRADE I	GRADE II	GRADE III	GRADE IV	TOTAL
18-25	52	16	1	0	69
26-40	31	11	4	0	46
41-60	14	9	0	0	23
TOTAL	97	36	5	0	138

DISCUSSIONS

This observational study of 6 months provides a comprehensive data from Owaisi hospital. We found the total out patient population in neurology department was 5465 out of which 3365 were females and 2100 were males. From this population 1212 were headache population which had 889 females and 323 males. Out of total headache population 138 patients had migraine

among which 111 were females and 27 were males. Statistical analysis performed for gender and age group was chi square (p=0.88> 0.05) indicating that there is no statistical significance of age and gender with relation to migraine. Age group of 18-25 had 14.99% females and 2.9% males, age group of 26-40 had 39.85% of females and 10.9% were males and under the age group of 41-60 had 25.36% females and 6.5%males. The major risk factor was stress effecting – 34.6% of females and 5.79% of males followed by tiredness effecting 18.1% of females and 1.4% of males, disturbed sleep effecting 16.6% of females and 6.52% of males photophobia effecting 7.2% of females. Major symptoms of migraine was nausea affecting 28.9% patients, disturbed sleep 22.4% of patients, vomiting 19.56% patients, giddiness 15.9% patients Blurred vision 15.2% patients, numbness 11.5% patients, restlessness 8.69% patients, tinnitus 8.6% patients, zigzag lines 8.6% patients tingling 2.1% patients. Among the types of migraine diagnosed 28% had hemicranial migraine, 28% had holocranial migraine, 28% had shifting migraine, 7% had intermittent migraine, 4% had tension type, 2% temporal, 1% had occipital, 1% had postural and 1.5% non-specific. In single therapy 21% of patients were given antidepressants such as amitriptyline and 19.5% of patients were given NSAIDS such as ketorolac and paracetamol. In dual therapy 31.8% patients were given combination of NSAID and anti-depressant, 8% patients were given NSAID and antiemetic, 3.6% patients were given NSAIDS and benzodiazepine, 2.9% patients were given anti-depressant and benzodiazepine and 1.4% patients were given β-blocker and NSAIDS. Multiple therapy was given to the patients who had severe migraine or patients whose disability did not subsided after single or dual therapies. 5.07% patients were given Antidepressant + NSAID + Antiemetic, 1.44% patients were given β blocker + Antidepressant + NSAID, 1.45% patients were given β-blocker + NSAID +Antiemetic, 0.7% patients were givenβ-blocker + Trip tans +calcium antagonist, 0.7% patients were given βblocker + Antidepressant +NSAID+Antiemetic, 0.7% patients were given Antidepressant + NSAID + Trip tans, 0.7% patients were given Calcium antagonist + NSAID + Antiemetic+β-blocker, 0.7% patients were given β-blocker+ Antidepressant+ Trip tans. More disability was shown in females which is consistent with Dawn Buse et al., studies. Under the age group of 18-25, 52 patients had grade I disability, 16 had grade II disability and 1 had grade III disability, under age group of 26- 40, 31 had grade I disability 11 had grade II disability and 4 gad grade III disability, under the age group of 41-60, 14 had grade I disability and 9 had grade II disability.

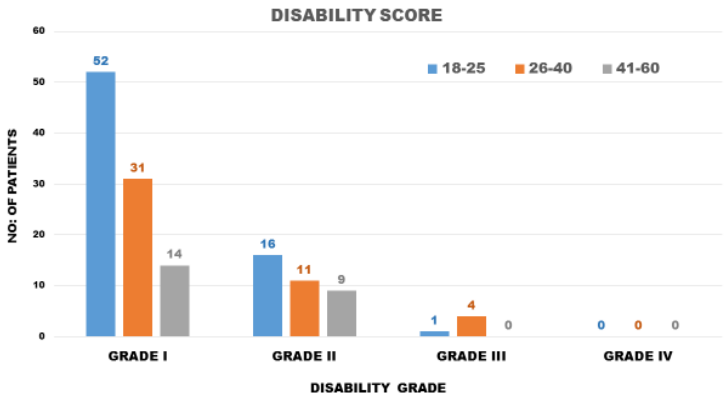

Fig 9: Disability Score.

Patients from the age group of 18-25 did not reviewed, but 14 patients from the age group of 26-40 and 42-60 reviewed.

CONCLUSION

Our study outcomes helps us to know the triggering factors causing migraine, incidence of migraine, types of migraine, migraine affecting age and gender in general population. And the prescription patterns. There by helps in reducing the disability and burden on the society. Chi square is performed to know whether age and gender are significant or not with respect to migraine. Hence the results of our hypothesis of study was chi square (p=0.88> 0.05) indicating that there is no statistical significance of age and gender with relation to migraine.

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