

**PREVALENCE OF MIGRAINE AMONG MEDICAL STUDENTS IN SOKOTO, NORTH-WESTERN NIGERIA****Balarabe S. A.<sup>1\*</sup> and Mufutau A. Yunusa<sup>2</sup>**<sup>1</sup>Department of Medicine, Usmanu Danfodiyo University Teaching Hospital Sokoto, Nigeria.<sup>2</sup>Department of Psychiatry, Usmanu Danfodiyo University Teaching Hospital Sokoto, Nigeria.**\*Corresponding Author: Dr. Balarabe S.A.**

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**ABSTRACT**

**Background:** Migraine is a common neurological disorder that is characterized by debilitating head pain and other symptoms such as nausea, vomiting, photophobia, phonophobia and occasionally, sensory or motor disturbances. Due to its negative effects on quality of life, it becomes especially considerable among university students, who by virtue of their curriculum require optimal concentration and performance. Moderate to severe headache attacks in migraine have a profound impact on school performance among university students. Previous studies have suggested that migraine is present among medical students. However, there is paucity of study in Nigeria on this subject. This study tends to shed more light on the prevalence of migraine among medical students in Sokoto, North-Western Nigeria. **Methods:** This was a prospective cross sectional study among medical students of Usmanu Danfodiyo University Sokoto. Two hundred students were recruited for this study comprising of both male and female students. Self administered structured questionnaire which was designed and pre tested was used to assess for sociodemographic variables and the presence of migraine. All collected data were cross-checked for consistency and statistical analysis was done using SPSS version 20.0 (Chicago IL USA) statistical software package. Means of two groups were compared using student's t-test while proportions were compared using chi-square with Yates correction where appropriate. Any p-value less than 0.05 was considered statistically significant. **Results:** One hundred and twenty two of the subjects responded to the questionnaire corresponding to 61.5%. The Female students were 73 (59.8%) while the male students were 49 (40.2%) with female to male ratio of 1.5:1. The mean age of the subjects was 23.03 ( $\pm 2.99$ ); minimum age was 18 years while maximum age was 40 years. All the level of medical students were represented (except for UG 3 who were on semester break during the study) with more representation from 400 level, 57 (46.7%) and 500 level 29 (23.8%). The prevalence of migraine among the subjects was 31 (28.7%) (fig.3). Of those who reported positive for migraine, 10 (29.4%) was left sided, 6 (17.6%) right sided, 10 (29.4%) both side of the head, while 7 (20.6%) reported generalized headache. The frequency of the migraine varied with some as frequent as 25 times a month. Fourteen (45.2%) reported the presence of sensory aura including visual and olfactory hallucination, while others complained of motor aura. **CONCLUSION:** The present study suggested that migraine is not uncommon among the medical students in Sokoto and impacts on students ability to attend and optimally perform in educational activities. Therefore, migraine should be given a public health priority in this community in that headaches in migraine, are usually lifelong conditions and cause disability both in terms of the disease and lifestyle restrictions they impose on the individual, associated with profound negative impact on school performance among university students.

**KEYWORDS:** Migraine, Medical students, Prevalence.**INTRODUCTION**

Migraine is a common neurological disorder and is characterized by debilitating head pain and other symptoms such as nausea, vomiting, photophobia, phonophobia and occasionally, visual or sensory disturbances. Due to its negative effects on quality of life, it becomes especially considerable among university students, who by virtue of their curriculum require optimal concentration and performance.

Migraine has a prevalence of about 11% in the general population and is ranked as the seventh most disabling disease worldwide (Stovner LJ. et al. 2007; Steiner TJ. et al, 2013) and in the US and Europe alone, headaches particularly, migraine accounts for an estimated 250 million lost days from work or school every year. Migraine is a public health disease in that headaches in migraine, are usually lifelong conditions and cause disability both in terms of the disease and lifestyle restrictions they impose on the individual, associated with profound negative impact on school performance

especially among university students (Adams AM. et al. 2015; Shapiro R, and Goadsby P. 2007; Leonardi M. and Raggi A. 2013; Bigal ME. and Lipton RB. 2009).

Functional comorbid conditions such as depression, anxiety and post-traumatic stress disorders are not uncommon among Migraineurs (Breslau N and Davis GC. 1993; Jette N. et al. 2008; Lanteri-Minet M. et al. 2005). Therefore, If left untreated, these comorbid conditions can increase the risk of progression from episodic migraine (EM) into chronic migraine (CM) (which is, characterized by at least 15 headache days a month, including at least 8 days/month with full-blown migraines). In addition, if left untreated, the comorbid psychiatric conditions can increase migraine-related disability, reduce quality of life and negatively impact treatment outcomes.

Chronic migraine (CM) affects approximately 1% of the adult population (Adams AM. et al. 2015; Stovner LJ. et al. 2007; Steiner TJ. et al. 2013) and is the most frequently seen headache syndrome at major neurology specialty centres (Adams AM. et al. 2015; Stovner LJ. et al. 2007; Steiner TJ. et al. 2013). Migraine-related disability is classified by the World Health Organization as more burdensome than common disease like deafness and angina (Jette N. et al. 2008). Furthermore, relative to individuals with episodic migraine or without headaches, those with CM are significantly more likely to be unemployed or employable but not actively working for pay. Individuals with CM are also significantly more likely to be divorced and to have psychological comorbidities (Lanteri-Minet M. et al. 2005).

## RESULTS

One hundred and twenty two of the subjects responded to the questionnaire corresponding to 61.5%. The male students were 73 (59.8%) while the female students were 49 (40.2%) with female to male ratio of 1.5:1. The mean age of the subjects was 23.03 ( $\pm 2.99$ ); minimum age was 18 years while maximum age was 40 years. All the level of medical students were represented (except for UG 3 who were on semester break during the study) with more representation from 400 level, 57 (46.7%) and 500 level 29 (23.8%). The prevalence of migraine among the subjects was 31 (28.7%) (fig.3). Of those who reported positive for migraine, 10 (29.4%) was left sided, 6 (17.6%) right sided, 10 (29.4%) both side of the head, while 7 (20.6%) reported generalized headache. The frequency of the migraine varied with some as frequent as 25 times a month. Fourteen (45.2%) reported the presence of sensory aura including visual and olfactory hallucination while others complained of motor aura.

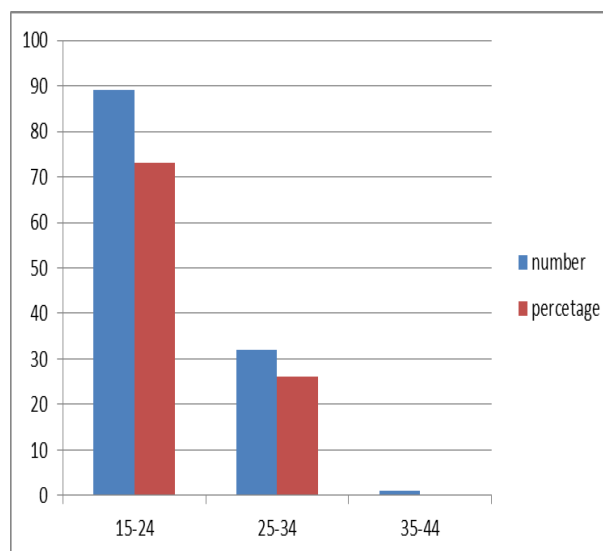


Figure 1: Age group and distribution of cases.

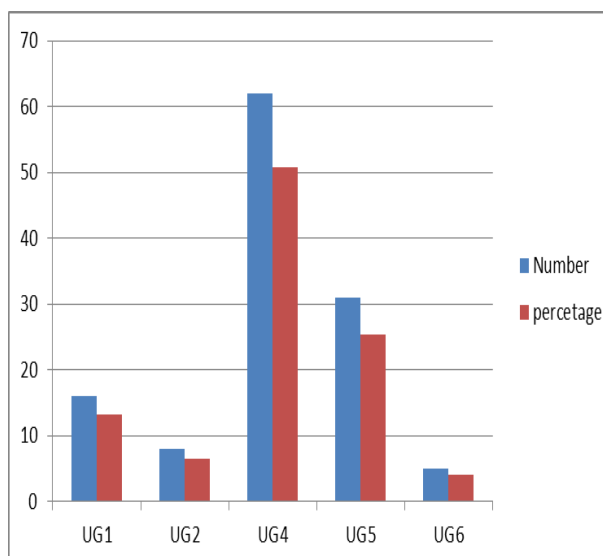


Figure 2: Distribution of cases based on undergraduate level (UG)

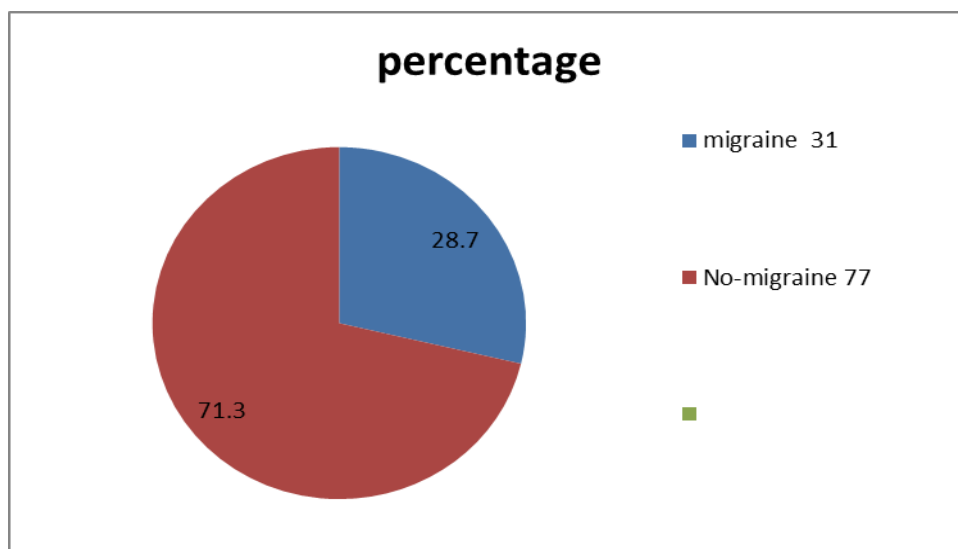


Figure 3: Percentage distribution of cases.

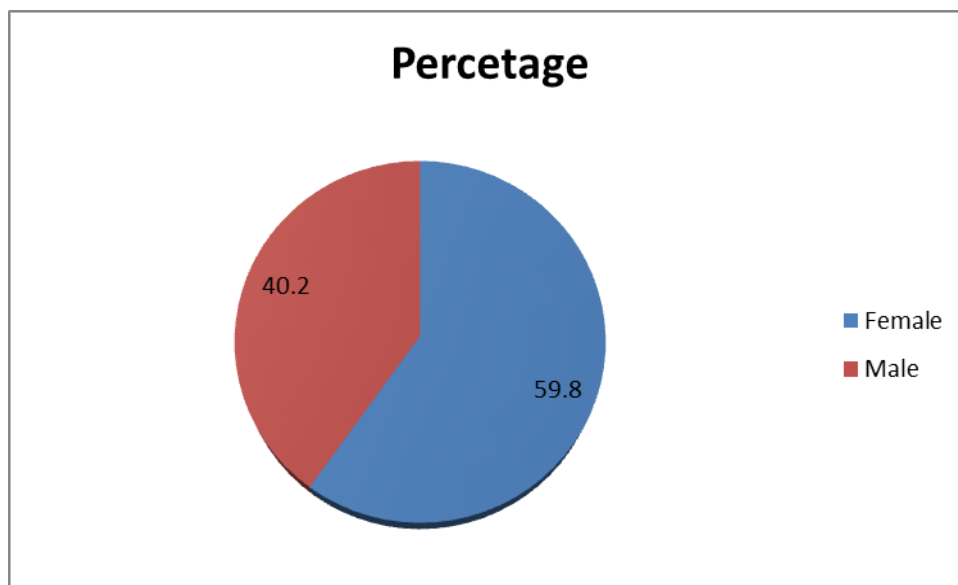


Figure 4: Percentage sex Distribution of cases.

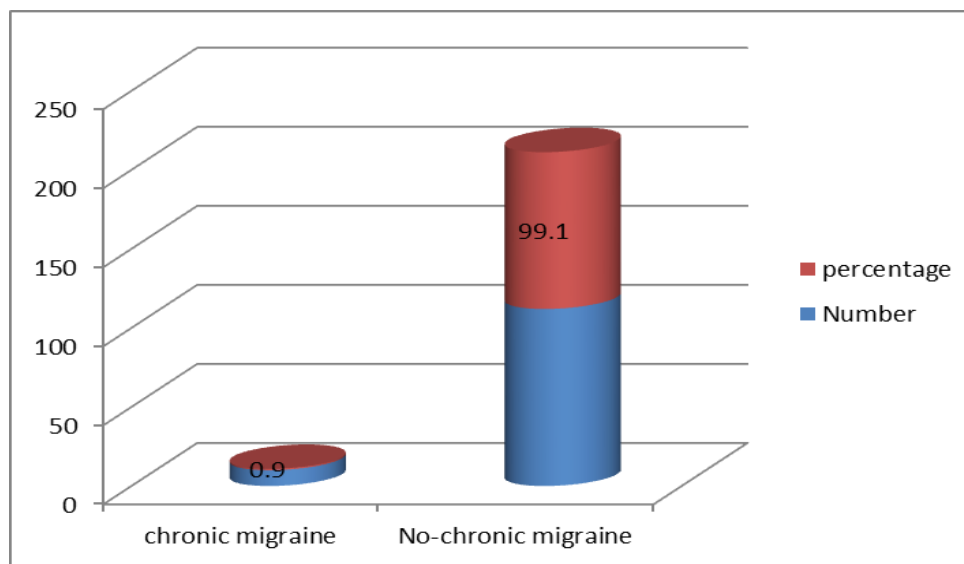


Figure 5: percentage Distribution of chronic migraine.

## DISCUSSION

Migraine prevalence of 28.7% in our study is closely similar to 27.9% migraine prevalence based on ID Migraine™ among medical students in Kuwait University reported by Al-Hashel *et al.* (Al-Hashel *et al.* 2014). Our prevalence correlated well with 24.8% reported recently by Heidi J. *et al.* (Heidi J. *et al.* 2014) among students of a US medical school. Additionally, though the prevalence of migraine in our study is higher compared to 14.1% prevalence reported by Ojini *et al.* (Ojini FI. *et al.* 2009) in South-Western Nigeria, and 13.1% in South East Nigeria (Ezeala-Adikai BA. *et al.* 2013), our finding is similar to the prevalence of 33.8% among medical students in Nairobi (Amayo EO. *et al.* 2002). Other international studies that reported lower prevalence compared to our study are, 7.14% in the Southeast of Iran (Shahrakai MR. *et al.* 2011), 12.2% in Oman (Deleu D. *et al.* 2001), 12.6% in Turkey (Balaban H. *et al.* 2012) and 22% in Brazil (Ferri-de-Barros JE. *et al.* 2011).

Lower prevalence rate reported in Southern regions of Nigeria may be a reflection of multicultural and multiethnic nature of Nigeria, it may also be accounted for by the difference in environmental triggers, especially the scouting sunny nature of Northern Nigeria where our study was conducted. Additionally, a relatively smaller sample size could have an effect on our results.

Chronic migraine prevalence rate of 0.9% suggested by our study correlated well with approximately 1% prevalence among adult populations in previous studies (Adams AM. *et al.* 2015; Stovner LJ. *et al.* 2007; Steiner TJ. *et al.* 2013).

## CONCLUSION

The present study suggested that migraine is not uncommon among the medical students in Sokoto, and impacts on students ability to attend and optimally perform in educational activities. Therefore, migraine should be given a public health priority in this community in that headaches in migraine, are usually lifelong conditions and cause disability both in terms of the disease and lifestyle restrictions they impose on the individual, associated with profound negative impact on school performance among university students.

## REFERENCES

- Adams AM, Serrano D, Lipton R, *et al.* The impact of chronic migraine: The chronic migraine epidemiology and outcomes (CaMEO) study methods and baseline results. *Cephalalgia.*, 2015; 35: 563-578.
- Amayo EO, Jowi JO, Njeru EK, Headache associated disability in medical students at the Kenyatta National Hospital. *Nairobi East Afr Med J.*, 2002; 79(10): 519-523.
- Balaban H, Semiz M, Senturk IA, Kavakc O, Cinar Z, Dikici A, Topaktas S Migraine prevalence, alexithymia and post-traumatic stress disorder among medical students in Turkey. *J Headache Pain.*, 2012; 13: 459-467.
- Bicakci S, Bozdemir N, Over F, Saatci E, Sarica Y: Prevalence of migraine diagnosis using ID Migraine among university students in southern Turkey. *J Headache Pain.*, 2008; 9: 159-163.
- Bigal ME, Lipton RB. The epidemiology, burden, and comorbidities of migraine. *Neurol Clin.*, 2009; 27: 321-334.
- Bigal ME, Bigal JM, Betti M, Bordini CA and Speciali JG: Evaluation of the Impact of Migraine and Episodic Tension-type Headache on the Quality of Life and Performance of a University Student Population. *Headache.*, 2001; 41(7): 710-719.
- Breslau N and Davis GC. Migraine, physical health and psychiatric disorder: a prospective epidemiologic study in young adults. *J Psychiatr Res.*, 1993; 27: 211-21.
- Deleu D, Khan MA, Humaidan H. *et al.* Prevalence and clinical characteristics of headache in medical students in oman. *Headache.*, 2001 Sep; 41(8): 798-804.
- Demirkirkan MK, Ellidokuz H, Boluk A. Prevalence and clinical characteristics of migraine in university students in Turkey. *Tohoku J Exp Med.*, 2006 Jan; 208(1): 87-92.
- Ezeala-Adikai BA, Ekenze OS, Onwuekwe IO. Frequency and pattern of migraine among medical and nursing students at Enugu, South East Nigeria. *J Headache Pain.*, 1(1): 5 .
- Ferri-de-Barros JE, Alencar MJ, Berchielli LF, Castelhana LC, Jr. Headache among medical and psychology students. *Arq Neuropsiquiatr.*, 2011; 69(3): 502-508.
- Heidi J, Gabrielle G, Jaya A, *et al.* Migraine in Students of a US Medical School. *Farm Med.*, 2014; 46(8): 615-9.
- Jette N, Pattern S, Williams J, *et al.* Comorbidity of migraine and psychiatric disorders—a national population-based study. *Headache.*, 2008; 48: 501-16.
- Leonardi M, Raggi A. Burden of migraine: international perspectives. *Neurol Sci.*, 2013; 34(Suppl. 1): S117-S118.
- Lanteri-Minet M, Radat F, Chautard MH, *et al.* Anxiety and depression associated with migraine: influence on migraine subjects' disability and quality of life and acute migraine management. *Pain.*, 2005; 118: 319-26.
- Lipton RB, Hamelsky SW, Kolodner KB, *et al.* Migraine, quality of life, and depression: a population-based case-control study. *Neurology.*, 2000; 55: 629-35.
- Lipton RB, Dodick D, Sadovsky R, Kolodner K, Endicott J, Hettiarachchi J, Harrison W. A self-administered screener for migraine in primary care: The ID Migraine(TM) validation study. *Neurology.*, 2003; 61: 375-382.

18. Lipton R, Liberman J, Kolodner K, Bigal M, Dowson A, Stewart W. Migraine headache disability and health-related quality-of-life: a populationbased case-control study from England. *Cephalalgia.*, 2003; 23(6): 441–450.
19. Ojini FI, Okubadejo NU, Danesi MA. Prevalence and clinical characteristics of headache in medical students of the University of Lagos, Nigeria. *Cephalalgia.*, 2009; 29(4): 472-7.
20. Shapiro R, Goadsby P. The long drought: The dearth of public funding for headache research. *Cephalalgia.*, 2007; 27: 991-994.
21. Steiner TJ, Stovner LJ, Birbeck GL. Migraine: the seventh disabler. *J Headache Pain.*, 2013; 14: 1.
22. Stovner LJ, Hagen K, Jensen R, Katsarava Z, Lipton R, Scher A, Steiner T, Zwart JA () The global burden of headache: a documentation of headache prevalence and disability worldwide. *Cephalalgia.*, 2007; 27: 193–210.