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Research Article

A CROSS SECTIONAL ANALYSIS OF PREVALENCE OF TRANSIENT FOCAL NEUROLOGICAL DEFICITS AND HEADACHE IN PREGNANCY

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Abstract:

Objective: The study aspires to gauge the prevalence of headaches [migraine or otherwise] during the course of their pregnancy and to simultaneously estimate the extent of transient focal neurological symptoms [self-reported] as well. *Methodology:* This Cross sectional study was conducted at Department of Gynecology & Obstetrics, Liaquat University Hospital, Hyderabad, from January 2017 to June 2017. The Hospital is serving both urban and rural areas of Hyderabad, to hundreds of patients. This study targeted those patients who came for antenatal visits, pregnancy related complaints and were in their 2nd trimester. Patients with neurological problems, space occupying lesions in brain, at risk pregnancies and pregnancies with known fetal complications were excluded from the study. A total of 1240 participants with age above 18 to 40 years meet the inclusion criteria and gave informed consent, was included in the study.

Result: Out of 1240 participants, enrolled in the study, 44.11% [n=547] reported episodes of headache during their pregnancy while remaining 55.89% [n=693] answered in negative. While analyzing the types of headaches, participants suffered, i.e. 44.11% of total population, it is found out that 60.70% [n=332] were suffered with Non migrainous headaches while the remaining 39.30% [n=215] were having migrainous headache [according to themselves]. It was revealed that only 17.20% [n=37/215] of the participants reported having migraine, were actually having migraine.

Conclusion

A significant population during pregnancy experience episodes of headache. Most of the population consider headache as having migraine but relatively a very lesser fraction were having actual migraine. Although the presence of transient neurological deficits were seen less in patients with or without non-migrainous headache, but they are common in patients with migraine.

Key Words: Migraine in Pregnancy, Headache, Transient Focal Neurological Symptoms & Aura in Pregnancy.

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INTRODUCTION:

Migraine, a common state of discomfort for general population and women in particular, affects approximately twenty percent of women belonging to the young and middle age groups [1]. Women of child bearing age that experience the cyclical fluctuations of gonadal hormones owing to their active menstrual cycles [2, 3]. This fact is further cemented owing to much evidence, that suggests migraine to improve and transient focal neurological symptoms to alleviate in women during pregnancy when the cyclical hormonal pattern come to a halt and a more uniform state of harmony is achieved for the gestational period [4–8]. However, even during that time, tension-type headache seldom sees an improvement and that too can be explained by the aforementioned set of evidence [5, 9]. It is rarely, if at all, seen that a woman experiences her first first attack of migraine during her gestational period [4, 10–13]. However for those experiencing migraines with aura, it is yet to be formally investigated if during their gestational period any benefit is achieved in terms of alleviating the aura. The obvious belief stemming from the aforementioned set of evidence cannot be assumed in this case since there have been instances that patients who previously had not complained of an aura, start to experience it during their pregnancy [10, 14].

The most worrisome however is the fact that during pregnancy, the transient focal neurological symptoms [in the absence of headache] merit interpretation as transient ischaemic attacks [TIA] with significant clinical implications. It is known well that during the gestational period, child bearing women are at a greater risk for cerebrovascular accidents [15, 16] and

pregnancy, coupled with migraine further hikes up the probability of encountering stroke [17–20]. Luckily though, evidence does exist that suggests otherwise, i.e. the presence of standalone transient neurological symptoms in patients of young age with no co-morbid cerebrovascular risks often seem to have a favorable prognosis [21, 22].

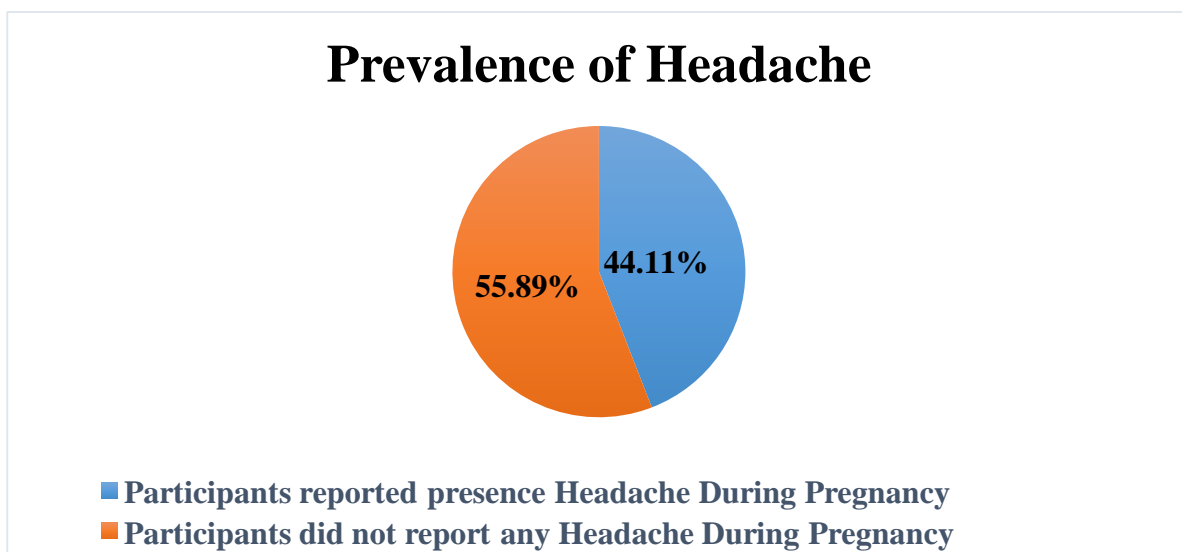
The study, thus, aspires to gauge the prevalence of headaches [migraine or otherwise] during the course of their pregnancy and to simultaneously estimate the extent of transient focal neurological symptoms [self-reported] as well.

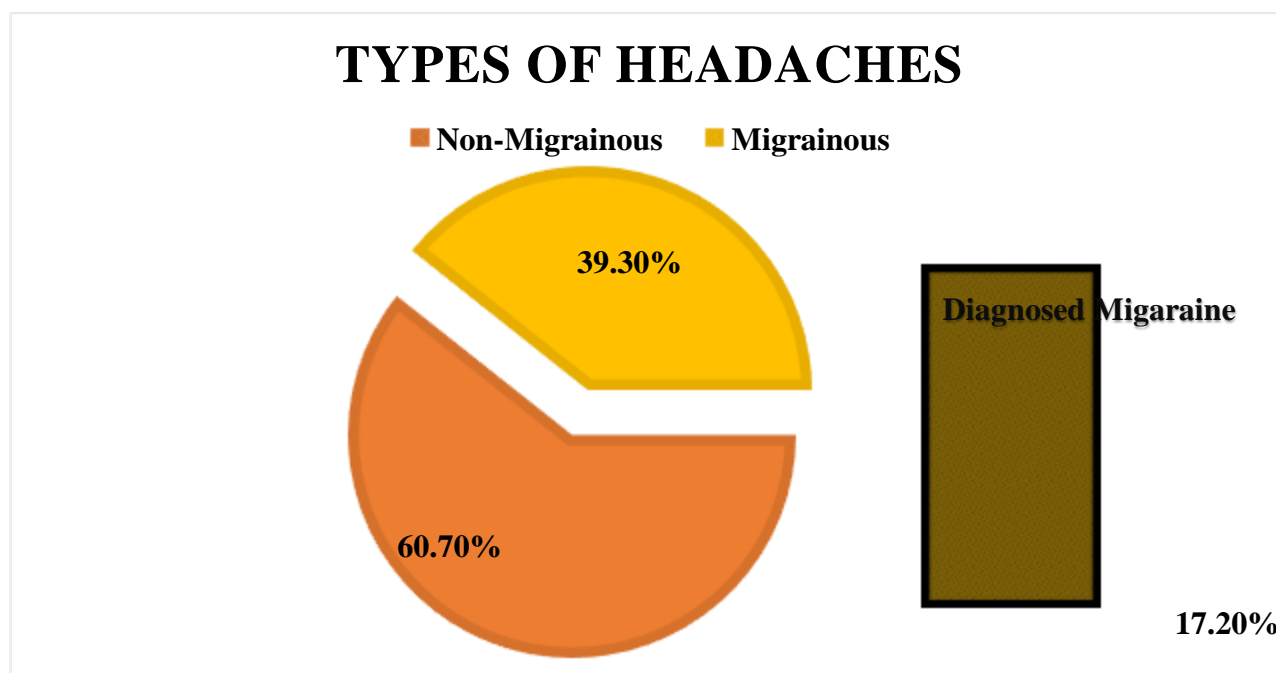
METHODOLOGY:

This Cross sectional study was conducted at Department of Gynecology & Obstetrics, Liaquat University Hospital, Hyderabad, from January 2017 to June 2017. The Hospital is serving both urban and rural areas of Hyderabad, to hundreds of patients. This study targeted those patients who came for antenatal visits, pregnancy related complaints and were in their 2nd trimester. Patients with neurological problems, space occupying lesions in brain, at risk pregnancies and pregnancies with known fetal complications were excluded from the study. A total of 1240 participants with age above 18 to 40 years meet the inclusion criteria and gave informed consent, was included in the study.

RESULTS:

Out of 1240 participants, enrolled in the study, 44.11% [n=547] reported episodes of headache during their pregnancy while remaining 55.89% [n=693] answered in negative.





While analyzing the types of headaches, participants suffered, i.e. 44.11% of total population, it is found out that 60.70% [n=332] were suffered with Non migrainous headaches while the remaining 39.30% [n=215] were having migrainous headache [according to themselves]. Participants who reported migrainous headache, were than examined for presence of migraine by questionnaire 2, International Classification of Headache Disorders, [beta version], it was revealed that only 17.20% [n=37/215] of the participants reported having

migraine, were actually having migraine. Majority of the participants claiming to have migraine did not diagnose with actual migraine.

The demographic distribution of the sample is depicted by the table no 1. Migraine headaches were more marked in primipara and associated with other complaints apart from headache. The complaints reported were mainly pelvic pain, nausea [not related to headache], back pain and edema.

Table 1: Demographic Distribution in Different Groups.

	Mean Age \pm SD	Primipara [n - %]	Smoking [n - %]	Hypertensive [n - %]	Other Complaints [n - %]
No Headache [n=693]	27.32 \pm 9.5	248 – 35.8	21 - 3	223 – 32.2	284 – 41
Non-Migrainous Headache [n=332]	29.74 \pm 8.6	106 – 32	39 – 11.7	136 – 41	89 – 26.8
Migraine [Self- Reported] [n=215]	27.57 \pm 9.2	112 – 52.2	6 – 2.8	56 – 26	112 – 52.1

Table 2: The Distribution of Focal Neurological [Sensory, Motor and Visual] Symptoms in Relation to Headache Status during Pregnancy

Transient Focal Neurological Symptoms [n=167 – 13.46%]	No Headache [n - %]	Non-Migrainous Headache [n - %]	Migraine [Self- Reported] [n - %]
UNILATERAL SENSORY SYMPTOMS [N=110]			
Aura [n=20]	3 - 15	11 – 55	6 - 30
Peripheral [n=27]	6 - 22.2	8 – 29.6	13 – 48.2
Non-neurological [n=63]	8 – 12.7	29 – 46	26 – 41.3
UNILATERAL MOTOR SYMPTOMS [N=85]			
Aura[n=19]	3 – 15.8	11 – 57.9	5 – 26.3
Peripheral [n=39]	9 – 23	12 – 30.7	18 – 46.3
Non-neurological [n=27]	8 – 29.6	5 – 18.5	14 – 51.9
VISUAL DISTURBANCE [N=106]			
Aura [n=49]	13 – 26.5	21 – 42.9	15 – 30.6
Atypical [n=57]	12 – 21	16 – 28	29 - 51

Transient neurological symptoms were found in 13.46% of the total population. 57.27% non-neurological, 24.5% peripheral cause, and aura 18.18%. The motor symptoms were categorized into respectively 45.88% peripheral cause, 31.76% no neurological and 22.35% aura. The distribution of visual symptoms was; 53.77% atypical and 46.22% aura. There were no subjects that presented symptoms that were classified as possible TIA.

DISCUSSION:

Migraine is regarded simply as a disorder involving regular episodes of headache. Its prevalence differs in different age groups and among different genders. The prevalence hikes among middle-aged individuals and women are more often develop this problem than men [1]. As mentioned earlier, ample evidence exists that suggest a decrease in the symptoms migraine, the frequency of its episodes and the severity of each

individual episode. Our study yielded results that are synonymous with norms of international literature, for example, our results claim that more than half of our study population [fifty eight percent] that formerly suffered from migraine saw an end to their suffering during pregnancy. This is in line with existing scientific literature that claimssixty to seventy percent of the respective study population was ridden of migraine during their pregnancies or improved markedly [4–8].

Discrepancies, however, do exist owing to the fact that the study population of different investigators each may have had experienced different conditions during their pregnancies i.e. people around the world follow different traditions during pregnancies, adopt different special diets, are exposed to different levels of stress and are subjected to different treatments. Consequently, Rasmussen *et al.* [5], reported different results [forty eight percent migraine alleviation rate] from what we claim. For an unfortunate few, [four to eight percent]the migraine might actually be aggravated while they are bearing a child [4], and it has also been reported that some might even encounter their first episode of migraine during their time of pregnancy.

Headache and migraine prevalence in the present subjects was in line with the prevalence levels reported by authors from the west [23, 24]. Such a proforma derived diagnosis does lack in reliability when compared to other studies that use interview as a diagnostic tool since, the subjects themselves might not always understand all the self-administered questions of the proforma while during the interview, the researcher can help the subjects understand all details in-depth[25].

The manifestation of transient neurological deficits, namely, unilateral motor, sensory and visual deficits are most worrisome. Furthermore, it may not be easy to differentiate between transient ischaemic attacks from aura, particularly in subjects that have no prior history of headache, migraine or transient focal neurological deficits. Adding more to the trouble, transient ischaemic attacks are associated, more often than not, with headache [26, 27]. Luckily, though, the picture is not all grim and features such as the time course and tread of symptoms, the presence of positive and negative symptoms may prove helpful [28, 29].

A note-worthy insight that merits to be shared is that a critical concentration of estrogen is required in order to trigger migraines [30-33]. More research thus needs to be conducted to investigate the fluctuation in the prevalence and severity, of

migraine and oestrogen shifts during pregnancy to un-earth valuable details that may help alleviate the problem.

CONCLUSION:

A significant population during pregnancy experience episodes of headache. Most of the population consider headache as having migraine but relatively a very lesser fraction were having actual migraine. Although the presence of transient neurological deficits were seen less inpatients with or without non-migrainous headache, but they are common in patients with migraine.

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