



Migraine: A Cross-sectional Study among Physicians and Medical Students Regarding Prevalence, Awareness and Knowledge of Diagnosis and Management

Hassan Choudry, MD¹; Fateen Ata, MBBS²; Mahammed Khan Suheb, MD³; Naveed Alam, FCPS, MBBS¹
¹Punjab Medical College Pakistan, ²Hammad Medical Corp Qatar, ³AdventHealth Orlando FL USA.



INTRODUCTION

Despite its high prevalence, migraine remains underdiagnosed worldwide, a primary reasons of which is a knowledge gap in physicians regarding diagnostic criteria, clinical features, and other clinical aspects of migraine. The primary objectives of this study were to measure that knowledge deficit in doctors and medical students, and assess the prevalence of migraine in the same population.

Do you have Migraine?	Yes: 26 (13.7%) No: 119 (62.6%) Maybe: 45 (3.7%)
Confirmed Migraine after reading the ICHD-3 criteria of all 3 types of migraine	Migraine without Aura: 38 (20.5%) Migraine with Aura: 10 (5.3%) Chronic Migraine: 3 (1.6%) No Migraine: 138 (72.6 %)
Consulted any Doctor	GP: 22 (11.5%) Medical Specialist: 25 (13.1%) Neurologist: 11 (5.7%) Ophthalmologist: 19 (10%) Other: 9 (4.7%) No: 118 (62.1%)
Physician Able to diagnose Migraine	Yes: 50 (71%) No: 11 (15.7%) Maybe: 9 (4.7%)
Knowledge of Dx Criteria of Migraine	Heard but don't remember: 92 (48.4%) Heard and remember it: 73 (38.4%) Never heard about it: 25 (13.2%)
Knowledge of Prophylaxis of Migraine	I know its indications: 63 (33.2%) Know indications don't remember: 77 (40.5%) Know only that it exists: 30 (15.8%) Don't know about it at all: 20 (10.5%) Don't know: 110 (57.9%)
Duration of standard prophylactic therapy of migraine? N, (%)	1 month: 11 (5.8%) 3 months: 29 (5.3%) 6 months: 26 (13.7%) 12 months : 14 (7.4%)
Used Prophylactic Therapy (Migraine Patients Only) N, (%)	Yes: 10 No: 40 Not Sure: 2

Table 1. Basic responses to knowledge questions

METHODS AND MATERIALS

A web-based 30-question questionnaire was developed consisting of simple multiple choice (MCQ) as well as multiple choice-multiple response questions (Checklists). Questionnaire was distributed among doctors and final year medical students on duty in various medical and surgical specialties of Allied and D.H.Q. Hospitals, the affiliated hospitals of Faisalabad Medical University, in the period between Aug 2017 and July 2019. Our study included final year Medical students, House officers, Medical officers, Senior Registrars, and Assistant Professors, via convenient sampling. Respondents were assessed on their knowledge of definition, triggers, prophylaxis of the migraine headache by different questions. For diagnosis, around the middle of the questionnaire, respondents were presented with ICHD-3 diagnostic criteria of Migraine With Aura, Migraine Without Aura, and Chronic Migraine, and were later asked to self-diagnose by matching their symptoms to these criteria where applicable. Graphs, Tables and figures were made using Microsoft Office 2016 and Microsoft Visio and data analysis was done in SPSS 26.

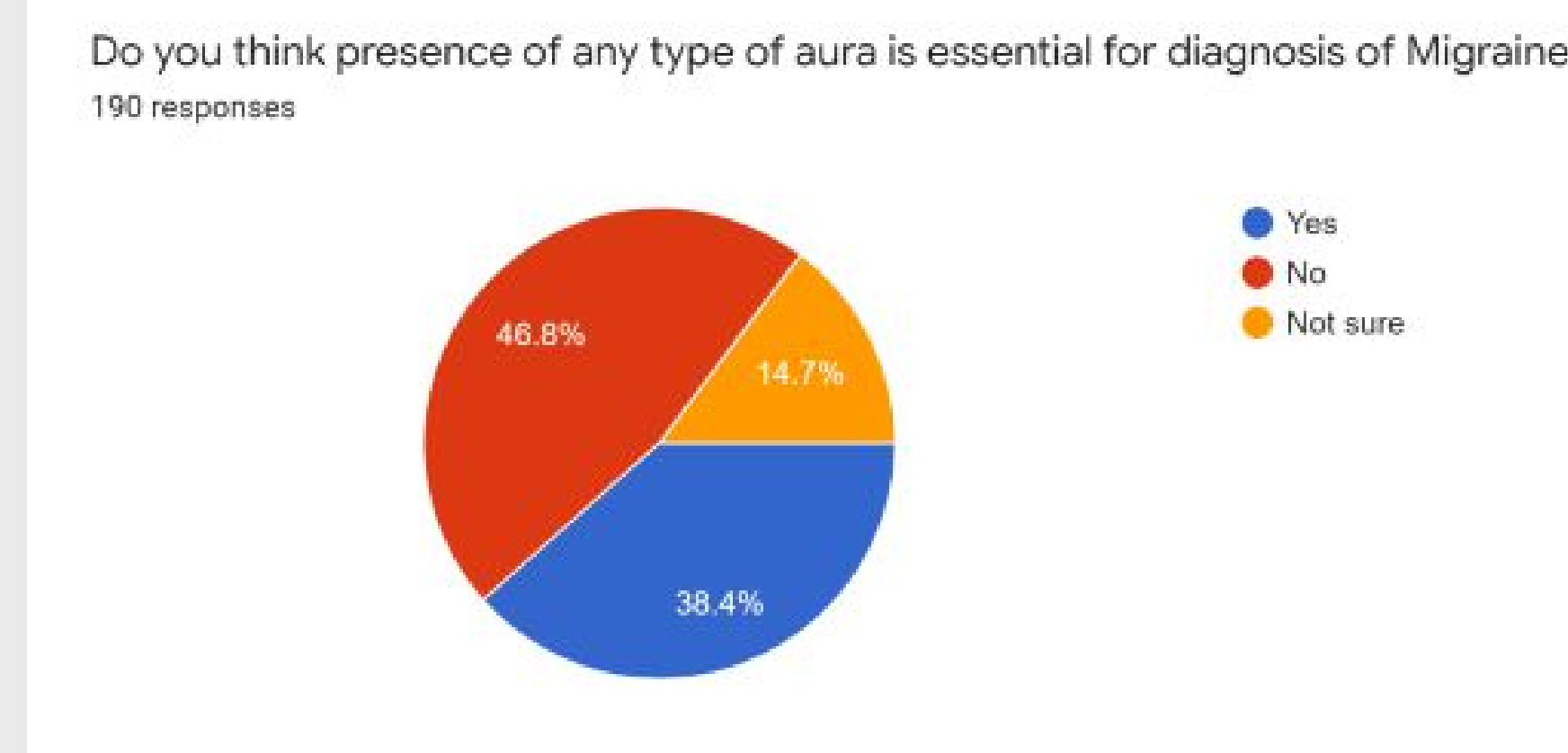


Figure 1. Aura Essential for Migraine Diagnosis?.

	Migraine Aware	Not aware
Gender	Females: 17 (68%) Males: 8 (32%)	Females: 15 (55%) Males: 12 (45%)
Know Diagnostic Criteria	Remember: 12 (48%) Don't Remember: 13 (52%)	Remember: 14 (51.8%) Don't Remember: 13 (48.2%)
Knowledge of Prophylaxis	Know Indications: 12 (48%) Do not Know about either prophylaxis or its indications: 13 (52%)	Know Indications: 10 (37%) Do not Know about either prophylaxis or its indications: 17 (63%)
Aura is Essential for Migraine Diagnosis?	Aura Not Essential: 10 (40%) Aura is essential or Not sure: 15 (60%)	Aura Not Essential: 14 (51.8%) Think Aura is essential or Not sure: 13 (48.2%)
Consulted any doctor	Neurologist: 3 (12%) Any Other Doctor: 17 (68%) Didn't Consult: 5 (20%)*	Neurologist: 1 (3.7%) Any Other Doctor: 11 (40.7%) Didn't Consult: 15 (55.6%)*
Know Monthly Attack cutoff for Prophylaxis	Correctly Identified: 5 (80%) Couldn't Identify: 20 (80%)	Correctly Identified:11 (42.3%) Couldn't Identify:15 (57.7%)
Know Duration	Correctly Identified: 4 (16%) Counldnt Identify:21 (84%)	Correctly Identified: 6 (24%) Couldn't Identify: 21 (76%)
Self-Medicat (Migraineurs Only)	Self Medicators: 5 (20%) Non Self-medicators: 20 (80%)	Self Medicators: 5 (20%) Non Self-medicators: 20 (80%)

Table 2: Differences between participants who were aware vs unaware of their migraine; Self-medicators: those who took any abortive therapy without consulting any doctor.

RESULTS

We had 213 respondents and 190 fulfilled inclusion criteria, with 99 (52%), 58 (30%), 12 (6.3%) belonging to Specialties of Medicine, Surgery and Others respectively. 52 (24%) of our total respondents (213) were diagnosed with migraine, with 26 (50%) being aware of it. Majority (62%) of subjects never consulted any doctor for their headache. Half (48%) had never heard or didn't remember the ICHD diagnostic criteria. 38% falsely believed that having any type of aura is essential for diagnosis of migraine. Migraine Awareness was associated with likelihood of consulting a physician. There was no statistical difference in knowledge of different aspects of migraine between medical students vs doctors, medicine specialty vs other specialty doctors, or consult seekers vs non-consult seekers. Females, as expected, had significantly higher prevalence (34%) compared to males (21%, P=0.05).

CONCLUSION

Knowledge of Pakistani physicians regarding migraine's diagnostic criteria, types, triggers, indications and duration of prophylaxis is remains severely below optimal which can lead to misdiagnosis and maltreatment. We recommend special CME activities targeting these lapses in knowledge to better handle migraine cases in outpatient

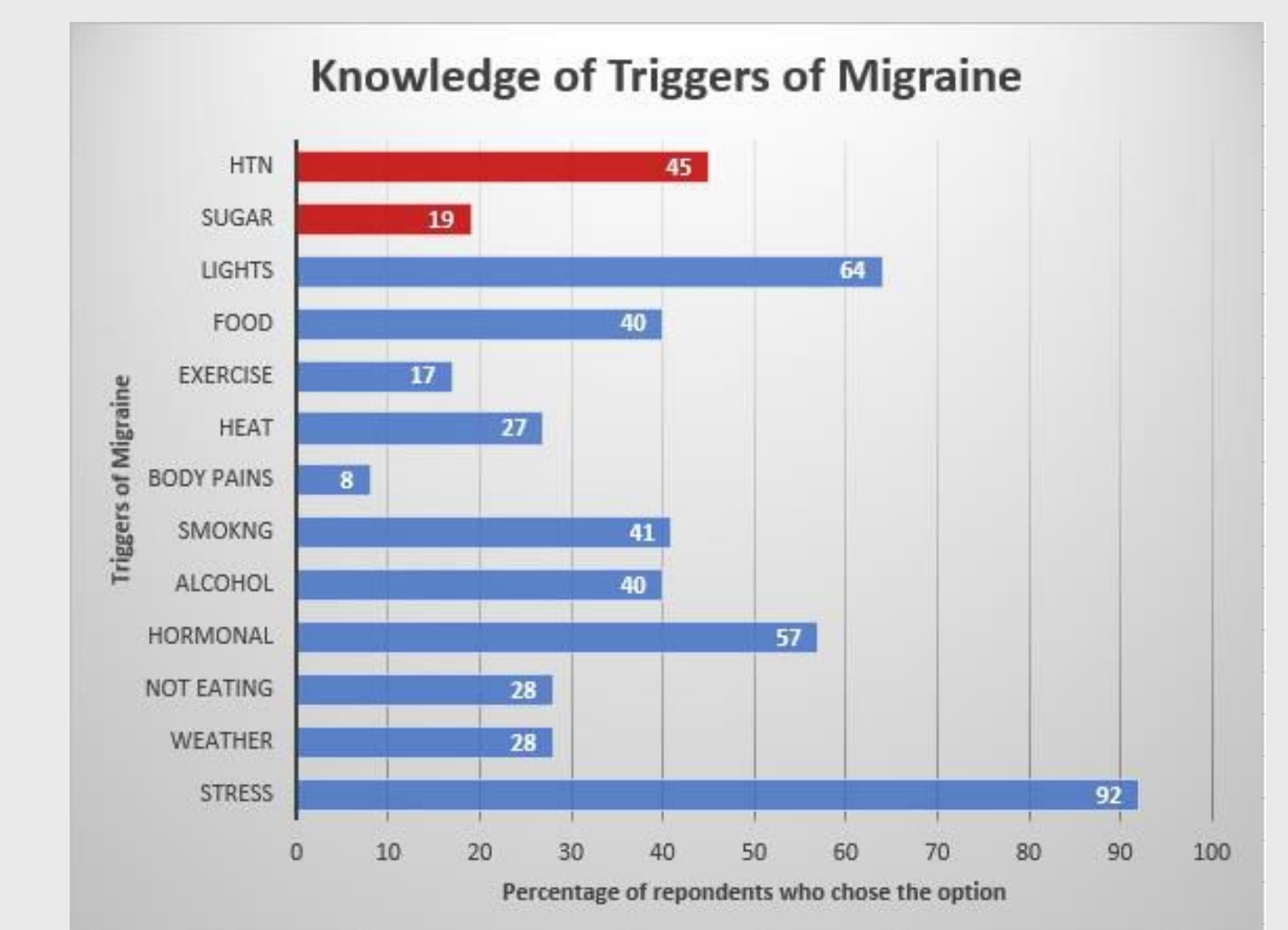


Figure 2. Knowledge of Triggers; Red labelled triggers indicate fake triggers while Blue labelled are the true clinical recognized triggers of migraine

CONTACT

Dr. Hassan Choudry
Department of Neurology, Allied
Hospital, Punjab Medical College,
Faisalabad Pakistan
Email: hassanchoudry01@gmail.com
Phone: +923007210300



Background



- **Headache is the top neurological complaint** of patients presenting to general practitioners and neurologists.
- **Migraine headache**, one of the commonest type of headaches, is a severe disabling condition with an estimated prevalence of **22.9% in Pakistan** which is much higher against a global average lifetime prevalence of 11%.
- For a majority of headache patients, doctors in Pakistan's public hospitals serve as **the first contact with the healthcare** so their knowledge regarding migraine headache serves a pivotal role for the patients. Their grasp of all aspects of migraine including diagnostic criteria, triggers, medications and prophylaxis of migraine remains vital for diagnosis and management of this condition.
- Despite being one of top causes of morbidity, millions of migraine cases remain **undiagnosed** worldwide leading to a preventable burden on the system. This underdiagnosis has been attributed to lapses in knowledge of physicians, besides other factors.
- We initiated this study **to assess the knowledge of physicians and medical students regarding the triggers, diagnosis, management and prevention of migraine in Pakistan**. A secondary objective of our study was **to measure prevalence of migraine in physicians in Pakistan**. We also seek to assess physicians own behaviors towards consult-seeking, and self-medication. To our knowledge this is the first study that gauge physician's knowledge of diagnosis, triggers and prophylaxis in our region.

Material and Methods



- A web-based 30-question questionnaire was developed consisting of simple multiple choice (MCQ) as well as multiple choice-multiple response questions (Checklists).
- Questionnaire was distributed among doctors and final year medical students on duty in various medical and surgical specialties of Allied and D.H.Q. Hospitals, the affiliated hospitals of Faisalabad Medical University, in the period between Aug 2017 and July 2019.
- Our study included final year Medical students, House officers, Medical officers, Senior Registrars, and Assistant Professors, via convenient sampling.
- Respondents were assessed on their knowledge of definition, triggers, prophylaxis of the migraine headache by different questions.
- For diagnosis, around the middle of the questionnaire, respondents were presented with ICHD-3 diagnostic criteria of Migraine With Aura, Migraine Without Aura, and Chronic Migraine, and were later asked to self-diagnose by matching their symptoms to these criteria where applicable.
- Graphs, Tables and figures were made using Microsoft Office 2016 and Microsoft Visio and data analysis was done in SPSS 26.

Results



We had 213 respondents and 190 fulfilled inclusion criteria, with 99 (52%), 58 (30%), 12 (6.3%) belonging to Specialties of Medicine, Surgery and Others respectively. 52 (24.4%) of our total respondents (213) were diagnosed with migraine, with 26 (50%) being aware of it. Majority (62%) of subjects never consulted any doctor for their headache. Half (48%) had never heard or didn't remember the ICHD diagnostic criteria. 38% falsely believe that having any type of aura is essential for diagnosis of migraine. Migraine Awareness was associated with likelihood of having consulted a physician. There was no statistical difference in knowledge of different aspects of migraine between medical students vs doctors, medicine specialty vs other specialty doctors, or consult seekers vs non-consult seekers. Females, as expected, had significantly higher prevalence (34%) compared to males (21%, P=0.05).

Do you have Migraine?	Yes: 26 (13.7%) No: 119 (62.6%) Maybe: 45 (3.7%)
Confirmed Migraine after reading the ICHD-3 criteria of all 3 types of migraine	Migraine without Aura: 38 (20.5%) Migraine with Aura: 10 (5.3%) Chronic Migraine: 3 (1.6%) No Migraine: 138 (72.6 %)
Consulted any Doctor	GP: 22 (11.5%) Medical Specialist: 25 (13.1%) Neurologist: 11 (5.7%) Ophthalmologist: 19 (10%) Other: 9 (4.7%) No: 118 (62.1%)
Physician Able to diagnose Migraine	Yes: 50 (71%) No: 11 (15.7%) Maybe: 9 (4.7%)

Knowledge of Dx Criteria of Migraine	Heard but don't remember: 92 (48.4%) Heard and remember it: 73 (38.4%) Never heard about it: 25 (13.2%)
Knowledge of Prophylaxis of Migraine	I know its indications: 63 (33.2%) Know indications don't remember: 77 (40.5%) Know only that it exists: 30 (15.8%) Don't know about it at all: 20 (10.5%)
Duration of standard prophylactic therapy of migraine? N, (%)	Don't know: 110 (57.9%) 1 month: 11 (5.8%) 3 months: 29 (5.3%) 6 months: 26 (13.7%) 12 months : 14 (7.4%)
Used Prophylactic Therapy (Migraine Patients Only) N, (%)	Yes: 10 No: 40 Not Sure: 2

Table 1: Basic Data and Knowledge questions



Results (2)



	Migraine Aware	Not aware
Gender	Females: 17 (68%) Males: 8 (32%)	Females: 15 (55%) Males: 12 (45%)
Know Diagnostic Criteria	Remember: 12 (48%) Don't Remember: 13 (52%)	Remember: 14 (51.8%) Don't Remember: 13 (48.2%)
Knowledge of Prophylaxis	Know Indications: 12 (48%) Do not Know about either prophylaxis or its indications: 13 (52%)	Know Indications: 10 (37%) Do not Know about either prophylaxis or its indications: 17 (63%)
Aura is Essential for Migraine Diagnosis?	Aura Not Essential: 10 (40%) Aura is essential or Not sure: 15 (60%)	Aura Not Essential: 14 (51.8%) Think Aura is essential or Not sure: 13 (48.2%)
Consulted any doctor	Neurologist: 3 (12%) Any Other Doctor: 17 (68%) Didn't Consult: 5 (20%)*	Neurologist: 1 (3.7%) Any Other Doctor: 11 (40.7%) Didn't Consult: 15 (55.6%)*
Know Monthly Attack cutoff for Prophylaxis	Correctly Identified: 5 (80%) Couldn't Identify: 20 (80%)	Correctly Identified: 11 (42.3%) Couldn't Identify: 15 (57.7%)
Know Duration	Correctly Identified: 4 (16%) Couldn't Identify: 21 (84%)	Correctly Identified: 6 (24%) Couldn't Identify: 21 (76%)
Self-Medicare (Migraineurs Only)	Self Medicators: 5 (20%) Non Self-medicators: 20 (80%)	Self Medicators: 5 (20%) Non Self-medicators: 20 (80%)

Results (3)

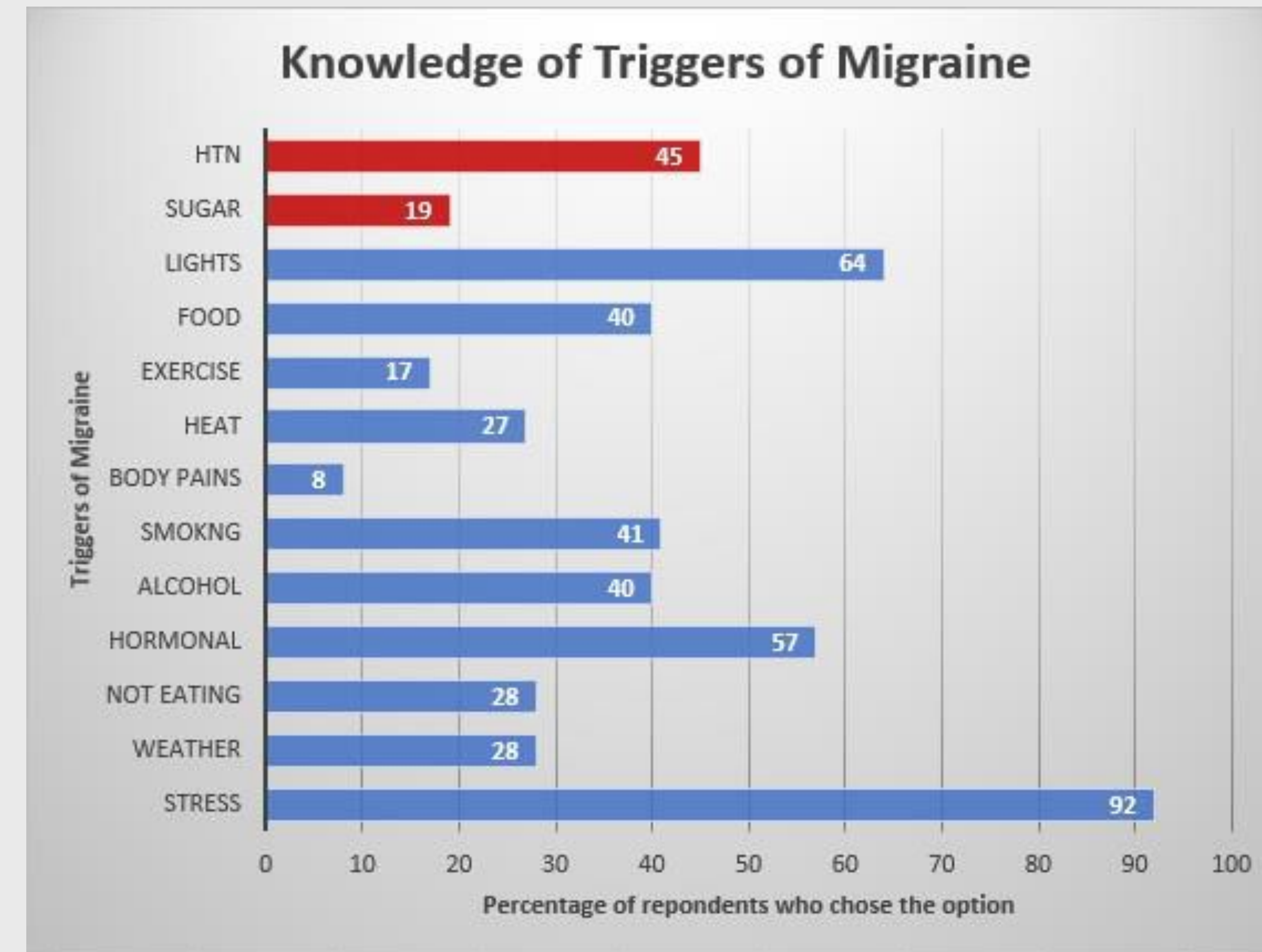


Figure 3. Knowledge of Triggers;
Red labelled triggers indicate fake triggers while
Blue labelled are the true clinically recognized
triggers of migraine. HTN: Hypertension

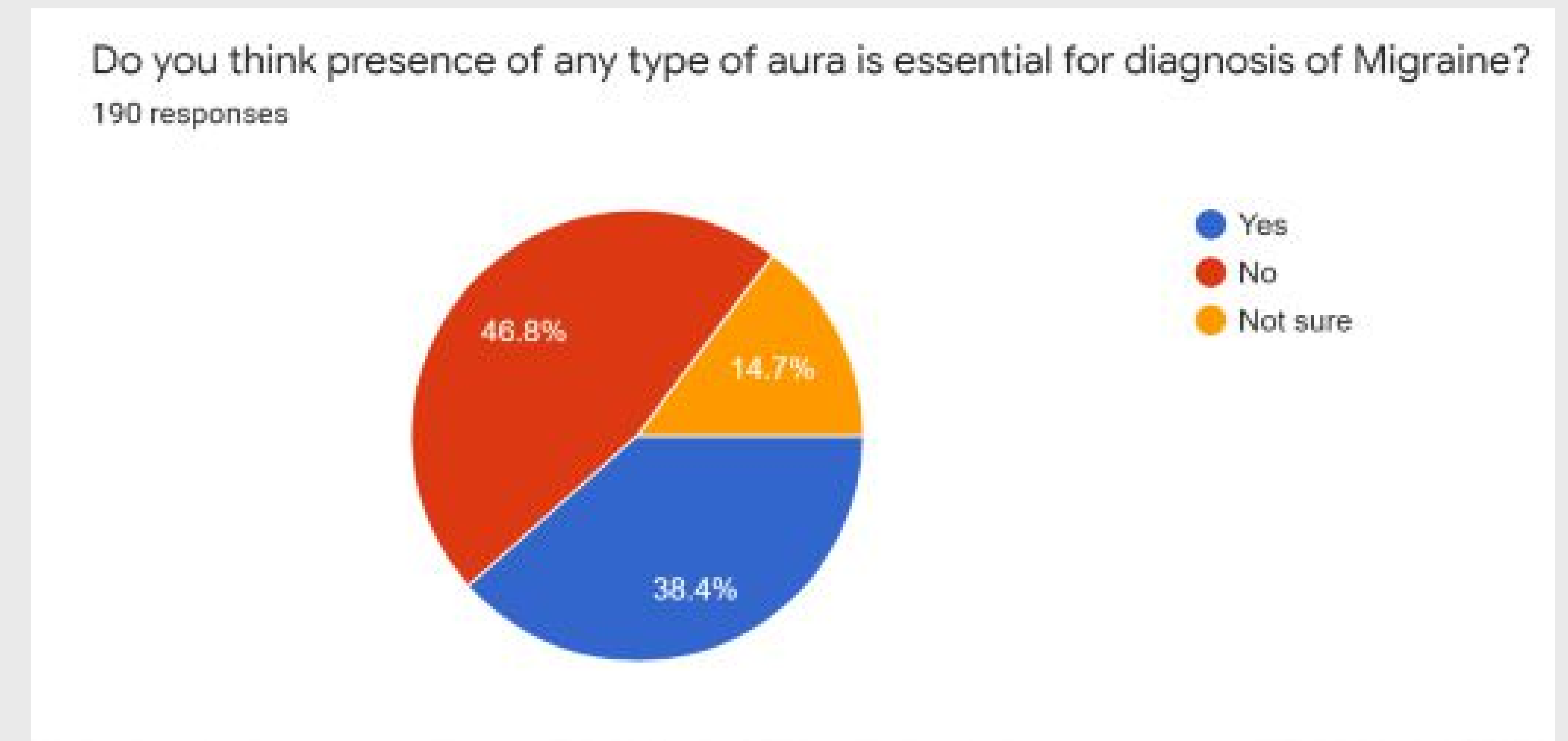


Figure 1. Aura Essential for Migraine Diagnosis?



Conclusion



- Knowledge of Pakistani physicians regarding migraine's diagnostic criteria, types, triggers, indications and duration of prophylaxis is remains severely below optimal which can lead to misdiagnosis and maltreatment.
- We recommend special CME activities targeting these lapses in knowledge to better handle migraine cases in outpatient



Thank you



- Thank you so much for your time!
- Stay Safe!