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# Knowledge and Perception Toward Strabismus in Uttar Pradesh, India

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**Introduction-** Strabismus is a common eye condition having a potential subsequent impact on the psychological and socioeconomic domains of individuals suffering from strabismus. Therefore this study aimed to find out the level of knowledge and treatability of strabismus in Uttar Pradesh. Strabismus is the misaligned condition of eye. It is most likely to result in double vision and sometimes asthenopic symptoms. It is commonly called by different names; squint, crossed eyes, deviating eyes.

**Aim-** To find out the level of knowledge and treatability of strabismus among adult people in Uttar Pradesh, India.

**Methods-** This is a cross sectional study that was conducted among adult people who live in U.P, India. By using an online self administered questionnaire.

**Result-** Out of 57 participants, 40.4% reported the correct definition of strabismus. The majority of responders agreed that strabismus is treatable (56.1%). In addition, a statically significant relation was found between knowledge of strabismus treatability and age, gender, work state, and level of education. Most participants were aware of the risk factors and complication of strabismus.

**Conclusion-** Our study found that the majority of participants had good knowledge of the definition, treatment, and complications of untreated strabismus. Participant's age, education level, work state incomes were the main factors found to be significantly associated with knowledge of strabismus treatment options.

## I. INTRODUCTION

Strabismus is an ocular condition affecting the alignment of the visual axis, whether caused by abnormalities in binocular vision or anomalies of neuromuscular control of ocular motility. It is commonly called by different names; squint, crossed eyes, deviating eyes, walleyes, Goggle eyes, and wandering eyes. The onset of strabismus may vary significantly. The most squint occurs in young children.

Amblyopia, loss of vision, and cosmetic stigma are some of the consequences of untreated strabismus. Some studies showed that strabismus is one of the common eye conditions having a potential subsequent impact on the psychological and sociological domains later in the life of individuals suffering from strabismus, as well as on the effects on their self image and interpersonal relationships with others, and plays a major role in selecting a partner for adults and in selecting a playmate for the children.

Treatment options usually involve glasses, patching the good eye in case of Amblyopia to force the use of the affected eye and surgery to correct the appearance of a squint. Unfortunately, poor parental knowledge about strabismus adversely affected the early presentation and management of the child suffering from strabismus.

A study conducted in U.P. emphasized the importance of public education and the early detection and management of strabismus to improve the educational opportunities and quality of life of these patients.

However, in developing countries like India, there is a paucity of studies that aim to assess the level of knowledge, attitude, and practice of the general community concerning strabismus. Thus, we conducted this study to find out the level of knowledge and attitude towards strabismus in U.P.

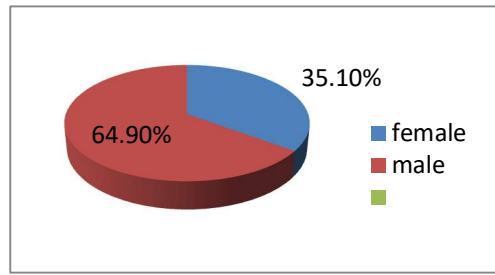
## II. MATERIAL AND METHOD

This is an observational, descriptive, cross-sectional study. The study was conducted in 2020 among people who live in U.P. state, in India, by using an online self-administered questionnaire (a Google form) with closed-ended questions. The questionnaire was validated by a panel of ophthalmology expert and distributed via a social media platform that is commonly used by the Indian community such as Twitter, WhatsApp, and others. It was available between June 7, 2020, and Jan, 2021, and filled by the people who agreed to be involved in the study voluntarily. However, we included only participants who were aged 16 and above and living in U.P. Those who are medical students and workers or unable to answer the questionnaire due to language barrier were excluded. The sample size obtained after considering the previous criteria was 57 participants. Their confidentiality was insured, as there was no personal information or identifier collection in the questionnaire.

The survey was composed of multiple choice questions arranged into two sections. The first one collected demographic data such as age, sex. The second section estimates the level of knowledge about strabismus through a number of questions dealing with the definition, risk factors, treatment options, and consequences of the disease on the lifestyle of the patient. Qualitative and Quantitative variables were classified according to the aim of the study and then their frequencies and percentages were calculated.

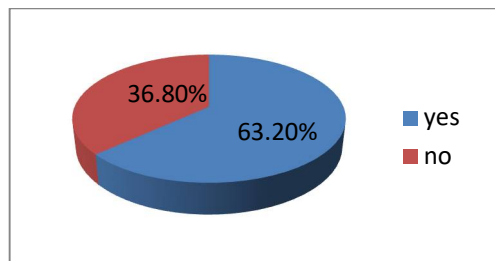
## III. RESULT

Out of 57 responders to the self-administered electronic questionnaire regarding the community's knowledge of strabismus, 20 [35.1%] were males and 37 [64.9%] were females [Graph 2.0].



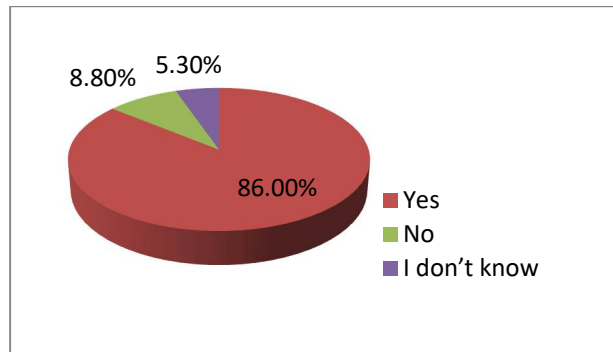
Graph2.1

In addition, 45 participants were younger than 25 years of age and 12 were older than 25 years of age .21(36.8%)participant had known person who were treated for strabismus (graph 2.2).



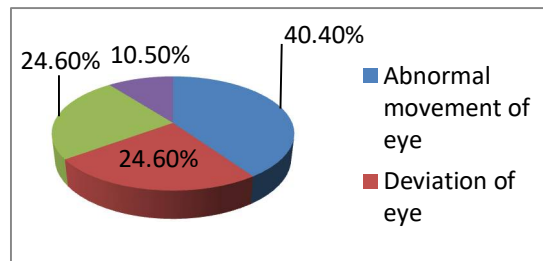
Graph 2.2

3(5.3%)Participants admitted to having a family member with strabismus( Graph 2.3)



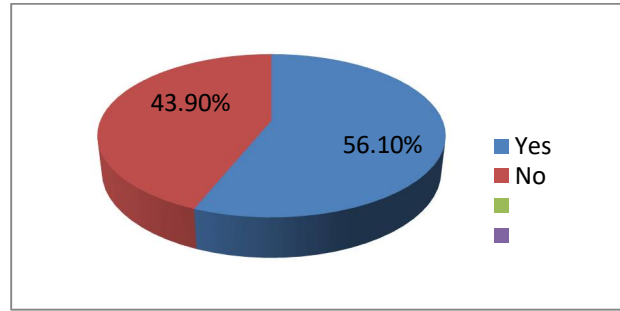
Graph 2.3

In assessing knowledge of strabismus definition, 24.6% of responders choose , eye deviation as a definition while 24.65 chose to define it as abnormal eye movements(Graph 2.4). However, there was no statistically relationship with gender, age.

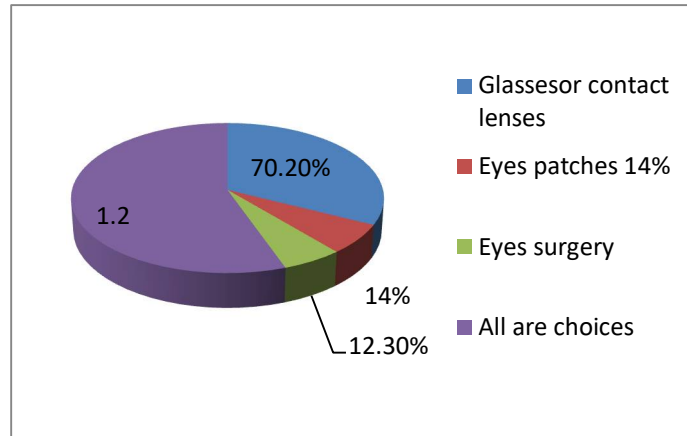


Graph 2.4

Regarding knowledge of strabismus treatment, the majority of responders agreed that strabismus is treatable, with 56.1% choosing yes (Graph 2.5) .Importantly, eye surgery, glasses or contact lenses, and eye patches were all chosen as possible treatment options, with 14%, 3.5% and 12.3%, respectively(graph2.6) .However, 70.2% thought that all choices are possible treatment options for strabismus.

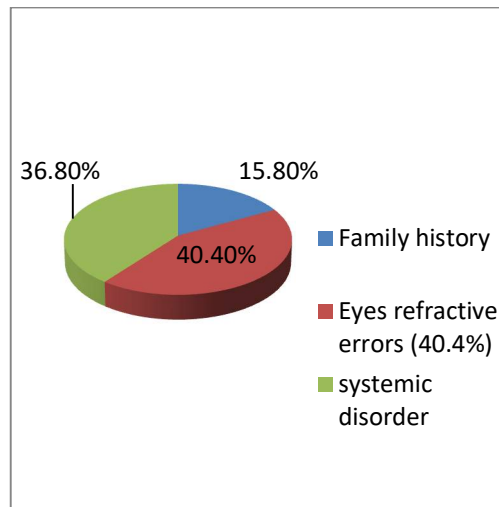


Graph 2.5



Graph 2.6

Additionally, the most frequently reported risk factors to develop strabismus from the responders points of view were family history (15.8%) and eye refractive error (40.4%)(Graph 2.7). From the responders point of view too , frequent complications of untreated strabismus were visual loss(21.1%),cosmetic stigma (5.3%)and low confidence(10.5%), However , a clear majority chose ‘All of the above ‘ with 63.2%(2.8).



#### IV. DISCUSSION

The study aimed to assess the knowledge of diagnosis and treatability of strabismus in U.P India. The identification and treatment of strabismus at an early age can lead to a better prognosis. Consequently, a lack of knowledge among parents and the populations adversely affects the early diagnosis and management of strabismus.

The most obvious finding to emerge from the analysis is that the order workers with a good income and higher educational level have a better knowledge of strabismus treatability and treatment options. Also, 56.1% of the whole population knows that strabismus can be treated.

This result is inconsistent with a study that took place in U.P. India, as 43.9% of the population did not know that strabismus can be treated. The results of this study do not show any significant relationship between the knowledge of the definition of strabismus and gender, age, nationality.

In the present study, most of the participants are aware of the risk factor of the strabismus. The most frequently reported risk factor to develop strabismus is family history and eye refractive errors. However, other works of literature found that hereditary factors and ocular diseases are the most common risk factor of strabismus.

In our study, frequent complications of untreated strabismus are visual loss [21.1%], cosmetic stigma [5.3%]. A cross section study done in India found that children with strabismus had difficulty in making friends and finding job.

In this study, we faced several limitations regarding the distributed survey through different channels of social media. One of them was that survey might not have been distributed enough to cover all the different social classes of populations. In addition, the study was restricted to state U.P. India, thus it could not be filled by someone outside this region. Therefore, we recommend conducting the study among all Indian residents.

## V. CONCLUSION

Our study found that more than half of the studied sample had good knowledge of the definition and complications of untreated strabismus, and the majority of participants agreed that strabismus is a treatable disease. Participants age, education level, work state, and income were the main factors found to be significantly associated with knowledge of the treatment options of strabismus. Overall, the level of awareness of strabismus was high and that is very important because previous knowledge of the diseases may reduce the delays in seeking medical care, and this would reduce visual impairment and economic burden in the society. We recommended more public health educations and to increase further awareness in all provinces of India and to conduct others studies about Amblyopia as a serious complication of untreated strabismus, which can lead to visual loss.

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