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Research Article

Assessment of awareness and psychosocial impact of strabismus in rural India

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Abstract

Purpose: To assess the awareness and psychosocial impact of strabismus in rural India Materials and Methods: A prospective observational case study was conducted in the ophthalmology unit of father Muller charitable institutions and in peripheral eye camps conducted by the institution on all squint patients during the study period . All the patients were interviewed by one investigator with an 8 point quality of life questionnaire and results were analysed.

Results: A total of 40 patients were included in the study. Majority (90%) of the subjects were aware of their squint. However, only about 37.5% of the subjects were aware that apart from being a cosmetic issue, squint can also cause problems in vision. Squint was a concern always for 62.5% of the participants. And around half of them (52.5%) had been mocked for their squint either sometimes or always. Squint was sometimes or always a hindrance to routine activities or assuming leadership roles in 34.5% study participants. Over 60% of them had not sought medical help for their squint. The most common cause for not considering surgery for squint included not being advised the same (35%), followed by not having access to healthcare (22.5%), and having no family support (17.5%).

Conclusions: The awareness about visual implications were low in the study population and a negative psychosocial impact was observed among the patients in the study

Keywords: Awareness; psychosocial impact; strabismus

1. Introduction

The prevalence of strabismus ranges from 3-5% of the adult population.[1] Strabismus which is a condition affecting the alignment of visual axis not only causes cosmetic disfigurement but also leads to impaired stereopsis, may cause an abnormal head posture, limitation of visual fields and have significant psychosocial implications on the individual[2]. However in developing countries like India especially in the rural areas the psychosocial impact of this condition is neglected by medical practitioners and care givers alike. The purpose of our study was to assess the awareness about squinting and its visual and psychosocial implications it has on subjects suffering from strabismus. Patients who are aware about their condition often fail to obtain proper management of the same due to financial constraints or unavailable resources. Our study also aims to point out these factors that affect the management of these cases.

2. Materials and Methods

A prospective, observational study was conducted in the department of ophthalmology, Father Muller medical college, Mangalore and data was also obtained from the rural eye camps conducted by the institution. Ethical clearance for the study was obtained from the ethical committee of the same institution.

2.1 Inclusion criteria

All patients with squinting in the eyes presenting to the ophthalmology clinic and attending eye examinations during the rural eye camps or having been detected to have squint by the consultant ophthalmologist between the age group of 14 yrs to 75 years were included in the study .

2.2 Exclusion criteria

- Patients with small degrees of squint <20 PD of horizontal squints and <10 PD of vertical squints
- Recent onset squint with diplopia
- Squint associated with other facial anomalies
- Sensory exotropia and dense amblyopia in squinting eye

One investigator administered an eight-question quality of-life instrument by live interviews in their native language. The interviewer ensured that every question was understood well and answered by the subjects.

3. Results

A total of 40 patients participated in the study. The study included 20 male and 20 female participants with a mean (±SD) age of 32.85 (±17.2) years. Of these, twenty eight (70%) we from urban settings and 12 (30%) were from rural areas. There was esotropia (convergent squint) in 12 (20%), hypertropia (vertical squint) in 5 (12.5%) and exotropia (divergent squint) in 23 (57.5%) subjects.

The responses of study participants to the questionnaire items have been summarized in Table 1.

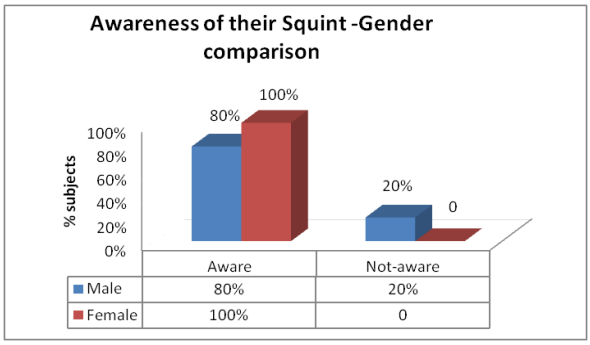
Table 1: Questionnaire items and participant responses.

Questionnaire item	Responses – n (%)				
Q1. Awareness of deviation in their eyes	Yes 36(90%)		No 4(10%)		
Q2. Awareness that squint can cause visual disturbance	Yes 15 (37.5%)	No 13 (32.5%)	Don't know 12 (30%)		
Q3. Concerned about squint	Always 25 (62.5%)	Sometimes 4 (10%)	Occasionally 7 (17.5%)	Never 4 (10%)	
Q4. Taunted for having squint	Always 8 (20%)	Sometimes 13 (32.5%)	Occasionally 10(25%)	Never 9 (22.5%)	
Q5. Squint disturbing routine activities	Always 10 (25%)	Sometimes 5 (12.5%)	Occasionally 14 (35%)	Never 11 (27.5%)	
Q6. Squint is a hindrance to social and leadership activities	Always 9 (22.5%)	Sometimes 5 (12.5%)	Occasionally 8(20%)	Never 18(45%)	
Q7. Sought treatment with doctor	Yes 17 (42.5%)	No 23 (57.5%)			
Q8.Why not opted for surgery	No one advised 14 (35%)	Afraid of complications 5 (12.5%)	No access to healthcare 9 (22.5%)	Financial constraints 5 (12.5%)	no family support 7 (17.5%)

Majority (90%) of the subjects were aware of their squint. However, only about 37.5% of the subjects were aware that apart from being a cosmetic issue, squint can also cause problems in vision. Squint was a concern always for 62.5% of the participants. And around half of them (52.5%) had been mocked for their squint either sometimes or always. Squint was sometimes or always a hindrance to routine activities or assuming leadership roles in 34.5% study participants. Over 60% of them had not sought medical help for their squint. The most common cause for not considering surgery for squint included not being advised the same (35%), followed by not having access to healthcare (22.5%), and having no family support (17.5%).

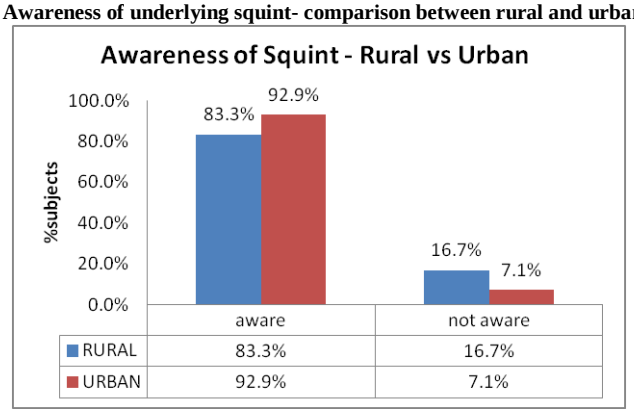
There were no gender related differences in awareness of underlying squint (Fisher's exact test; p =0.106) (Figure 1).

Figure 1: Comparison of awareness of underlying squint between genders



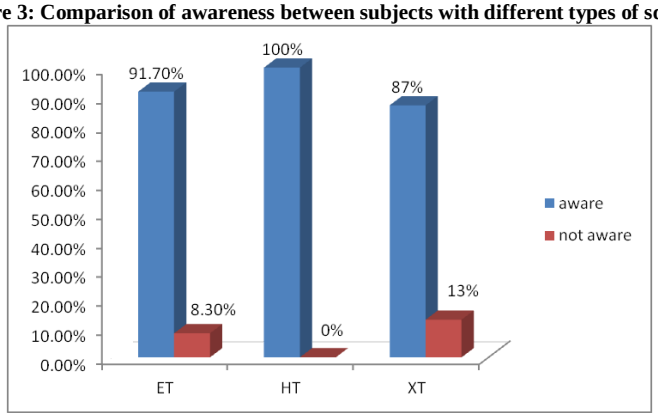
The awareness of squint was not statistically different between rural and urban settings (Fisher's exact test; p =0.570) (Figure 2).

Figure 2: Awareness of underlying squint- comparison between rural and urban patients



There were no statistical differences between the type of squint and awareness of the squint (Fisher's exact test; p =1) (Figure 3).

Figure 3: Comparison of awareness between subjects with different types of squint



ET	Esotropia (convergent squint)
HT	Hypertropia(vertical squint)
XT	Exotropia (divergent squint)

The social impact of squint on the subjects is summarized in Figure 4.

Figure 4: Social impact of squint on the subjects

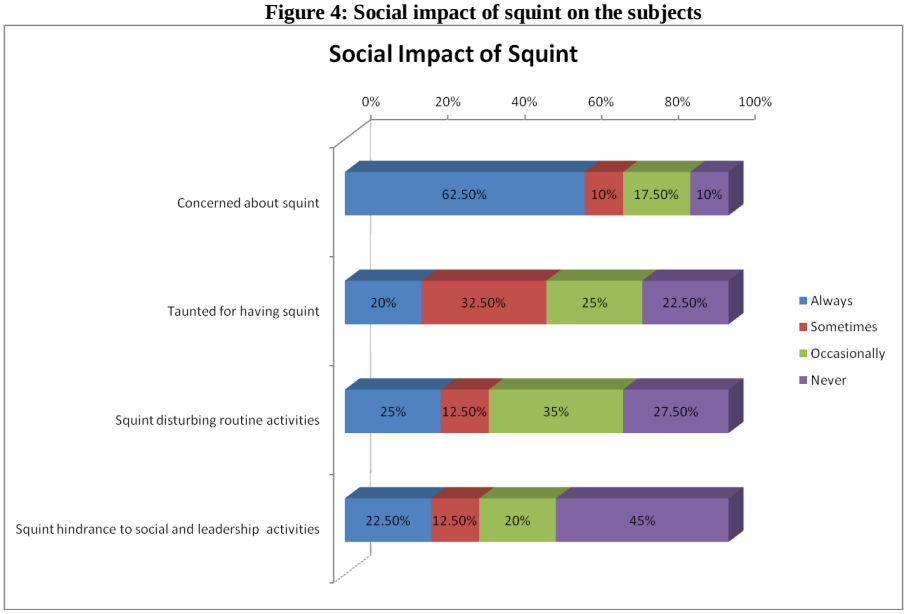
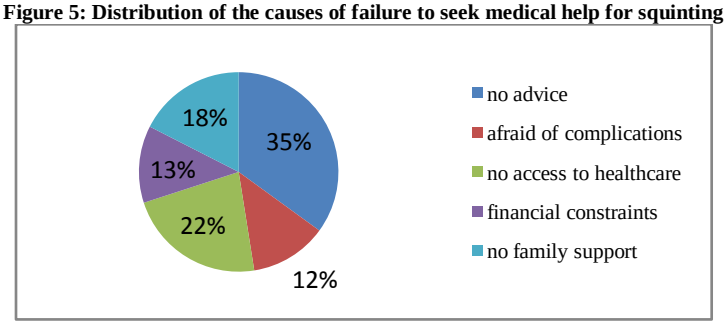


Figure 5: Distribution of the causes of failure to seek medical help for squinting



4. Discussion

Our study shows that the awareness about the presence of strabismus as a disease was seen in 90% of our study patients. Previous studies conducted about awareness of squint have mainly targeted parents of children with squinting and have shown that most of the parents perceived squint as a sign of good luck rather than a disease[3]. Our study also showed that only 37.5% were aware that squinting also leads to visual implications and 32.5% of the subjects considered it to be merely a cosmetic issue. To our knowledge ours is the first such study conducted in an adult population in India.

Our study had an equal number of male and female subjects and we found no statistical difference in the awareness about squint in both the groups. Patients belonging to lower socioeconomic status like daily labourers or working in villages in agricultural industry with lower levels of literacy were grouped as rural group and people belonging to urban areas with better literacy and socioeconomic status were classified as urban group. The awareness about squinting was comparable between the patients belonging to rural background and urban origin in our study showing no statistical significance.

Strabismus had a negative psychosocial impact on the patients in our study as shown in some previous studies.[4,5,6,7,8,9,10] In a study by Nelson *et al* eighty-six percent of patients were embarrassed because of their strabismus. Similarly, many patients with strabismus had low self esteem and trouble making eye contact, often attempting to camouflage their appearance. In our study however we found that although 62.5% of the patients were concerned about the squint as a social stigma lesser patients around 20–22.5% considered it as a hindrance in attending social gatherings or found it embarrassing to attend public functions.

In a study by Olitsky SE[11] in adult patients with squint showed that exodeviation and male gender have a lesser negative impact of strabismus on the patients. On comparing the different types of squint between divergent squint (exotropia), convergent squint (esotropia) and vertical squint (HT) with the patients psychosocial status we found the lack of awareness was comparable between the esotropia group (8.3%) and exotropia group (13%) however none of the patients with large vertical squints were unaware about their condition. However there was no statistical difference between the groups when psychosocial impact was analysed.

In our study group it was found that only 42.5% of the patients had actively sought medical help for their condition and the rest had never consulted a medical practioner for the same. We also analysed the leading causes due to which the patients did not seek surgical correction of their squinting and found that not being advised about a possible surgical correction of the strabismus by a primary health care giver as the most common cause followed closely by minimal access to health care and financial constraints among the patients. Our findings are similar to a study done by Kothari *et al* who found lack of advice as a cause accounting for almost 70% of their patients failing to seek surgical correction.

In conclusion people living in developing countries like India especially in the rural areas are not well aware of strabismus as a visually significant disease and the understanding about its visual implications is inadequate[12,13,14]. Most of the people suffer a negative psychosocial impact due to the same but fail to seek medical consult due to improper knowledge and minimal access to health care. The authors recommend that more public awareness programs and also educational programs targeted at primary health care practitioners may help management of this condition more appropriately.

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