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### Recommended Citation

Mehmood, S. B., Zafar, S., Hussain, A., Iqbal, Z. (2019). Children with strabismus: Is there psychological impact on mothers?. *Indian Journal of Psychiatry*, 61(5), 540-541.

Available at: [https://ecommons.aku.edu/pakistan\\_fhs\\_mc\\_surg\\_ophthalmol/49](https://ecommons.aku.edu/pakistan_fhs_mc_surg_ophthalmol/49)



[Indian J Psychiatry](#). 2019 Sep-Oct; 61(5): 540–541.

PMCID: PMC6767812

doi: [10.4103/psychiatry.IndianJPsychiatry\\_67\\_18](https://doi.org/10.4103/psychiatry.IndianJPsychiatry_67_18)

PMID: [31579134](https://pubmed.ncbi.nlm.nih.gov/31579134/)

## Children with strabismus: Is there psychological impact on mothers?

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Sir,

Strabismus is a common childhood disorder having a global prevalence of approximately 2.1%–3%.<sup>[1]</sup> The exact etiology remains unknown and it is believed to have a multifactorial origin. Risk factors for developing strabismus include maternal smoking during pregnancy, premature infants with retinopathy of prematurity, low birthweight, and family history of strabismus.<sup>[1]</sup> Strabismus can have profound consequences for the child and his/her parent with a negative psychosocial impact beginning to effect children as early as 4 years of age. If left uncorrected, the impact intensifies throughout adolescence and adulthood. Low self-esteem, ostracizing by peers, social isolation, and difficulty in communication are among the main social stigmas associated with the disorder. The affected child is also likely to have poor academic performance.<sup>[2]</sup>

In addition, strabismus can also adversely affect other family members, specifically mothers. It has been observed that mothers of children suffering from facial abnormalities including strabismus and cleft lip and palate commonly have emotional problems or mood disorders. Akay *et al.* demonstrated higher rates of depression in mothers whose children had strabismus compared with controls.<sup>[3]</sup> Affected mothers were less likely to be supportive of their children and were less likely to accept their maternal role that led to poor family dynamics.<sup>[3]</sup> The negative psychosocial impact of strabismus has been demonstrated in various populations. In the Saudi population where mothers tend to be the primary caregivers and spend most of their time with children, there may be a strong psychosocial association with physical child deformity.

We performed an observational study at the Prince Abdulaziz Bin MUSAAD Hospital, Saudi Arabia, from July to September 2016. Mothers accompanying children aged 3–16 years who presented with manifest horizontal strabismus at the outpatient ophthalmology consulting clinics were included in the study. Mothers of children with paralytic, restrictive, or vertical squints, neurological deficits associated with nystagmus, and other cosmetic abnormalities were excluded. Mothers with any history of prior or

comorbid psychiatric illnesses, including drug dependence, were also excluded from the study. A standardized Hospital Anxiety and Depression (HAD) Scale was administered as a screening tool for depression to mothers included in the study.[4] The HAD Scale consists of seven screening questions each for depression or anxiety (total = 14). Each question had predetermined responses that can be graded from 0 to 3 with a score of 3 demonstrating the highest likelihood of anxiety or depression. The questionnaire records responses related to the general mood of the responder during 1 week prior to the visit.

A total of 25 mothers were interviewed during the study period and their mean age was  $35 \pm 3.8$  years. The mean scores for anxiety and depression on the HAD questionnaire were  $2.05 \pm 1.37$  and  $2.84 \pm 1.28$ , respectively. Qualitatively, the participants demonstrated overall good affect, and majority (72%) were not distressed by their child's strabismus. The participants demonstrated general awareness of their child's condition and an active interest in the prospective treatment. On general discussion with the parents, they understood the physical ophthalmological manifestations and its common presentation in children of that age group. They were also aware of the options available for correctional management and their high success rates. Almost all parents had learned this information from reviewing the topic on the Internet or had informally consulted a doctor in the family.

The mean scores of anxiety and depression in our study were  $2.05 \pm 1.37$  and  $2.84 \pm 1.28$ , respectively, according to the HAD Scale. A score of 0–7 is considered negative for both anxiety and depression and does not warrant further exploration of mood disorders. According to our results, we did not find any participant to lie in the borderline (8–10) or abnormal (11–21) criteria according to the questionnaire scores. This demonstrated the absence of any psychological distress or disorder among mothers of affected children. The mean scores for both anxiety and depression were below the threshold required for a positive screen.

The results of our study are in contrast to those of Akay *et al.*[3] In their study, they demonstrated significantly higher depression scores in mothers whose children had strabismus compared to controls; however, their study was conducted on patients presenting in the years 2000–2002. The ease of access to medical knowledge on the Internet has improved significantly during this decade. Global access to the Internet and media has resulted in wide dissemination of medical information (diagnosis, management, and prognosis) and a higher rate of awareness about prognosis of ophthalmological disorders.[5] The literature demonstrates that parents try to attain all possible information about a pediatric disorder before actually selecting a care provider and visiting the doctor.[6] Concerned parents have the opportunity to learn more about pediatric ophthalmological disorders affecting children including strabismus prior to their visit with the doctor. Adequate awareness about pediatric ophthalmological manifestations may provide reassurance to mothers and help alleviate the associated anxiety.

Our study was limited due to the small sample size and a lack of control group; however, in an observational capacity, it demonstrated interesting results that need to be studied in further detail.

#### Financial support and sponsorship

Nil.

#### Conflicts of interest

There are no conflicts of interest.

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