RESEARCH ARTICLE

A STUDY TO ASSESS THE PSYCHOSOCIAL ASPECTS OF REFRACTIVE ERRORS AND EFFECTIVENESS OF HEALTH EDUCATION IN CORRECTING STIGMAS RELATED TO SPECTACLE USE IN HIGH-SCHOOL STUDENTS OF RURAL INDIA

Parag Dhoble[1], Rahul Agarwal[2], Chirag Patel[1], Gautam Anand[1], Jagdish Sharma[1], Yogesh Sabde[1]
[1] RD Gardi Medical College, Ujjain, Madhya Pradesh, India
[2] LN Medical College, Bhopal, Madhya Pradesh, India

Correspondence to: Parag Dhoble (dr_paragdhoble@yahoo.com)

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ABSTRACT

Background: Refractive error is the most common cause of blindness which can be corrected easily using simple modality like spectacles but because of ignorance, stigmas and cost related issues it is underutilized.

Aims & Objective: Study to assess the psychosocial aspects of refractive error and effectiveness of health education in correcting stigmas related to spectacle use in high-school students of rural India.

Material and Methods: This was a cross sectional study in which total of 255 high school students from a school near Bhopal were included. The responses were recorded on a pre-designed and pre-tested questionnaire. The health education was provided to all the participants and they were reassessed after one month using same questionnaire. The researcher used the STATA version 12.1 for data entry and analysis.

Results: Amongst total of 255 students, 165 were males and 90 were females. During initial phase most of the respondents believed that common reasons for low vision were nutritional deficiency (68%) and bad eye care (56%). The respondents refused to use spectacles at all if needed as spectacles are cosmetically unacceptable (62%) , fear of rejection from opposite sex (54%) and likely teasing from colleagues (36%).Following health education there were statistically significant changes in the knowledge, attitude and care seeking behaviour of spectacle use. Only two parameters i.e. cosmetic acceptance of spectacles and that traditional methods were more than spectacles did not changed significantly.

Conclusion: Prevalent stigmas regarding spectacle use among students of rural India were effectively corrected with health education.

KEY-WORDS: Health Education; Psychosocial Impact; Refractive Error; Stigmas

Introduction

It is well known that refractive errors can affect not only social life and economic prospect of an individual as it is a leading cause of blindness but has tremendous impact on psychological development.[1,2] Though, refractive error is a common problem which can be corrected easily using simple modality like spectacles because of ignorance, stigmas and cost related issues it is underutilized.[3] There are a large number of articles on childhood refractive error in the literature, reporting a broad, worldwide variation in the prevalence of myopia and hyperopia.[4] Most of these studies have been conducted on the prevalence of refractive error but their psychosocial impact and methods to correct stigma are lagging.[5,6] This study was conducted in order to investigate knowledge of refractive errors, attitude and care seeking behaviour towards spectacle use and to assess effectiveness of health education for positive changes in attitude and practice.

Materials and Methods

This was a cross sectional study in which health education was used as an intervention to correct stigmas related to spectacle use. The study was conducted in full accordance with ethical principles in a village high-school near Bhopal. After obtaining informed consent semi structured questionnaires were administered on 260 students. The questionnaire contained details of demographic profile, questions regarding knowledge about refractive error, their attitude

towards people suffering from refractive error and practice of methods to correct it.

The students of class 8th, 9th and 10th, both male and female were included in the study. We did not encounter major refusal from subjects regarding participation in the study. Following initial assessment, the health education program was conducted by the ophthalmologist addressing knowledge and practice and by a psychiatrist to address the stigma related issues. One month later all the participants were reassessed using same proforma. The researcher utilized the STATA version 12.1 for data entry and analysis.

Results

Two hundred and sixty questionnaires were distributed among students with the help of their teachers and research team. It was responded satisfactorily by 255 students, which included 165 males and 90 females. Five questionnaires were not returned by the respondents. Following evaluation, all the participants were asked to attend a session which was conducted by the team of ophthalmologist and psychiatrist. Out of 255 respondents about 32 participants were using some kind of visual aid mostly spectacles (n=30). During initial phase most of the respondents believed that most common reason for low vision was nutritional deficiency (68%) followed by bad eye care (56%), hereditary (47%) and trauma to eyes (18%). Significant number of participants believed that witchcraft (16%) and excessive reading (22%) can lead to low vision. Most of the participants were aware about spectacles (92%) as a modality to correct low vision. Very few knew about surgery (14%) and contact lenses (54%). According to respondents, other than low vision, spectacles could be used for treatment for headache (56%), to look intelligent (22%) and to hide deformity (16%). Total of 32% respondents felt that spectacles were cosmetically unacceptable and embarrassing in public; most of them were females (65%). Sixty percent respondents believed that one should not marry with a spectacle user. The respondents refused to use spectacles at all if needed because of likely teasing from colleagues (36%) as well as problem with handling of glasses (71%). Many refused to use spectacles because of fear of rejection from opposite sex (65%), for fear of being labelled as blind (48%) and as it could lead to low self-esteem (58%). Respondents believed that long term use of spectacles can harm the eyes and even it can lead to blindness (34%).Other finding were that continued use of spectacle could increase the power of glasses (62%) and it might prevent normalization of eyes (68%). Traditional methods like yoga, ayurveda were more useful for correction of low vision according to 57% of participants.

Table-1: Changes in the Practices and Knowledge of Spectacle Use Following Health Education

Practices and Knowledge of Spectacle	Pre-intervention (n=255) N (%)	Post-intervention (n=242) N (%)	p value
Spectacles do general harm to the eyes	163 (64)	77 (32)	< 0.0001
Spectacles can lead to blindness	87 (34)	32 (13)	< 0.0001
Traditional methods are more effective	145 (57)	119 (49)	0.0740
Continued use can increase power of glasses	158 (62)	102 (42)	< 0.0001
Spectacles prevents normalization of vision	173 (68)	65 (27)	< 0.0001

Table-2: Changes in Attitude and Care Seeking Behaviour towards Spectacle Usage

Attitude and Care Seeking Behaviour towards Spectacle Usage	Pre-intervention (n=255) N (%)	Post-intervention (n=242) N (%)	p value
Using spectacles can lead to low self esteem	122 (48)	77 (32)	0.0003
I would hide it from opposite sex because of fear of rejection	138 (54)	82 (34)	< 0.0001
I won't use spectacles because of teasing from colleagues	92 (36)	53 (22)	0.0006
One should not marry with spectacle user	82 (32)	44 (18)	0.0003

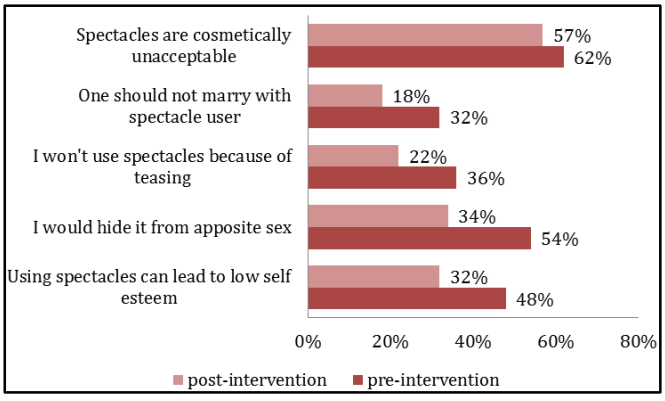


Figure-1: Changes in Attitude and Care Seeking Behaviour of Spectacle Use

One month later same proforma were administered to initial participants which was

responded satisfactorily by 242 participants. Total 13 participants were lost in follow up study because of repeated absence from the school.

Following health education there was a significant change in practices and knowledge of spectacle use which is shown in Table-1. Now only 32% respondents believed that spectacles can harm the eyes from previous 64%. There was a significant change in other misconceptions like continued use can increase power of glasses (42%), it can lead to blindness (13%) and spectacle prevents normalization of vision (27%) etc. But the change in the belief that traditional methods are more useful was not significant. (p=0.0740)

With health education, respondent's attitude and care seeking behaviour towards spectacle use had changed significantly as shown in Table-2 and bar figure-1. Now only 22% admitted that they won't use spectacles because of teasing from colleagues from previous 32%.But there was no significant change in cosmetic acceptance of spectacles (p=0.2563).

Discussion

Refractive errors are major cause of low vision which can be corrected easily using visual aids but because of poor knowledge and stigmas attached with it, large part of population is deprived of this need.[3] Prevalence of refractive error varies from study to study but in a major study conducted in south India, 13.8% had a refractive error of a spherical equivalent of 3.00 diopter or worse.[7] Spectacle are used mainly for correction of refractive error but other uses of spectacle could be eye protection from sun, dust, flames , water etc. to conceal defective eye, as a fashion and to look intelligent. In our study, most of the respondents were aware about spectacles as a method to correct low vision, other modalities like contact lenses (54%) and refractive surgeries (14%) were less known. Contrary to that, 57 % of respondent believed traditional methods like Yoga, Ayurveda etc. can be used to correct low vision. This could be due to rural background of the respondents where knowledge about modern and costly methods is unavailable. Respondent were aware that spectacles can be used for correction of low vision but significant numbers believed that it can be used to look intelligent, for treatment of headache etc.

Despite increasing knowledge about different modalities to correct visual impairment, spectacles remains well known and most practiced means, which was confirmed in our study. Recent studies have shown the use of contact lenses for refractive error correction to be higher and more common among the younger strata of the population.[8-10] But respondents in our study were less aware about contact lenses and surgeries most probably due to rural background.

Our study demonstrated well known fact about stigmas attached with spectacles uses. Among various obstacles in the use of spectacles for refractive error, important ones were the belief that continuous use of glasses would progressively increase severity of refractive error, spectacles use could harm the eyes and even lead to blindness, difficulty in doing manual work, and that it prevented normalization of eyes. Similar results were obtained in others, Indian and international studies. In south India study conducted by Sheetal Savor et al highlighted similar stigmas.[11] In study among secondary school students in Tanzania parental concern about the safety of spectacles use was evaluated.[12] The spectacle damaging the eye was a significant obstacle to spectacle use in the Nigerian study.[6] In a study which was conducted in Pakistan, 69 per cent of the people thought that using spectacles would cause their vision to deteriorate; they therefore tried to avoid it.[13,14] In studies on Chinese children, a common reason for not wearing spectacles was the belief that spectacles weakened the eyes.[15]

Health education is an effective tool that helps improve health in developing nations. It not only teaches prevention and basic health knowledge but also conditions ideas that re-shape everyday habits of people with unhealthy lifestyles in developing countries. This type of conditioning not only affects the immediate recipients of such education but also future generations will benefit from an improved and properly cultivated ideas about health that will eventually be ingrained with widely spread health education. Moreover,

besides physical health prevention, health education can also provide more aid & help people deal healthier with situations of extreme stress, anxiety, depression or other emotional disturbances to lessen the impact of these sorts of mental & emotional constituents, which can consequently lead to detrimental physical effects.[16,17]

It can be effectively used in the field of community ophthalmology, which is proved in our study, the findings of which are discussed in detail in results. As shown in various tables there was a major change in knowledge, attitude and practices regarding refractive error and spectacles. But there was no significant change in the belief that traditional methods were more useful than spectacles. This could probably due to deep rooted and culturally ingrained beliefs, which may need more efforts to correct it. Despite education, handling of glasses remained big obstacle in the use of spectacles.

Considering patient load, lack of infrastructure, time, it became very difficult for ophthalmologist to spare time for detailed health education. However other eye care professionals such as refractionist, optician and ophthalmic technician with a relevant knowledge and adequate training can be used not only to diagnose refractive error but also to address issues of psychosocial impact of refractive error. This solution would result in large population being effectively served.[18,19]

Conclusion

Our study has proved that prevalent stigmas of spectacle use among students of rural India were effectively corrected with health education. During routine check-ups some time has to be spent to address the knowledge about refractive error and various modalities to correct it, emphasizing positive attitude and practice. It will help eliminating stigmas, unfounded fear, rejection of spectacles use and it would help them to be accepted in a positive way. Same can be done through counselling, mass media, colleges, schools, textbooks and community based self-help groups. For this purpose the help of psychiatrists, psychologists, and psychiatric social worker can be taken to address the issues of low self-esteem, stigmas, etc.

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