International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Assessing Myths and Community Beliefs as Barriers to Uptake of Refractive Services in Kakamega Municipality, Kenya

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Abstract

Background information: Refractive errors and presbyopia remain a burden to the entire population. An estimated 76% of the 191 million blind people have preventable or treatable causes. Uncorrected Refractive Error (URE), the number one cause (51%) of moderate and severe vision impairment is easily preventable.

Aim: The aimed to assess myths and community beliefs as barriers to the uptake of refractive services in Kakamega municipality residents aged 18 to 60 years.

Methodology: A population-based descriptive cross-sectional study was undertaken in Kakamega municipality using a cluster sampling method and descriptive data analysis.

Results: Out of 358 participants, 199 (55.6%) were male and 159 (44.4%) were female. The majority of participants reported that spectacles spoil the eyes 150 (50.8%). Other associated myths were that spectacles worsen the eye problem (5.4%), spectacles are a sign of cleverness (3.4%), spectacles are for people with esteemed status (2.4%, spectacles improve the eyes (2.0%), spectacles are a sign of arrogance(1.7%), spectacles make the eyes appear sunken (1.3%), spectacles are due to an inherited condition (1.0%), people wearing spectacles are seen as being cursed (0.7%), spectacles are for mean people (0.3%) and people wearing spectacles are valued as being disabled (0.3%). Age was significantly associated with the use of spectacles (p=0.024). Gender distribution (p=0.758), education level (p= 0.962) and occupation (p=0.207) were not significantly associated with the use of spectacles. Individual perception on the use of spectacles (p= 0.050), community perception on female using spectacles (p=0.000), gender hindrance to the use of spectacles (p=0.013), spectacles affecting sports (p=0.001), were significantly associated with the use of spectacles.

Conclusion: The study came to a conclusion that negative perception towards wearing spectacles as a barrier to the uptake of refractive services. Community education regarding refractive services will also greatly boost the uptake of refractive services.

Keywords: Myths community beliefs Barriers Uptake Refractive services

Introduction

Uncorrected refractive errors are a significant cause of vision impairment and blindness, with Africa being the most affected [1, 2]. These errors can lead to visual impairment and blindness, with cataracts being the second leading cause. The global economic burden of distance vision impairment due to uncorrected refractive errors is estimated to be $220 billion, while the cost for training and service delivery facilities

is only $28 billion. Accessibility and affordability are key factors affecting the uptake of refractive services [3,4,5]. Universal eye health is needed to provide 100% universal access to healthcare [7]. Addressing uncorrected refractive errors requires human resource development, service delivery, social enterprise, infrastructure, and supplies. In Africa, there is an unequal provision of refractive training, which poses a challenge to maintaining uniformity in service quality. Integrating refraction services into existing healthcare systems is also necessary [8,9,10]. In Kenya, there is a limited number of eye care workers and inadequate human resource capacity in government institutions [11].

Research Methods

Selection and description of participants

The cluster sampling method was used. Four clusters that represent the four administrative sub-locations of Kakamega town were classified. Simple random sampling was used to select the households in each cluster using computer-generated codes. Subjects between the ages of 18 to 60 years with vision below 6/12 which improved with pinhole were included in this research. Subjects below the age of 18 years and those above 60 years were excluded. Also, those with visual acuity below 6/12 who had no improvement with pinhole were excluded from this research.

Data collection and measurements

Subjects were probed about their gender, age, tribe, occupation, and residence. Visual acuity monocular for distance (using Log MAR) and binocular for near (using the N notation) were taken. The visual acuity testing was used as a guide to select participants as indicated in the inclusion criteria. The questionnaires were used to interview those participants with refractive error (those with visual acuity below 6/12 in either eye but improved with the pin-hole test) and presbyopia (those above 40 years of age) that were identified through the visual acuity testing.

Statistics

Data was entered into Microsoft Excel and analyzed by SPSS version 26, descriptive analysis using frequencies and chi-square was computed. The analyzed data were presented in tables and charts.

Ethical considerations

The research proposal went through the Biomedical Research and Ethics Committee (BREC Ref No: BE 676/17) of the University of Kwa-Zulu Natal for ethical clearance and thereafter the researcher was asked to seek ethical clearance from the Kenyan ethical clearance committee.

Results

Myths and community beliefs that affect utilization of refractive services

Total n = 358, n = 297 responded regarding myths associated with spectacle wearing and n = 61 participants did not respond. The majority (n = 151) reported that spectacles spoil the eyes. Other associated myths were spectacles worsens the eye problem, spectacles are a sign of cleverness, for people with esteemed status they make eyes better, spectacles are a sign of arrogance, spectacles make the eyes appear sunken in, spectacle wear is an inherited condition, spectacle wear is seen as being cursed, spectacles are for mean people, spectacles are valued as being disabled. Approximately 31% (n = 91) reported that they had not heard of any of these myths associated with spectacle use (shown in table 1.1).

Table 1.1 Participant responses regarding myths associated with spectacle use

Responses	*F*	*Rel. f*	*cf*	*Percentile*
It spoils the eyes	151	0.422	358	100.00
It is for mean people	1	0.003	207	57.82
Inherited condition	3	0.008	206	57.54
sign of arrogance	5	0.014	203	56.70
esteemed in status	7	0.020	198	55.31
Its sign of cleverness	10	0.028	191	53.35
worsens the eye problem	16	0.045	181	50.56
They make eyes better	6	0.017	165	46.09
They make eyes to sink	4	0.011	159	44.41
I have heard of none	91	0.254	155	43.30
Being disabled	1	0.003	64	17.88
Curses from people	2	0.006	63	17.60
Did not respond to this question	61	0.170	61	17.04

Individuals who use spectacles were assessed on how they perceive the use of spectacles (Figure 1.1). Most participants (n = 145; 40.5%) had unchanged perception, followed by those who had a positive perception (n = 138; 38.5%), and the remainder had a negative perception (n = 75; 20.9%).

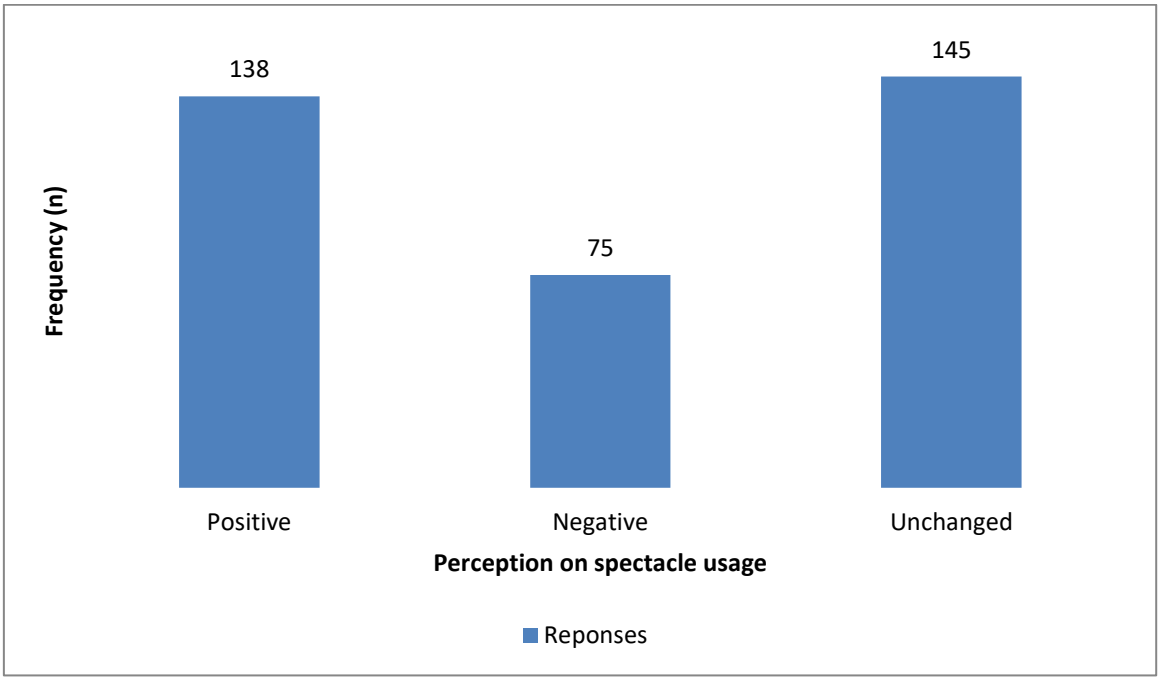

Figure 1.1 Perception of individuals about wearing spectacles

The community perception regarding spectacle use in females had a 3% difference in opinion. The perception was slightly skewed with a negative perception (n=182; 51.4%) whilst n=172 (48.6%) had a positive perception (Table 1.2).

Table 1.2 Community perception on female people wearing spectacles

Response	*f*	*Rel. f*	*cf*	*Percentile*
Positive	172	0.480	358	100.00
Negative	182	0.508	186	51.96
No response	4	0.011	4	1.12

Most participants (n=182; 51.1%) believe that wearing spectacles protect their eyesight. One hundred and twenty-four participants (34.8%) had an unchanged neutral perception and n=50 (14%) did not believe that spectacles can protect eyesight (Figure 1.2).

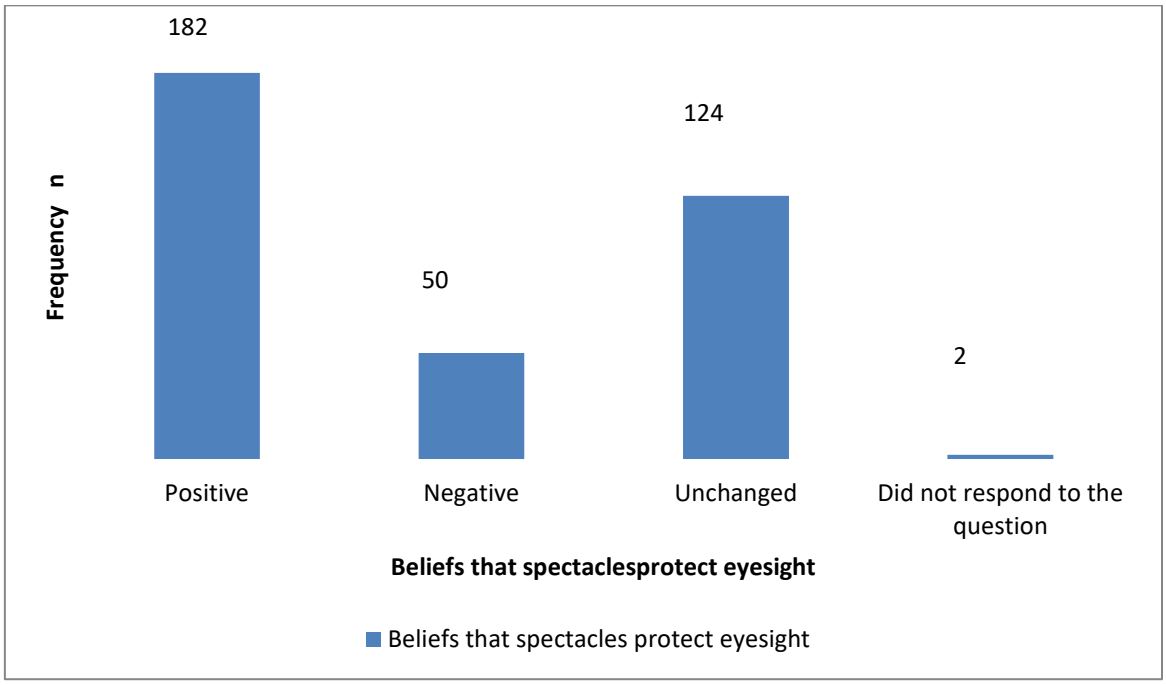

Figure 1.2 Beliefs that spectacles protect eyesight

A chi-square analysis was conducted on perception of participants regarding the use of spectacles (Table 1.3).Individual perception on the use of spectacles (p= 0.050), community perception on female using spectacles (p=0.000), gender hindrance to the use of spectacles (p=0.013), spectacles affects sports (0.001), were significantly associated with the use of spectacles. The above results lead to the rejection of the null hypothesis of this study.

Table 1.3 Chi-square analysis on perceptions and beliefs towards spectacle use

Variables	Coefficient value	P-value
Individual perception on use of spectacles	**0.128**	**0.050**
Community perception on females using spectacles	**0.245**	**0.000**
Gender hindrances on spectacle usage	**0.155**	**0.013**

Use of spectacles affects sports	**0.201**	**0.001**

Discussions

Research indicates that many people believe that spectacles spoil their eyesight, leading to increased power, harm, or blindness over time. This perception can hinder the uptake of refractive services, especially for children. A positive attitude towards spectacles can lead to increased utilization, but negative perceptions can result in poor uptake [12,8]. A positive attitude towards spectacles is essential for increased utilization [13]. However, the community around an individual also contributes to the uptake of refractive services [4]. Eye health education is needed to address these perceptions and encourage the use of spectacles. Cosmetic blemishes, particularly for females, can also hinder uptake [14]. Stakeholders in frame manufacturing and supply should research consumer needs and preferences to ensure a positive outlook on spectacle use. The study found that individual perception, community perception, gender hindrance, and perception of spectacles affecting sports were significantly associated with spectacle use. Therefore, there is a need for education about spectacle-wearing and promoting a positive mindset towards using spectacles and optical devices.

Conclusions

The community has a negative attitude towards spectacle-wearing and have a preponderance to some myths and beliefs such as that spectacles spoil the eyes, spectacles worsen the eye problem, spectacles are a sign of cleverness, spectacles are only for people with esteemed status, spectacles make eyes better, the wearing of spectacles is a sign of arrogance, spectacles cause the eyes to sink, spectacle wear is an inherited condition, when wearing spectacles one is seen as being cursed, spectacles are for mean people and when one wears spectacles it is being thought of that one is a disabled person. It is also believed that the continuous use of spectacles would increase the power of the eyes which then results in their sight getting worse with time.

Recommendations

This study informs the health care providers in the eye department to provide correct information on refractive services to patients in their work places through health talks. This will help to clear doubts created by myths and beliefs from the community towards refractive services.

LIST OF ABBREVIATIONS

URE - Uncorrected refractive errors.
VI - Visual impairment
WHO - World health organization.
RE - Refractive error

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