EVALUATION OF NEEDS AND CHALLENGES IN PROVISION OF REFRACTIVE SERVICES IN DISTRICT HUNZA, GILGIT-BALTISTAN

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Fariha Ali[1]
Gul Nasreen[2]
Maliha Ali[3]
Izwa Nisar[4]
Ammara Sana[5]

For Authors' affiliation & contribution see end of Article

Corresponding Author
Fariha Ali
College of Ophthalmology & Allied Vision Sciences, Lahore
alifariha80@gmail.com

ABSTRACT

PURPOSE: *To find out the quantitative and qualitative status of refractive services in district Hunza, to pinpoint the deficiencies in the existing services and identify needs for improvement.*

METHOD: *A demographic cross sectional study was conducted to assess the knowledge and behavior of people towards eye care and the barriers in seeking refractive services. Data was collected using self-made questionnaire comprising of 13 questions directed to 255 adult individuals living in district Hunza. Ethical approval was sought from ethical review board College of Ophthalmology and Allied Vision Sciences.*

RESULTS: *Among the 255 adult individuals, 50% cited that they had some kind of visual problem but only a few of them had visited ophthalmologist or optometrist. 59.6% had lack of knowledge about refractive errors, parents had shown negligence towards their child's eye health care and only 14% had been through screening in the last one year. 96.9% reported that the refractive services in district Hunza was insufficient. Majority of the participants reported lack of refractive setup in the DHQ hospitals, lack of eye care personnel and Lack of dispensing center in the district.The main barrier in uptake of refractive services were cited as lack of services (49.4%), followed by lack of awareness (27.1%), cost (21.2%) and lack of felt need (2.4%).*

CONCLUSION: *There is lack of refractive services in district Hunza, such as lack of refractive setup, optometrists and spectacle dispensing center at DHQs. People having refractive errors or visual problems are left untreated because of lack of facilities at primary and district level. This shows lack of attention by government, national and international NGOs in providing refractive facilities to the people of district Hunza. The challenges faced by people in seeking refractive services are distance to services, lack of awareness, transportand cost.*

KEYWORDS: *Refractive services, awareness, infrastructure, human resource*

INTRODUCTION

Refractive services include the methods used for correction of refractive errors such as refraction, spectacle dispensing, contact lens prescription and refractive surgery. They also comprise low vision rehabilitation for people with reduced vision even after best corrected vision. Provision of refractive services needs sufficient human resources, infrastructure and making affordable spectacles.[1]

Uncorrected refractive error (URE) is the most common cause of visual impairment and second common cause of blindness. Globally, about 2.3 billion people have refractive error. Out of these individuals, only 1.8 billion have access to affordable eye care services for correction.[2]

It is evident that without appropriate correction millions of children lose educational opportunities and adults are excluded from productive work life, which leads to severe economic and social problems. Individuals and families are pushed into a cycle of increasing poverty due to this eye problem.[3]

Most of the children are asymptomatic, therefore screening helps in early detections and management. The correction can be done by spectacles, contact lenses, or refractive surgery. Spectacles are the most common used method for correction. Therefore,spectacles are treatment for refractive error in developing countries.[3]

It is estimated that approximately 90% of individuals with uncorrected refractive errors live in developing countries.

The major challenges to reduce the current magnitude are identified as Cost, inaccessibility to refraction and spectacle dispensing services. In low income settings, Well-developed refractive services could help reduce the current burden of the problem.[4]

Addressing the enormous need to correct the uncorrected refractive error is one of the priorities of the global initiative VISION 2020: the right to sight.[5] In order to resolve the issue of uncorrected refractive error in developing countries, it is important to provide comprehensive services, both refraction and spectacle dispensing, at the primary level, where they will be more accessible to the community. The delivery of comprehensive refractive services at primary level requires

- A trained person to refract and provide counseling about refractive errors
- Equipment's for vision testing, refraction, spectacle dispensing and
- spectacles which are acceptable and affordable to the patient.[6]

Eye care services are provided at tertiary and secondary level in developing countries. They are expensive and tend to concentrate in urban areas, unreachable for large part of the population. It is identified that many ocular conditions are likely to be treated within the community if effective primary care services are available.[7]

Causes of avoidable visual impairment can be reduced and prevented by universal access to primary eye care. Primary eye care can treat minor ocular problems, uncorrected refractive error and create a referral system for specialized eye care, thus providing a solution for lack of ophthalmologist in developing countries.[8]

In low income settings, integrated Primary Eye Care (PEC) is a solution to address the lack of specialized eye health personnel and expand eye care. In addition to general health services, general nurses are trained to provide primary eye health services. PEC can treat most forms of uncorrected refractive error and refer the rest for specialized treatment. Other conditions that can be addressed in the PEC include common minor eye diseases, which include allergic or infectious conjunctivitis and dry eye.[9]

In developing countries, expansions of refractive error services have been difficult due to lack of trained personnel, who can conduct refraction. Optometrists are trained to perform refractions and can also provide contact lenses, as well as low vision, binocular vision, and diagnostic or ocular therapeutic care.[10] In many low and middle income countries, it is necessary to provide refractive services at all levels of the health care system, especially at the primary level, where services are provided in the community. For Successful services, an integrated team approach, with a clear reference system and a defined service scope should be present at each level. For example: detection/ screeningof cases at the community level, presbyopia or basic refraction services at the primary or community health center level, specialized services at the secondary or district level, and pre- and postoperative refractive services at the tertiary or regional level.[11]

According to World Health Organization (WHO) estimation, 33 million people are blind or visually impaired and that 153 million, or almost half of the global burden of blindness and visual impairment, is due to an uncorrected refractive error. The 150 million presbyopes, who do not have good near vision due to lack of proper reading glasses are not included in this estimate, which places the total global burden of visual impairment due to the lack of glasses at 303 million. Periodically, People need to update power of glasses and replacement of lost, broken or scratched glasses. Supposethat the average pair of glasses has an effective lifespan of two to five years, they would need to dispense an additional 60 to 151 million each year to meet the need of the 303 million people who are not currently corrected.[12]

The Federal Minister of Health for Pakistan signed the VISION 2020 declaration in year 2001 on behalf of Government of Pakistan. In 2005 a financial commitment was made by government of Pakistan for prevention of blindness. For five years duration (2005-2010), National Program for Prevention and Control of Blindness was committed to upgrade eye departments in 147 sub-districts, 63 districts and 27 teaching hospitals. Primary eye care has been recognized as prevention and health promotion plan and a total of 2,719 positions were being created at teaching hospitals, districts and sub districts level.[13]

Prevalence of blindness has been reduced in Pakistan from 1.78% to 0.9%, demonstrated by national population based surveys in year 1998 and 2002.This was due to eye care integration into primary health care and accelerated national interventions. Moreover, between 2006 and 2008, 88 facilities were upgraded as a result of National Eye Health Program. These measures resulted in increase in outpatient attendances and increase the numbers of surgeries performed.[14]

National Committee for Eye Health (NCEH) Pakistan has been working on up gradation of eye health services in Pakistan on public private partnership with different international NGOs like Fred Hollows Foundation Australia, Sightsavers International UK and CBM Germany, AUS AID. This partnership resulted in up gradation of eye departments of all teaching hospitals in country and up gradation of Eye units of 120 DHQ hospitals in the country. The eye health care system has been improved in Pakistan by the national program and different projects running by national and international NGOs but primary eye care is still unreachable to many rural and underprivileged areas of the country.

MATERIALS AND METHODS

A demographic cross sectional study was conducted to find out status of refractive services in district Hunza, Gilgit-Baltistan, and to evaluate the needs and challenges in provision of refractive services. The study was conducted over a period of four months, from September to December 2018, with a sample size of 255 adult individuals living in district Hunza. All the Data was collected using structured questionnaire, which includes information about the availability of refractive set-up and optometrist at the DHQ hospitals, spectacle dispensing center and the challenges faced by people in seeking refractive services. All the data were analyzed using statistical package for social science (SPSS version 23.00) and Microsoft Excel 2010. Quantitative data was analyzed by taking mean and standard deviation. Qualitative data was measured by percentage, frequency and chi-square test.

RESULTS

TABLE 1: Assessment of refractive services

Variables	Available	Not available
Refractive setup at DHQ hospitals	0.0%	94.5%
Spectacle dispensing unit in the district	3.1%	93.3%
Ophthalmologist/ optometrist working in DHQ hospitals	0.0%	95%
LWH and teachers providing eye care	0.0%	98.03%
NGOs providing refractive services	0.0%	99.2%

The above table shows the non-availability of refractive services in district Hunza. 95% of participants reported that there is no refractive setup present in the DHQ hospitals of the district, and no eye care personnel working in the DHQs. Moreover LHW and teachers do not counsel people about their eye health care. The participants also reported that National and international NGOs are not involved in providing services in the district such as conducting screening camps.

TABLE 2: Behavior of people towards eye care

Variables	Yes	No
Visit ophthalmologists	35.5%	63.5%
Knowledge about refractive services	40.4%	59.6%
Parents care regarding child's eye health	36.9%	57.6%
Eye health Screening	14.1%	85.9%

Only 35.5% of the participants reported that they had visited ophthalmologist or optometrist when having visual problems.14.1% had been through screening in the last one year. 57.6% of participants thought that parents do not give importance to their child eye health as compared to general health. This shows the lack of awareness and negligence toward eye care.

TABLE 3: Barriers

Variables	Percent
Cost	21.2%
Lack of services	49.4%
Lack of awareness	27.1%
Lack of felt need	2.4%
Total	100.0%

Result deducted from above table shows that lack of services (49.4%) is the main barrier in seeking refractive services, followed by lack of awareness (27.1%), cost (21.2%) and lack of felt need 2.4%.

DISCUSSION

Uncorrected refractive error is the leading cause of visual impairment and second most cause of blindness worldwide. Quality of life of people is affected by uncorrected refractive errors, it limits education and employment opportunities. Despite the fact that refractive errors can be easily detected and corrected, the prevalence of uncorrected refractive error is higher in many countries. There are different barriers in providing and accessing refractive services such as lack of infrastructure, human resource, cost, unawareness, transportation, lack of reachable eye centers.[3]

This study was conducted to evaluate the needs and challenges in provision of refractive services in District Hunza. My study showed that adequate refractive services are not available for the people of district Hunza. It was analyzed that people have visual difficulty and history of ocular disorder but only a few visits ophthalmologists. Different causes were cited for this observation, lack of knowledge and negligence towards eye health care was significant. People think that parents don't give their children eye health care equal importance to that of general health.

The participants were also unaware of importance of screening and the participants had not been through screening in the period of one year. It was found out that there are no facilities provided regarding refractive services in the DHQ hospitals of the district, No ophthalmologist/ optometrist and refraction setup in any public hospital of the district. People also face difficulty to get spectacle or repair the old ones because there is no spectacle dispensing center in the district. Similar to public sector, No Non-governmental organization is working for eye health care in the district.

Most of the people in the region are from agricultural back ground with low income, 43% of the participants cited transport as barrier for seeking refractive services and 43.5% said eye care practitioner's charges more for their services.

Result deducted from the study shows that the main barrier in accessing refractive services for the people in Hunza, is lack of services (49.4%), followed by lack of

awareness (27.1%), cost (21.2%) and lack of felt need (2.4%). According to a similar research conducted by Thompson S inMozambique, Cost was the most frequently cited barrier (53%), other barriers included lack of felt need (20%), distance to services (13%).[15]

A study similar to my study was conducted by Ntodie and Danquah to assess the refractive services in the northern and central region of Ghana. The study was conducted to evaluate the current refractive services for further planning of refractive services in the region. It was found that the provision of refractive services was insufficient. The main reasons for the limited provision of services were inadequate human resource and lack of infrastructure. 36.8% of participants cited lack of equipment and 31.6% cited cost of providing spectacles as barrier.[4]

Different Studies were conducted regarding barriers in seeking refractive services in different underdeveloped countries of the world. The results depict similar cited barriers such as cost, lack of awareness, lack of infrastructure and lack of health personnel with a slight difference in percentage.[6,16,17]

Prevalence of refractive errors can be decreased with provision of refractive services. As presbyopia also contribute to the prevalence of refractive error, majority of people are unaware of presbyopia and are not using glasses. Another major reason to conduct this study was to identify the barriers and challenges faced by people in seeking refractive services.

It is concluded through this study that appropriate refractive services are not available to the people of district Hunza Gilgit-Baltistan. So, proper attention and action is required by responsible authorities to provide services at primary and secondary level. Health sector should make proper strategies, and plan different program to tackle the issue of unawareness, cost, and unreachable refractive services and other barriers.

CONCLUSION

This study shows that refractive services are not available in district Hunza. The refractive services are unreachable and people have to travel long distances for their visual problems and spectacles dispensing and prescription. Thus, it is concluded that there is lack of attention by government, national and international NGOs in providing refractive facilities to the people of district Hunza. There are no facilities provided regarding refractive services at secondary level and primary level. Majority of the people had never been through screening. Due to lack of accessible and affordable services and lack of awareness people with refractive errors are left uncorrected.

Authors' Affiliation & Contribution

[1]Fariha Ali
College of Ophthalmology & Allied Vision Sciences, Lahore
alifariha80@gmail.com
Study design, data collection & analysis, manuscript writing.

[2]Gul Nasreen
College of Ophthalmology & Allied Vision Sciences, Lahore
nasreengojali@yahoo.com
Data collection, proof reading, manuscript editing

[3]Maliha Ali
College of Ophthalmology & Allied Vision Sciences, Lahore
maleehapyarali@gmail.com
Data Collection, Proof reading, Discussion

[4]Izwa Nisar
College of Ophthalmology & Allied Vision Sciences, Lahore
izwanisar01@gmail.com
Data collection, Proof reading, Results

[5]Ammara Sana
College of Ophthalmology & Allied Vision Sciences, Lahore
ammarasana43@gmail.com
Results, Discussion, Manuscript writing.

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