EVALUATION OF KNOWLEDGE OF PRIMARY EYE CARE AMONG PRIMARY HEALTH CARE WORKERS IN DISTRICT LAYYAH

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Sana Noreen[1]
Syed Raza Shah[2]
Ali Sarfaraz[3]
Ammara Sana[4]
Izwa Nisar[5]
Fariha Ali[6]
For Authors' affiliation & contribution see end of Article

Corresponding Author:
Sana Noreen
College of Ophthalmology & Allied Vision Sciences, Lahore

ABSTRACT

PURPOSE: *The main purpose of this study was to determine whether the primary health care workers in the district Layyah have sufficient knowledge to diagnose and treat primary care ophthalmic conditions correctly and, also, to assess their own perceptions of their levels of knowledge.*

METHOD: *A descriptive cross sectional study was conducted. The required data was collected from randomly chosen 75 primary health care workers with the help of self-made questionnaire that included the basic questions about primary eye care for example awareness about eye diseases and their possible treatment methods. Ethical approval was sought from ethical review board College of Ophthalmology and Allied Vision Sciences.*

RESULTS: *Eighty one percent of the participants reported that patients with ocular problems visit nearby primary health care center. Seventy five percent had knowledge about causes of blindness. Eighty five percent participants knew about presbyopia. Thirty nine percent had idea about refractive error treatment methods but more than half of them referred the patients. Eighty nine percent were familiar about foreign body sensation related problems in eye but 53% of them treated the patients and 35% of them referred. Ninety two percent had known about red eye problem and 46% were aware of treatment methods but 48% referred the patients. Seventy two percent reported that they had knowledge about conjunctivitis, common signs of conjunctivitis, 45% were aware of possible treatment methods and 36% were unaware of treatment. Ninety five percent participants reported that they had knowledge about cataract and 81% referred the patients for surgery. Only 24% participants were aware of glaucoma and its treatment, and 71% who were unaware referred the glaucoma patients to tertiary eye care center. Only 12% of the participants were able to deal with eye injury emergency. Eighty six percent had knowledge about the effect of diabetes on fundus. P-values <0.05 shows statistically significant results and it is concluded that all the primary health care workers working in rural health centers and basic health units in district Layyah are well aware of about common eye diseases and their possible treatment but are not well aware of refractive error treatment methods, glaucoma and ocular injury emergency.*

CONCLUSION*: This descriptive cross-sectional study concluded that awareness is significant (p <0.05) about primary eye care among primary health care workers working in rural health centers and basic health units in district Layyah. Majority of the healthcare workers were well aware of causes of blindness, presbyopia, foreign body sensation, conjunctivitis, red eye problems and cataract. However they lacked knowledge regarding possible refractive error treatment methods, glaucoma, and eye injury emergency. It is concluded that people with eye problems visit eye care personnel but they are not fully trained in every component of primary eye care.*

KEYWORDS: *Primary health care workers, primary eye care, knowledge, Blindness.*

INTRODUCTION

Primary eye Care (PEC) is one of the 11 components of Primary health Care (PHC), although all other components directly or indirectly impact ocular health. Worldwide, there has been a decrease in the number of people with visual impairment, especially that due to infectious causes and vitamin A deficiency (VAD). This can be attributed, at least in part, to the strengthening of Primary Health care(PHC), the integration of Primary Eye Care in Primary Health Care and other collaborations such as Vision 2020.[1]

The components of primary ocular care include adequate awareness of ocular health and the prevention of common eye diseases through health education. Many of the eye conditions such as trachoma, nutritional blindness due to vitamin A deficiency, and corneal injuries can be prevented by

following simple steps such as washing the face, consuming a diet rich in vitamin A, and taking appropriate precautions while play during which corneal injuries are common, cultivate or celebrate festivals likes fire crackers on local religious festivals like shab-e-barat. Optometrists can effectively address refractive errors through the primary eye care delivery network by supplying glasses. Screening aimed at identifying diabetic retinopathy and glaucoma can also be initiated at this level with the provision of essential equipment and adequate training and proper referring to secondary and tertiary levels. The rehabilitation of people with blindness and low vision can also be carried out at the primary level of eye care.[2]

Primary eye care (PEC) has been promoted to give an insight of visual impairment in remote areas. By providing basic services at health facilities close to the locality where the majority of the population lives, primary health workers (PHWs) can identify eye conditions early and either treat or refer patients in a timely manner and improve the eye health of communities. By treating simple diseases in primary health facilities (PHFs) will free up the time of specialist staff at referral centers, enabling them to concentrate on more complex cases. Benefits to patients would include less time and money for travel. The basic education is that primary eye care would play a significant role in reducing visual impairment as a frontline activity, providing care and identifying diseases before they become serious medical issues. Another potential benefit is that locally available services for eye care may reduce the use of harmful traditional eye remedies and inappropriate treatment obtained from untrained informal drug sellers.[2]

The Primary Health Care Team might include a much wider range of activities and professional groups, including traditional Primary Health Care Team – for example: Practice manager, Doctors (Ophthalmologists, general physicians, registrar and other salaried doctors), Nurses (traditionally practice nurses and community nurses and Midwives), and Health visitors. Primary care premises may also be used for selected secondary care services e.g. hospital consultant clinics, diagnostic imaging, and operating services, etc.

Allied health professionals may also work closely with the Primary Health Care Team- e.g. physiotherapists, dieticians, pediatrics, pharmacists, counselors, complementary therapists and social workers. Primary health care physicians are primary workers who perform most of the eye screening; therefore, it is important that they are able to diagnose emerging eye problems in order to prevent eye diseases. There are a lot of problems in providing sufficient ophthalmic exposure while meeting other demands of health care related residency.[3]

Four-year trained optometrists offer a reasonable approach to human resources as they gain enough experience and basic training to provide comprehensive eye care. Optometrists can perform a complete examination of the internal and external structures of the eye, perform subjective and objective tests to assess the patients' vision, analyze the findings of the tests and establish a diagnosis and initiate appropriate management. Therefore, it is more efficient to use trained optometrists, freeing ophthalmologists for surgery and for the treatment of complex cases.[4]

The main barrier in provision of primary eye care is that there is not a direct vision dedicated to Health care, nor is there an integrated eye to the health promotion policy, resulting in inadequate eye care services. Challenges in eye care program include insufficient human resources, unavailable or unaffordable medications, and inadequate coverage of services for vitamin A supplementation, vision evaluations and provision of glasses, cataract surgery and detection of cancers in patients with diabetes. In addition, there is a lack of coordination between the different levels of the ocular health system, with poor communication, a complex referral system and problems in transporting patients to specialized services and unsatisfactory program evaluation.[5] In addition, there is a lack of awareness regarding the possibility of treatment, suggesting that the role of primary eye care in acting as a gateway to specialist services is lacking.[6]

The particular components of the framework of health systems that lack evidence are the provision of services, equipment and supplies, financing, leadership and governance. There is some information to support interventions to strengthen human resources at all levels, associations and community participation. However there is little evidence to demonstrate its

successful application to improve the quality of eye care and access to comprehensive eye health services at the primary health level, and referral to other levels for specialized ophthalmological care.[7]

Due to unavailability of primary eye care and some other factors, there are 324 million blind or visually impaired people in the world and its burden is disproportionately concentrated in developing countries.[8] Following the number and characteristics of people with vision impairment and blindness is especially important given the negative impact of these conditions on physical and mental health. In particular, blind or visually impaired people are at increased risk of disease chronicles, accidents, social withdrawal, depression, and mortality.[9]

According to an estimate, 36·0 million people are blind, whereas 216·6 million people has moderate to severe vision impairment.[11] Although the prevalence of blindness and moderate to severe vision impairment is decreasing there is an unequal distribution of the prevalence of blindness in the world. The "VISION 2020 Initiative: the Right to Sight" launched by World Health Organization, comprises three components, namely the elimination of avoidable blindness causing diseases as a public health problem by the year 2020, development of human resources and infrastructure development for eye care.[10]

The lacking of primary eye care services, organization and resources leads to visual impairment due to uncorrected refractive error, cataract, glaucoma, diabetic retinopathy, trachoma and corneal opacity.[11] The leading cause of blindness is cataract. Fundus diseases e.g. diabetic Retinopathy (DR) and age related macular degeneration (AMD) are the second leading causes of blindness. As there have been significant shifts in the pattern of causes of visual impairment, the global eye health action plan (2014-2019) is structured to particularly address the global trend towards an increasing incidence of chronic eye diseases related to ageing. These are expected to be the most prevalent causes of avoidable visual impairment in the next decades.[12]

Recently, the WHO Global Action Plan (2014-2019) has provided an updated approach with greater emphasis on the health systems approach and the integration of ocular care into the general health system. To provide a rational basis for improving services, the Action Plan highlights the need for a comprehensive assessment of available resources and current gaps in services. This is usually followed by the development and implementation of a locally appropriate plan to improve the quality and quantity of clinical and non-clinical aspects of eye care.[13] The next World Health Organization's report on vision will provide countries with guidance on how to integrate eye care into the health system.[14]

The primary eye care requires a package of interventions, that is, eye health promotion, basic equipment for eye examination, supply of medicines and consumables, referral mechanisms, supervision, health information and referral / feedback systems, financing mechanisms and a strong commitment from the government. The implementation of primary eye care will remain high in rhetoric and low in delivery if the entire package is not addressed.[15]

The integration system of multi-level eye care is based on the provision of adequate care at each level secondary and secondary, the creation of a good quality infrastructure, well-trained human resources and the use of adequate operating systems. Recently, many facets of technology have been incorporated, including ophthalmic information and communications technology.[16]

The intervention of training community health care workers in the primary health system, if successful, would help a lot to incorporate primary eye care in primary eye care with long-term viability as compared to sporadic eye camps, which are the norm.[17]

Increasing access to services will require renewed efforts to integrate eye care into the health system and into other sectors, such as education. There are many interventions for eye care that can be provided through and with other health services, such as the prevention of retinopathy of prematurity through neonatal care and diabetic retinopathy through primary care of the diabetes.[18] The vision screening test can also be done through school health programs.

MATERIALS AND METHODOLOGY

A descriptive cross sectional study was conducted. The required data was collected from randomly chosen 75 primary health care workers with the help of self-made

questionnaire that included the basic questions about primary eye care for example awareness about eye diseases and their possible treatment methods. Data was entered and analyzed by using statistical Package for Social Sciences (SPSS version 23.0 software). Qualitative data was presented as percentage (%) and frequencies. Quantitative data was presented as mean and standard deviation of variables. Data was analyzed by using chi-square test. Significance of p-value was taken as equal to, or less than 0.05.

RESULTS

Table 1: Awareness about common eye diseases

Common eye diseases	Yes	No	N/A
Awareness about Causes of blindness	74.7%	25.3%	0.0%
Awareness about presbyopia	85.3%	9.3%	5.3%
Awareness about red eye problems	92.0%	5.3%	2.7%
Awareness about conjunctivitis	84.0%	16.0%	16.0%
Awareness about cataract	94.7%	5.3%	5.3%
Awareness about glaucoma	30.0%	70.0%	5.3%
Awareness about squint	32.0%	65.3%	2.7%
Awareness about diabetic retinopathy	86.7%	10.7%	2.7%

The above table shows that majority of the primary health care workers working in rural health centers and basic health units in district Layyah are aware of the major causes of blindness and common eye diseases. The majority of them are aware of the common eye diseases like red eye problems, conjunctivitis, cataract and diabetic retinopathy but they lack knowledge about glaucoma and squint assessment.

Table 2: Awareness about treatment methods

Common eye diseases	Treated	Referred	N/A
Refractive error	38.7%	56.0%	2.7%
Red eye problems	46.7%	48.0%	5.3%
Conjunctivitis	45.3%	36.0%	18.7%
Glaucoma	24.0%	70.7%	5.3%
Ocular injury	12.0%	85.3%	2.7%
Squint	32.0%	65.3%	2.7%

Results deducted from the above table shows that 38.7% of the primary health care workers are aware of the refractive error treatment methods and 56% of them mostly refer their patients to secondary/ tertiary eye care center. 46.7%, 45% and 24% of the participants are aware of red eye, conjunctivitis and glaucoma treatment methods respectively. 48%, 36% and 70.7% of the participants mostly refer their patients with red eye problems, conjunctivitis and glaucoma, respectively, for further examination to secondary/tertiary eye care centers.12% of the participants are aware of the ocular injury and treated the patients but 65.3% referred the patients for further treatment. 32.0% of the participants are aware of squint treatment and 65% of them referred their patients.

Table 3: Significant values about awareness of primary eye care and treatment methods

Variable	P-Value
Awareness about Causes of blindness	0.000
Awareness about presbyopia	0.000
Awareness about refractive error treatment method	0.000
Awareness about red eye problems	0.000
Awareness of treatment of red eye problems	0.000
Awareness about conjunctivitis	0.000
Awareness of conjunctivitis treatment method	0.016
Awareness about cataract	0.010
Awareness about cataract surgery	0.000
Awareness about glaucoma	0.000
Awareness about ocular injury	0.010
Awareness about squint	0.000
Awareness about effect of diabetic mellitus on eye	0.000

This table shows that awareness about primary eye care among health care workers in district Layyah is statistically significant, ($P<0.05$).

DISCUSSION

In developing countries, integrated primary eye care (PEC), is a solution to address the lack of specialized eye health personnel and expand eye care. Refractive errors, minor eye diseases, dry eye and allergic infections can be treated at primary level and referred for further treatment. However, all health care personnel working at rural health center and basic health unit are not well trained about Primary eye care.

This study was conducted to evaluate the knowledge of primary eye care among primary health care workers in

district Layyah. It was inquired if people with vision problems mostly visits their nearby basic health units and rural health care center who are attended there by primary health care workers. The questionnaire was designed to find out the knowledge of primary health care workers about worldwide causes of blindness, refractive errors treatment methods age related presbyopia eye condition, awareness about foreign body sensation, red eye problems, conjunctivitis, cataract, glaucoma, ocular injury, squint and effect of diabetes mellitus on fundus and their possible treatment methods. Majority of the primary health care workers were aware of about worldwide major causes of blindness. Majority of the participants (about 81%) were aware of age related presbyopia eye condition. Questions were asked about refractive error treatment methods some of them were able to answer but most of them usually referred their patients.

Majority of the participants answered positive about causes of foreign body sensation and red eye problems but only half of them were using antibiotic treatment method, other referred the patients to secondary/ tertiary eye care centers. 84% were aware of signs of conjunctivitis, 45% preferred antibiotic treatment method but 36% of them referred the client to senior ophthalmologist. Almost all of the enrolled participants were familiar about cataract and majority of them referred the patients for cataract surgery. 86% of primary health care workers were aware of the effect of diabetes mellitus on fundus (Diabetic Retinopathy).

Similar study was conducted on at the Bristol Eye Hospital. Almost 90% of the respondents considered their Ophthalmological knowledge to be inappropriate, and the use of an ophthalmoscope was considered very difficult. However, 83% of the respondents who attended postgraduate ophthalmology courses considered their knowledge of Ophthalmology primary care as adequate. The recognition, treatment and reference of glaucoma were universal issue. In my study I mentioned all the basic eye diseases and their treatment methods to evaluate whether primary health care workers have adequate knowledge about primary eye care and good at their common practice. I concluded that primary health care workers working at rural health centers and basic health units have fair knowledge about common eye diseases but only few of them were able to treat the patients but most of them referred the patients to higher units.

CONCLUSIONS

This descriptive cross-sectional study concluded that awareness was significant ($p<0.05$) about primary eye care among primary health care workers working in rural health centers and basic health units in district Layyah. Majorityof the health care workers are well aware of causes of blindness, presbyopia, foreign body sensation, conjunctivitis, red eye problems and cataract. However, they lack knowledge regarding possible refractive error treatment methods, glaucoma, and eye injury emergency. There is lack of primary eye care in district Layyah, so people suffering from refractive errors and minor eye diseases visit primary health workers for their problems. The health care workers have knowledge about primary eye care but they are not confident about their skills. Therefore, they refer the patients instead of treating them.

From this study it is concluded that primary eye care should be integrated into primary health care. The primary health care personnel should be fully educated about primary eye care and provided with modern equipmentand technology to treat patients rather than referring them.

Authors' Affiliation & Contribution

[1]Sana Noreen
Study design, Data Collection
College of Ophthalmology & Allied Vision Sciences
Lahore

[2]Dr. Syed Raza Ali Shah
Results, Discussion
Assoc.Prof. of Ophth., F.J.Medical University, Lahore

[3]Ali Sarfaraz
Data collection, write up
College of Ophthalmology & Allied Vision Sciences
Lahore

[4]Ammara Sana
Data Collection, Results, Discussion
College of Ophthalmology & Allied Vision Sciences
Lahore

[5]Izwa Nisar
Data Collection, Conclusion
College of Ophthalmology & Allied Vision Sciences Lahore

[6]Fariha Ali
Data Collection
College of Ophthalmology & Allied Vision Sciences Lahore

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