Original Research

Knowledge, attitude and practices towards eye care among primary health care workers in District Chakwal

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Article Info.

Abstract

Introduction: Despite the fact, that an estimated 80% of worldwide blindness is preventable or treatable, the number of individuals living with blindness or impaired vision is on a rise. According to epidemiological data, worldwide over 2.2 billion people are blind or have impaired vision and 90% of them live in underdeveloped countries. A large number of people consult primary health care workers for their health issues, weather it is general illness or eye problem. Objectives: To assess the Knowledge, Attitude and Practices (KAP) of Primary Health Care workers with regards to Primary Eye Care (PEC) in District Chakwal, Pakistan. Methodology: A Quantitative Cross-sectional study design, using Random Sampling technique was employed. Participants in the study were given a standardized semi-structured questionnaire to fill out. The questionnaire included questions on primary health care provider's knowledge, attitudes, and practices about PEC. The data was analyzed by using statistical package for social sciences (SPSS) version 26. Results: Among total of 232 Primary Health Care workers 73.7% were below 40 years of age. Majority of primary health care workers were female (60.8%). About 40.9% were having diploma. Majority of workers (58.6%) had less than 5 years of experience as a Primary Health Care worker. Most of them (60%) had sufficient knowledge about the causes of eye diseases or injuries and (40.8%) had knowledge about conditions that may result in eye illnesses or injuries. The attitude for referral of patients to medical doctors was 51.2%. The practices regarding method and approach for treatment of eye diseases, of the majority of workers (58.9%) were not satisfactory. Conclusion: Knowledge regarding causes of eye diseases, diagnosis and methods of treatment were not satisfactory amongst the primary health care workers. A positive attitude was noted for the will to improve the knowledge for eye care. The research revealed, the requirement for a training program for primary health care workers regarding modern primary eye care.

Introduction

Health care that is available easily, inexpensive for all families and people in a community, via their full participation, and is based on scientifically sound and socially acceptable practices and technology, is referred to, as "Primary Health Care"[1].

It is the provision of eye care services that are suitable, accessible, and inexpensive, as well as thorough and competent for the eye care needs of the patients. Moderate to Extreme Vision Impairment (MEVI) is slightly higher in South Asian countries (23.6%) than Oceana (18.9%)[2]. The level of public awareness related to major blindness causes is low even in developed countries[3]. Women, the elderly, people with disabilities and ethnic minorities are the most vulnerable groups in assessing eye defects because of unfair primary eye care distribution[4]. Only 22% diabetic patients had a history of eye checkups in Iran[5]. The global plan for universal eye health aims to reduce avoidable vision loss[6], thereby curbing the quality of life limitations [7,8].

The burden of preventable blindness may be lessened through early identification, treatment, and referral for common eye illnesses at the primary health care level. If PHC personnel are adequately trained, equipped, and backed by a competent referral system, this may be achieved. By proper utilization of already existing Primary health care (PHC) services, for early detection and treatment of common eye problems, nearly two-third of all instances of blindness may be prevented or treated, according to the World Health Organization (WHO). The current PHC practitioners must be able to recognize, prevalent and potentially debilitating eye illnesses at an early stage. There are over 207 million people in Pakistan, making it the sixth most populous nation on Earth[9]. In the growing nations, like Pakistan, healthcare is a major concern for practitioners, researchers, and government officials. Prevention, early identification, and treatment of ocular diseases, may all be made possible by a well-functioning primary health care system, but unfortunately, like other developing countries, most people in Pakistan don't get their eyes checked regularly, because of poor awareness and/or other social issues [10].

The incidence of preventable blindness may be reduced via early detection, treatment, or referral of common eye disorders at the primary care level, an efficient referral mechanism and proper training of PHC personnel may achieve this. Enough information is lacking in Pakistan to create and improve primary eye care services in primary health care facilities. The results of this research study will prove beneficent, not only for healthcare professionals and patients, but also for researchers and policymakers. The primary health care professionals in Pakistan's Chakwal district were studied in this descriptive type study. Participant's age ranged from 18 to 60 years, both male and female. Researchers used a cross-sectional research design.

Objectives:

To assess the Knowledge and Attitude towards Eye Care, among Primary Health Care Workers in District Chakwal. To identify the Practices regarding Eye Care among Primary Health Care Workers.

Methodology

In this study the main purpose was to investigate Knowledge, Attitude and Practices of Primary Health Care workers regarding eye care.

Research Design

It was a cross-sectional study.

Research Setting

The researchers conducted their studies in RHCs and BHUs of District Chakwal.

The Pothohar Plateau in Pakistan is home to the district of Chakwal. Khushab, Rawalpindi, Jhelum and Mianwali, located in Punjab province's northwestern corner. District Attock also located in Punjab province's northwestern corner, sections of Jhelum and Attock were combined to establish the Chakwal district in 1985.

Study Duration

Study was conducted for Six-months (from Jan 01, 2021 to June 30, 2021).

Sample Selection

Inclusion criteria:

I-Permanently employed Primary Health Care Workers,

ii- Gender: Both male and female.

iii- Age group; 18 to 60 years of age.

Exclusion criteria:

i- Non-respondents.

ii-Employees with less than 6 months of service.

Sample Size Calculation

Cochran's Sample Size Formula

$n_0 = Z^2 Pq/e^2$ $n_0 = 3.84 \times 50 \times (1-50)/5 \times 5 = 376$

n_0= Sample Size

Z= Confidence Interval at 95%   (value= 1.96)

p= The (estimated) proportion of the population which has the attribute in question,

q = 1-p

e = The desired level of precision

(i.e., the margin of error) =5

Modified Cochran Formula for smaller size Populations

$n = \dfrac{n_0}{1+(n_0-1)/N} = 376 / (1+ (376-1/598)) = 232$

N= Total population (598)

n = the new adjusted sample size

Data Collection Tool

A validated questionnaire was used to collect data. It included 18 questions aimed at gathering demographic information as well as health care personnel's knowledge, attitudes, and practices about eye care. Closed-ended questions were used.

Sampling Technique

Primary health care professionals employed by government-owned primary health care institutions were studied in a cross-sectional research. Random Sampling was used to get information from survey participants.

Self-administered questionnaires were used to collect quantitative data (adapted from similar previous published research).

A total of 232 samples were obtained from District Chakwal, Punjab, from a target group of 598 health care professionals, 60% of whom were women and 40% were men, 58% of total participants were married.

Data Collection

Primary Health Care Workers from selected BHUs and RHCs were personally visited as part of the survey.

Permission was obtained from the participants by a signed informed consent.

The questionnaires for participants' knowledge, attitude, and practices were provided, and respondents were asked to fill them out according to their own knowledge.

On the opening page, the study's goals were stated. Information concerning confidentiality, the opportunity to withdraw, and non-mandatory participation was also made available at the meeting. Participants were not compensated in any way.

Data Analysis

The data was collected and analyzed using SPSS version 26. Descriptive analysis of data was made, by mean, median, mode, standard deviation, frequencies and percentage, CI 95%.

Inferential statistics were used to make conclusions on the results, whereby associations between quantitative variables were determined using Chi-square test of association.

Ethical Considerations

Before beginning this study, ethical clearance and IRB approval was obtained from PIO.

Informed consent from subjects, confidentiality in reporting, guardian consent, and information confidentiality were also ensured.

Permission regarding access to data was obtained from DHO Chakwal.

Results

The statistics used in this study contain factor analysis, descriptive statistics, mean, median, mode, standard deviation, frequencies and percentage, and CI 95%.

Inferential analysis was made by using, chi square test of association.

A- Participant's Socio-Demographic Details

Participant's socio-demographic background such as age, gender, education, marital status and years of service are described in this section.

A-1   Age Distribution (n=232)

Table 1 shows that, 51(22%) participants were aged between 18–25 years, 120 (51.7%) between 26-40 years, 57(24.6%) between 41-50 years, and 4(1.7%) were of 51-60 years of age.

A-2   Socio-demographic   characteristics   of   the respondents (n=232)

Table 2 shows that, among total of 232 participants, females were141 (60.8 %), males were 91(39.2%). The majority of the responders were married (57.8%). A significant proportion of responders possessed a diploma (40.9%).

A-3 The number of years, working as a Health Care Worker *(n=232)*

Graph (Figure-2) shows that 31(13.4%) of the health care workers had, more than 25 years of experience, 60(25.8%) had 5-15 years of experience, 5(2.2%) had 16-25 years of experience, and 134 (58.6%) have less than 5 years of experience.

B- Knowledge of Primary Health Care Workers

Respondent's knowledge was tested for requisite information about blindness and common eye diseases, i.e., Cataract, Trachoma and Vitamin A deficiency disease (Table-3).

B-1   Knowledge of primary health care workers on blindness (n=232)

Among total of 232 participants, 108 (46.6%) defined blindness as full loss of light perception.

Age, service years, marital status, and degree of education had no significant relationship with blindness knowledge (P > 0.05).

Pre-service training, was answered as source of knowledge by 107(46.1%) participants and mass media/newspaper/magazine by, 71 (30.6%) participants (Table-4).

B-2 Knowledge about Cataract

More than 50% of the survey participants 126(54.3%) had heard of cataract and characterized it, as white opacity in the lens; 60 (25.9%) listed eye trauma as a cause, while 108(46.6%) mentioned age as a probable cause.

One hundred twenty (51.7%) HCWs answered surgery as a therapeutic option, and 109(46.9%) thought vision may be restored following surgery.

B-3 Knowledge about Trachoma

The majority of the survey participants (146(62.9%) had heard of trachoma and knew the signs and symptoms.

Regarding signs and symptoms of trachoma, 108(46.6%) answered "red discharge eye", and 64(27.5%) mentioned "misdirected eye lash,".

One hundred and twenty (51.7%) HCWs blamed microorganisms for the problem and according to 88 (37.9%) unclean personal conditions are probable risk factors.

Eye medication (ointment) was indicated as a therapy for trachoma by 120 (51.7%) participants and surgery by 112 (48.3%) of them.

B-4 Knowledge about Vitamin A deficiency

About half of the participants i.e., 113 (48.7%) had heard of vitamin A insufficiency.

Night blindness was answered by 108(46.6%) participants as the symptom of VAD.

For treatment of VAD, Vitamin A supplementation was mentioned by123 (53%) respondents and vaccination of children by 50(21.6%) of them.

C- Attitude of Health Care Workers

Figure-3 mentioned Pie chart shows that majority 132 (56.9%) of the Primary Health Care workers believe that eye illness is a critical concern in their community, according to 61 (26.3%) respondents, basic eye care services can avert blindness.

Twenty-two (9.7%) of respondents believe that they are competent of providing primary eye care, while 17(7.3%) believe that primary eye care training is required.

D- Practices of Health Care Workers

The health care personnel's major eye care activities were awareness creation, preventative efforts, and therapeutic clinical services.

The majority of HCWs (127/54.7%) raised community knowledge about sanitation, through health education.

HCWs offered prophylactic eye ointment to newborns, 128 (55.2%) delivered vaccination to children, 127 (54.7%) taught the community about face cleaning, and 120 (51.7%) gave vitamin A supplements to children as preventative measures.

In terms of curative clinical actions, 127 HCWs (54.7%) detected and referred eye injuries, 127 (54.7%) detected

and referred cataract, 61 (26.3%) treated trachoma, and 28 (12.1%) treated conjunctivitis with relevant drugs.

Discussion

Only 10.3 percent of the HCWs in this study were able to use the WHO visual impairment and blindness criteria to determine blindness. HCWs' knowledge of common causes of blindness (trachoma 62.9 percent, cataract 54.3 percent, and VAD 48.7 percent) was lower in this study than in a similar study in Gurage zone, where 96 percent and 85.5 percent of healthcare personnel were aware of trachoma and cataracts respectively. Local health care providers in Gurage zone received on-the-job training in primary eye care from nongovernmental organizations (NGOs), which may have helped close this knowledge gap among them[11]. Primary health care providers seem to be more informed about the most common causes of blindness than general public.

Cataract and glaucoma were both well-known to the urban population of Southern India, according to a study[12] that examined awareness of eye diseases among general population in urban areas. Glaucoma awareness was found to be lower (4.8 percent and 2.4 percent, respectively) among ophthalmology outpatient patients in India[13] and those getting ocular outreach services in Southwestern Ethiopia[14]. In another study conducted in New Delhi, 26.3 percent of mothers were aware of Vitamin A deficiency[15]. As a result of their expertise in health promotion (including cleanliness and sanitation), health care workers may have a better grasp on frequent causes of visual impairment than the general public.

Health care workers have greater access to a wider range of health-related resources and information, which might help them learn more about the most common causes of blindness. Eye health promotion programs integration into District Chakwal's well-established primary health care system, might be seen as fertile ground and/or a golden opportunity for eye health development in the area. Even more importantly, the concept of "eye health as an integral part of total well-being" will assist to transform the present inaccurate conception of "eye health as a discrete healthcare entity" to promote awareness of the relationship between eye health and overall health. By including primary eye care in the national health care programs will make Pakistan a model country in the region and beyond for an effective national community-based blindness prevention program. In this study, a substantial number of healthcare professionals worked in both preventive and curative aspects of primary care. HCWs must also participate in basic primary health care activities, such as immunization of children (particularly measles), vitamin A supplementation, and face and environmental hygiene, in order to improve the health of the community's eyes and prevent the spread of disease[16,17].

In a research study conducted in Zambia, it was found that, 80.0% of HCWs supplied newborn eye ointment for prevention, 77.5 percent of them vaccinated children, and 72.7 percent of them supplemented children with vitamin A. Tetracycline eye ointment has been reported to be used by 74 percent of Zambian nurses who care for newborns to avoid eye infection[18]. This research examined the current KAP of health care providers in District Chakwal, Pakistan, about the most frequent causes of blindness and visual impairment. A lot of participants had knowledge as

merely being aware of something. Internal consistency dependability was shown to be highly high with alpha values of more than 0.7 in all three areas of knowledge, attitude, and practice. Most of the time, the knowledge, attitude, and practice categories may be positively or negatively influenced by literacy and training levels. Positive correlations were found between all of the variables examined, with some showing a predictive relationship.

Despite the best efforts of the researchers, biases are common in survey-based research. In the first place, this research relies heavily on respondent's self-reporting, which introduces the possibility of response bias, concealment bias, and participant memory bias. For one thing, this is a student-led research effort with limited resources and skills to work with.

Conclusion

Health care is the most fundamental component of human life, health care professional's participation in health care activities is crucial in ensuring Pakistan government's health policy.

The basis of health care is primary health care, Pakistan's health-care system has continuously improved. The goal of this research was to analyze Primary Health Workers' knowledge, attitudes, and behaviors about eye care.

According to the findings, the majority of primary health care professionals in the District Chakwal region have little understanding of eye problems, eye disease causes, diagnosis, and treatment, and their practices in primary eye care are inadequate.

Recommendations

Following are some suggestions based on the study results.

General:

To enhance eye health care standards, regular monitoring and supervision, seminars, and television/radio program should be conducted.

Research on measures to enhance training standards in health-care facilities.

Other measures, such as public awareness campaigns regarding eye care (especially in schools and institutions).

A further in-depth investigation of other health-care employees in different cities throughout Pakistan.

Specific:

In District Chakwal, a well-thought-out method for frequent training of primary health care personnel in basic eye care.

Close collaboration with educational institutions to offer students with fundamental eye care training.

Health care employee's engagement in health care activities be enhanced by better education, higher level of awareness, and by motivational techniques.

Financial and technical assistance are also necessary for delivering high-quality health care, but government funding falls short of demand, particularly in underdeveloped regions like Chakwal.

Strengths of Study:

This is the first research to look at knowledge, attitudes, and practices of primary health care providers of District Chakwal, about eye care.

The findings of this research are likely to provide substantial additions to the literature on primary health care professional's knowledge, attitudes, and practices about eye care in District Chakwal.

Limitations of Study:

It was impossible to include the qualitative component of study. Because this was a cross-sectional research, causation could not be established.

Because the study was restricted in scope, the findings cannot be generalized. The number of participants was restricted in a limited area.

Conflict of interest:

There were no potential conflicts of interest among the writers.

Funding:

It was a self-funded research project. Total expenses were born by the corresponding Author.

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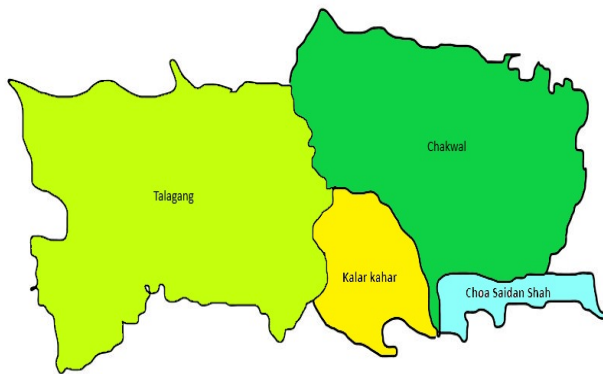
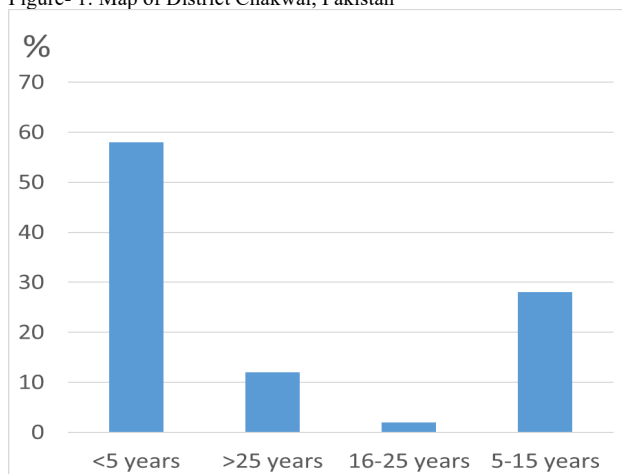Figure- 1: Map of District Chakwal, Pakistan

Figure- 2: The number of years, working as a Health Care Worker
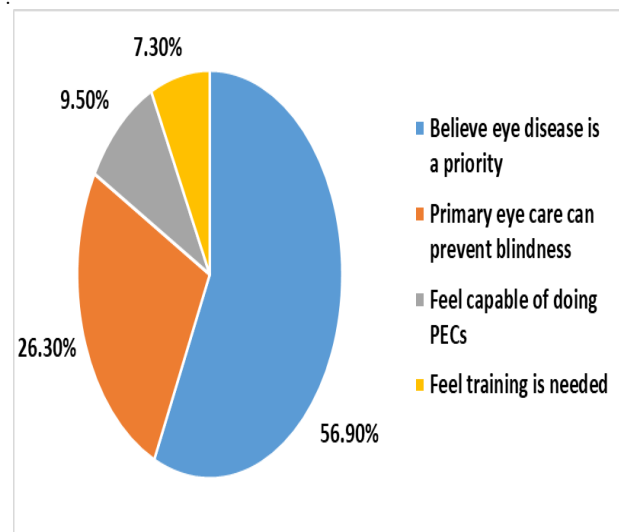

Figure-3: Pie chart showing attitude of primary health care workers towards eye care

Table-1: Age Distribution

Age	Number of participants	Percentage (%)
18-25	51	22
26-40	120	51.7
41-50	57	24.6
51-60	4	1.7

Table 2: Respondent's Socio-demographic characteristics

	Variables	Number of Participants	%
Gender	Female	141	60.8
	Male	91	39.2
Marital Status	Single	98	42.2
	Married	134	57.8
Education	Certificate	9	3.9
	Degree	83	35.8
	Diploma	95	40.9
	Post Graduation	45	19.4

Table 3: Knowledge of primary health care workers about blindness (n=232)

Variables	No. of Participants	(%)
Definition of blindness		
Loss of light perception	108	46.6
Perceive light/ able to see hand movement in front	63	27.2
Unable to count fingers at a distance of 3 meters from the patient with the better eye	24	10.3
I do not know	37	15.9
Cause of Blindness		
Trachoma	93	40.3
Trauma	40	17.2
Cataract	36	15.5
Glaucoma	18	7.8
Aging	14	6
Bacteria	16	6.8
Nutritional Deficiency	8	3.4
I do not know	7	3
Source of Information		
Pre-service training (school)	107	46.1
Mass media/ newspaper/ bulletin	71	30.6
On job training	23	9.9
Colleague at workplace	31	13.4

Table 4: Knowledge of Primary Health Care Workers about Cataract, Trachoma, Vitamin A Deficiency disease (n=232)

Causes of Blindness	Responses	No.	%
Cataract			
Awareness	Had heart about cataract	126	54.3
Definition	Is white spot/ membrane on the eye	123	53
	Lens change, opaque/white	109	47
Causes		108	46.6
	Aging	60	25.9
	Trauma	64	27.5
	Other/no information		
Treatment		120	51.7
	Surgery	112	48.3
	Medical		
Outcomes		109	47
	Curable/ vision restored		
	Non-curable/ vision not restored	123	53
Trachoma			
Awareness	Had heard of trachoma	146	62.9
Signs/Symptoms	Red discharging eye	108	46.6
	Misdirected eye lash	64	27.5
	Itching and tearing	28	12
	White over the eye	32	13.9
Causes/Risk factors	Bacteria	120	51.7
	Unhygienic personal condition	88	37.9
	Flies	14	6.1
	Polluted air/environment	10	4.3
Treatment	Eye medication (ointment)	120	51.7
	Surgery	112	48.3
Vitamin A Deficiency (VAD)			
Awareness	Had heard about VAD	113	48.7
Signs/Symptoms	Night blindness	108	46.6
	Bitot spots	45	19.4
	Dry conjunctiva / cornea	39	16.8
	Cornea opacity/whiteness	40	17.2
Causes/Risk factors	Nutritional Deficiency	112	48.3
	Measles	40	17.2
	Diarrhea	45	19.4
	Others	35	15.1
Treatment	Vitamin A supplementation	123	53
	Immunization of children	50	21.6
	Health and nutritional education	59	25.4

Table 5: Practices of health care workers in primary eye care activities (n=232)

Primary eye care practice activities	Responses	No.	(%)
Awareness creation	Health education on sanitation	127	54.7
	Teaching about the causes of blindness and its effects	54	23.3
	To inform where eye care is available	37	15.9
Prevention activities	Immunization	128	55.2
	Vitamin A supplementation	120	51.7
	Face washing	127	54.7
	Prophylaxis eye ointment for newborn	132	56.9
	Cleaning the living environment	94	40.5
Clinical services	Refer Cataract cases	127	54.7
	Give medications for trachoma	61	26.3
	Refer trachoma cases	18	7.8
	Referring painful red eye	86	37
	Referring eye injury	127	54.7
	Removing conjunctival foreign body	76	32.8
		28	12.1