

## Knowledge of Eye Care Workers among Students of a School of Optical Dispensing Technology in Birnin Kebbi, Nigeria

Monsudi Kehinde Fasasi,<sup>1</sup> Abayomi Olusola Ayodapo,<sup>2</sup> Kehinde K Oladigbolu,<sup>3</sup> Ike Ogbu<sup>1</sup>

<sup>1</sup>Department of Ophthalmology, Federal Medical Centre, Birnin Kebbi, Kebbi State, Nigeria, <sup>2</sup>Department of Family Medicine, Federal Medical Centre, Birnin Kebbi, Kebbi State, Nigeria, <sup>3</sup>Department of Ophthalmology, Ahmadu Bello University Teaching Hospital, Shika-Zaria, Nigeria.

### ABSTRACT

**Background:** Eye care workers comprise of both clinical and non-clinical staff. For effective prevention of blindness and visual impairment the eye care health professionals must work in harmony. Also, the consumer of the eye care services must have good knowledge of these categories of workers to prevent financial loss, ocular morbidity from quackery and late hospital presentation. The objective of this study is to assess student's knowledge on the work of eye care professionals at school of optical dispensing technology Birnin Kebbi, Nigeria. **Methods:** A cross-sectional study was conducted one month among students of School of Optical Dispensing Technology, Birnin Kebbi. A semi-structured questionnaire was used to elicit information which include socio-demographic characteristics, the knowledge of students about eye care team, the composition of eye care team, and the functions of eye care team members. Data entry and analysis was done using SPSS version 20. **Results:** Seventy one students participated, of which 44(62%) were males. The mean age of the participants was  $23.6 \pm 4.8$  years, with age range between 18-48 years. Majority 32 (45.1%) were in the age group of 23 - 27 years. Most 28 (39.4) of the students were in year 2. More than two-third (97.2%) of the students agreed that eye care was a team work. About 98.2% of the students were aware that different cadres of eye care workers exist. Sources of information about eye care team among the students was mainly during workshop or hospital seminar 31 (43.7%) organised by the department of ophthalmology. **Conclusion:** The awareness and knowledge about different cadres of eye care workers was high among the students. The participants agreed that eye care is a team work. The sources of information about eye care team was hospital seminar/workshop organised by the department of ophthalmology.

**Keywords:** eye care team; eye care workers; Kebbi State; school optical and dispense.

### INTRODUCTION

Eye care workers are health workers that are involved in the provision of eye care services. It comprises of clinical and non-clinical staff. The clinical staff include ophthalmologist, medical officer/ resident doctor, cataract surgeon, optometrist, refractionist, nurses (ophthalmic, anaesthetist and general), optician, orthoptist, eye instrument technician and record officer. While, non-clinical staff include: counsellor, driver, clerk, cleaner and cataract manager. Categories of eye care workers needed for effective prevention of blindness and visual impairment were previously reported in Nigeria by Odusote<sup>1</sup> and Adepoju et al.<sup>2</sup> in 1998 and 2011 respectively. This was further elaborated by VISION 2020: Right to Sight. For effective service delivery VISION 2020 recommended specific number of different eye care worker cadre (Table 1) to a million population in cataract services<sup>3</sup>. However, the number of eye care workers are less in developing countries compared to developed countries, and this is militating against achieving VISION 2020 target. In-fact the small

**Table 1. VISION 2020 human resources for eye health and cataract surgery minimum targets for sub-Saharan Africa.**

Cadres	VISION 2020 target per million population
Ophthalmologist	4
Cataract surgeon	10
Ophthalmic clinical officers	10
Ophthalmic nurses	10
Optometrist	20
Mid-level refractionist	20
Cataract surgery rate(CSR)	2000
Cataract surgeries per surgeon (Surgical efficiency ratio)	500

number of eye care workers in developing countries are mal-distributed, most are in the towns leaving most rural areas with no personnel to take care of the large population.<sup>4,5</sup> To achieve better eye care service the service providers (eye care team) and consumer must work hand in hand. Better quality and reasonable charge (VISION 2020 goal) by eye

**Correspondence:** Dr Monsudi Kehinde Fasasi, Department of Ophthalmology, Federal Medical Centre Birnin Kebbi, PMB 1126, Birnin Kebbi, Kebbi State, Nigeria. **Email:** kfmshood@yahoo.co.uk. **Phone:** +2348027938305. **Article received:** 2018-04-18. **Article accepted:** 2019-11-22.

team must be met. The good knowledge of different cadres of eye care workers by the consumers help in preventing morbidity from quackery, financial loss and delay in assessing eye care services.<sup>6</sup> There were many previous studies<sup>2,4,7-12</sup> on the awareness about eye care workers. However, most of these studies were population and hospital based, while few<sup>6</sup> were reported among students, who are important in the spread of eye health education through discussion with friends, parents, and relatives. It is then of paramount importance that this study is conducted among these students to know their knowledge about cadre of eye care workers, to identify the gaps and gain insight on eye care services delivery in Kebbi State.

**METHODS**

This was a descriptive cross-sectional study conducted in August 2017 among the students of the school of optical dispensing technology Birnin Kebbi, using pre-tested semi-structured questionnaires. The school of optical dispensing technology was the first of its kind to be established in Nigeria on the 2<sup>nd</sup> of February 2007 by the Federal Medical Centre Birnin Kebbi. It awards Ordinary National Diploma (OND). Starting with 6 students, the school now boasts of 73 students and 10 lecturers.

The questionnaire was administered to all the students in the school to extract information about the socio-demographic characteristics (age, sex, religion, tribe and year of study), knowledge of students about eye care team, the composition of eye care team, the roles of ophthalmologist, optometrist, optician, ophthalmic nurses, ophthalmic medical assistant, and ophthalmic photographer. The questionnaire was pre-tested among the students of Kebbi State School of nursing Birnin Kebbi and the problems noticed during the pre-test were corrected.

The data was collated and analysed using Statistical Package for the Social Science version 20 (SPSS 2006, Chicago, Illinois, USA). Analysis was done using simple frequency. The Fischer exact was used to test association between parameters. The statistical significance was taken as P<0.05

The ethical clearance for the study was obtained from Research and Ethical Committee of the Federal Medical Centre Birnin Kebbi. Informed written consent was also obtained after the study was explained to each participant.

**RESULTS**

Seventy-one students participated and returned the questionnaires given a response rate of 97.2%. There were more males 44(62%) than females 28 (38%) (M: F = 1.6:1), Table 2. The mean age of the

**Table 2. Age and sex distribution of the participants.**

Age group (years)	Sex		Total
	Male	Female	
18-22yrs	13	18	31
23-27yrs	24	8	32
28-32yrs	4	1	5
33yrs+	3	0	3
Total	44	27	71

**Table 3. Socio-demographic characteristics of the participants.**

Characteristics	Frequency	%
<b>Religion</b>		
Islam	55	77.5
Christian	16	22.5
<b>Marital status</b>		
Married	18	25.4
Single	51	71.8
Divorced	2	2.8
<b>Tribe</b>		
Hausa	47	66.2
Yoruba	6	8.5
Others	18	25.4
<b>Student level year</b>		
Year 1	19	26.8
Year 2	28	39.4
Year 3	24	33.8

participants was 23.6± 4.8years, with age range between 18-48years. Majority 32 (45.1%) were in the age group of 23 - 27years followed by 18- 22years 31(43.7%). Most of the participants were Hausa 47(66.2), single 51 (71.8%) and practise Islam 55(77.5%).

Majority 28 (39.4) of the participants were in year 2, (Table 3). More than two-third (97.2%) of the students agreed that eye care was a team work. About 98.2% of the respondents were aware that different cadres of eye care workers exist. Majority of the participants agreed that the ophthalmologist 95.8%, optometrist 93%, ophthalmic nurses 93%, optician 94.4%, optician dispenser 90.1%, ophthalmic anaesthetist 78.9%, cataract surgeon 73.2%, cleaner in the eye clinic 71.8%, eye instrument technician 70.4%, refractionist 67.6% and record officer 60.6% were part of eye care team. While, half of the participants understood that cataract manager, clerk and driver in the eye clinic were part of the eye care workers (Table 4). However, less than a quarter of the students agreed that general nurses, resident doctor/medical officer, orthoptist and counsellor were part of eye care team (Table 4).

Sources of information about eye care team among the study participants was mainly during workshop or hospital seminar 31 (43.7%) organised by the department of ophthalmology Federal Medical Centre, Birnin Kebbi (Table 5).

**Table 4. Response to the composition of Eye care team by the participants. (n=71)**

Questions	Respond	Number of responses	%
Do you know that eye care is a team work?	Yes	69	97.2
	No	0	0
	I do not know	2	2.8
Ophthalmologist is a part of eye care team?	Yes	68	95.8
	No	2	2.8
	I do not know	1	1.4
Optometrist is a part of eye care team?	Yes	66	93
	No	4	5.6
	I do not know	1	1.4
Ophthalmic nurse is a part of eye care team?	Yes	66	93
	No	3	4.2
	I do not know	2	2.8
Optician is a part of eye care team?	Yes	67	94.4
	No	1	1.4
	I do not know	3	4.2
Cataract manager is a part of eye care team?	Yes	38	53.5
	No	2	16.9
	I do not know	21	29.6
Counsellor is a part of eye care team?	Yes	23	32.4
	No	21	29.6
	I do not know	27	38
Record officer is a part of eye care team?	Yes	43	60.6
	No	14	19.7
	I do not know	14	9.7
Cataract surgeon is a part of eye care team?	Yes	52	3.2
	No	6	8.5
	I do not know	13	18.3
Cleaner in the eye clinic is a part of eye care team?	Yes	51	71.8
	No	10	14.1
	I do not know	10	14.1
Driver of the eye clinic is a part of eye care team?	Yes	37	52.1
	No	15	21.1
	I do not know	19	26.8
Clerk of the eye clinic is a part of eye care team?	Yes	38	53.5
	No	12	16.9
	I do not know	21	29.6
Eye instrument technician is a part of eye care team?	Yes	50	70.4
	No	6	8.5
	I do not know	15	21.1
Ophthalmic anaesthetist nurse is a part of eye care team?	Yes	56	78.9
	No	5	7
	I do not know	10	14.1
Optician dispenser is a part of eye care team?	Yes	64	90.1
	No	2	2.8
	I do not know	5	7
Refractionist is a part of eye care team?	Yes	48	67.6
	No	10	14.1
	I do not know	13	18.3
General nurses is a part of eye care team?	Yes	3	43.7
	No	27	38
	I do not know	13	18.3
Primary eye care worker is a part of eye care team?	Yes	42	59.2
	No	8	11.3
	I do not know	21	29.6
Orthoptist is a part of eye care team?	Yes	23	32.4
	No	16	22.5
	I do not know	32	45.1
Residency/ medical officer is a part of eye care team?	Yes	26	36.6
	No	18	25.4
	I do not know	27	38

**Table 5. Sources of information about eye care team. (n=71)**

Sources of information	Frequency	%
Television	13	18.3
Newspaper	2	2.8
Radio	10	14.1
Friend	7	9.9
Workshop/seminar	31	43.7
Ophthalmologist	8	11.3

**DISCUSSION**

Most of the participants were males with an age range of 18-48 years and mean age of 23.6±4.8 years. The participants' gender characteristics was different from what was reported by Owoeye et al.<sup>6</sup> despite the similarity in the ages of the participants in the two studies. The difference might be because of smaller number of participants in our study. About 98.2% of the respondents in our study were aware that different cadres of eye care workers exist and this was more than 35% reported by Owoeye et al.<sup>6</sup> The difference may be explained by the study participants being opticians in training, hence have better knowledge about eye care cadres. The students have high knowledge of clinical eye care professionals (ophthalmologist 95.8%, optometrist 93% and ophthalmic nurses 93%) which was far better than previous similar study in Nigeria.<sup>6</sup> This difference may also be explained by our study groups being part of the eye care team. However, they had poor knowledge about some of the clinical (general nurses, resident doctor/medical officer, orthoptist, and counsellor) and non-clinical eye care staff. This was not surprising because these sets of workers were not commonly employed in Nigeria Hospitals. This was in agreement with previous studies.<sup>5,13,14</sup> The presence of right proportion of eye care workers has been known to increase the eye care services delivery.<sup>2,6</sup> While, the good knowledge of different cadres of eye workers by the consumers help in the prevention of morbidity from quackery, it will also reduce financial loss and delay in assessing quality eye care services.<sup>6</sup> The good knowledge of eye care cadre in our study may be a positive sign that the eye care services delivery in Kebbi state is on the upward trend. Hospital seminar/workshop organised by ophthalmology department were the main sources of information of the respondents

about knowledge on the eye care workers. This was different from most previous studies.<sup>15-17</sup> but similar to what was reported by Monsudi et al.<sup>18</sup> The difference may be because the students took the workshop/ seminar as part of learning and school program. Also worthy of note is the fact that most of their teachers are from ophthalmology department. Our study revealed the importance of hospital seminar and workshop as a tool in the dissemination of health education. In our study mass media account for 35.2% as a source of information and this was less than what was reported by Adegbehingbe and Bisiriyu.<sup>16</sup> Newspaper was ranked lowest among the participants as a sources of information, this was similar to what was reported from Ile Ife Osun state, Nigeria<sup>16</sup> and by Ichhpujani et al in North India.<sup>17</sup> This shows that most of the students do not read newspaper, possibly because they cannot afford it or see the need for it.

**CONCLUSIONS**

The awareness and knowledge about different cadres of eye care workers among the students was high. Furthermore the participants agreed that eye care is a team work. The sources of information about eye care was hospital seminar/workshop organized by the department of ophthalmology. Hospital management should continue to support hospital seminar/workshop because of it important in disseminations of eye care information among the students.

**Limitations of the study**

Small numbers of study population.

**Conflict of interest and financial disclosure:**

None

**REFERENCES**

1. Odusote KA. Human resources development for the prevention of blindness in Anglophone West Africa. *West Afr J Med*. 1998;17(1):1-8.
2. Adepoju FG, Ayanniyi AA, Pam V, Akanbi TB. Human resource development for Vision 2020 in developing countries: a change from absolute numbers. *Eur J Ophthalmol*. 2011;21(6):820-825.
3. Palmer JJ, Chinanayi F, Gilbert A, Pillay D, Fox S, Jaggernath J, et al. Trends and implications for achieving VISION 2020 human resources for eye health targets in 16 countries of sub-Saharan Africa by the year 2020. *Human resources for health*. 2014;12:45
4. Fasasi K M, Ayanniyi AA. Evaluating resource for cataract surgical services in Kebbi, Nigeria. *Taiwan J Ophthalmol* 2018; 8:87-92
5. Boniface Ikenna Eze, Ferdinnd Chinedu Maduka-Okafor. An assessment of the eye care workforce in Enugu State, south-eastern Nigeria. *Human Resources for Health* 2009;7:38. <https://doi.org/10.1186/1478-4491-7-38>.
6. JFA Owoeye, DS Ademola-Popoola, BJ Adekoya, BD Balogun, VA Olatunji. A study of the level of awareness, of different cadre of eye care providers, Among tertiary Institution Students in Nigeria. *Ann Biomed Sci* 2013; 12 (1) 76:83
7. Eze BI, Okoye O, Aguwa EN. Public's knowledge of the differences between ophthalmologists and optometrists: a critical issue in eye care service utilisation. *Int J Ophthalmol*. 2016;9(9):1336-1342.
8. Wilson MR, Lee DA, Bourque L. Does the public understand the differences between ophthalmologists and optometrists? *Ophthalmic Epidemiol* 1994;1(3):121-129.
9. Guffey R, Juzych N, Juzych M. Patient knowledge of physician responsibilities and their preferences for care in ophthalmology

- teaching clinics. *Ophthalmology* 2009;116 (9):1610-1614.
10. Zeller M, Perruzza E, Austin L, Vohra S, Stephens D, Abdoell M, McKneally M, Levin AV. Parental understanding of the role of trainees in the ophthalmic care of their children. *Ophthalmology*. 2006;113 (12):2292-2297
  11. Ayanniyi AA, Olatunji FO, Adeboye A, Ayanniyi RO. Awareness and knowledge of eye care providers among government workers in Ilorin, Nigeria *Niger Post grad. Med J*. 2010;17 (2):133-137.
  12. Soroka M. Knowledge and use of eye care services by college and professional students: implications for the profession. *Am J Opt Physiol Opt*. 1979;56(3):187-192.
  13. World Health Organization: The World Health Report 2000. Health Systems: Improving Performance. Geneva. 2000
  14. Nwosu SNN: Resources for eye health services in Anambra State I: Ophthalmic manpower. *Nigerian Medical Journal*. 1994, 27 (2&3): 50-54.
  15. Noopur Gupta, Praveen Vashist , Radhika Tandon, Sanjeev K. Gupta, Mani Kalaivani, S. N. Dwivedi. Use of traditional eye medicine and self-medication in rural India: A population-based study.2017 *PLoS ONE* 12(8): e0183461. <https://doi.org/10.1371/journal.pone.0183461>
  16. Adegbehingbe BO, Bisiriyu LA. (2008) Knowledge, attitudes, and self care practices associated with glaucoma among hospital workers in Ile-Ife, Osun State, Nigeria. *Tanzan J Health Res* 10:240–245. pmid:19402586
  17. Ichhpujani P, Bhartiya S, Kataria M, Topiwala P. Knowledge attitude and selfcare practice associated with glaucoma among hospital personnel in a tertiary care center in North India. *J Curr Glaucoma Prac* 2012; 6: 108–112.
  18. KF Monsudi, ES Saka, AO Ayodapo. Health workers awareness and knowledge of glaucoma in tertiary hospital in Birnin Kebbi, Nigeria. *Ophthalmology Research :An International Journal*.2018; 8(2): 1-8

**Citation:** Monsudi KF, Ayodapo AO, Oladigbolu KK, Ogbu I. Knowledge of Eye Care Workers among Students of a School of Optical Dispensing Technology in Birnin Kebbi, Nigeria. *JCMS Nepal*. 2019; 15(4):291-5.