International Journal of Health Sciences and Research
www.ijhsr.org ISSN: 2249-9571

Original Research Article

Low Vision Service Delivery by Optometrists in Ghana

Nyankerh CNA[1], Agyekum S[2], Boateng AK[2], Appah M[3]

[1]Vision Science Graduate Program, School of Optometry, University of Alabama at Birmingham, AL, USA.
[2]Department of Optometry and Vision Science, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.
[3]Department of Neurology, University of Alabama at Birmingham, AL, USA.

Corresponding Author: Agyekum S

ABSTRACT

Aim: To investigate the barriers to the delivery of low vision services by Ghanaian optometrists.
Methods: A short questionnaire was sent to 135 optometrists in Ghana between January to May 2018. The survey collected information on type of practice, year of graduation, type of low vision services provided and if not, the reasons or limitations.
Results: Completed forms were submitted by 128 optometrists and this represents a significant number of practicing optometrists in Ghana. Most optometrists worked in government practice (78.9%) and even though all responder's received training in low vision during their Doctor of Optometry (OD) degree, only 3.1% were delivering such services. Those who did not deliver low vision services attributed most of the reasons to the absence of low vision aids/devices in their practice (95.2%) and therefore made referrals mainly to the Koforidua regional hospital (34.6s%).
Conclusion: Low vision services in Ghana are underdeveloped mainly due to the unavailability of low vision aids. Incorporating low vision delivery into the eyecare system may increase its uptake and reduce the number of visual impairment cases.

Key words: Ghana, low vision, optometrists, rehabilitation.

INTRODUCTION

The International Agency for the Prevention of Blindness reports 0.74 percent of Ghanaians have visual acuity of less than 3/60 in the better eye, with an additional 1.07 percent having severe visual impairment with the main causes being refractive errors (44.4%), followed by cataracts (42.2%). [1] Even though a high prevalence of low vision has been reported, [2] there is low patronage for low vision rehabilitation services. The uptake of eye care services in Ghana have been reported to be influenced by parent's negative perceptions, societal and cultural misconceptions, inadequate resources and absence of collaboration among vision care providers as well as weak national support studies. [2,3] Individuals with low vision have some residual vision which when rehabilitated, can help them live an independent life. Patients with low vision in developed countries are given the appropriate aids/rehabilitation which enables them to become competent print readers and therefore renders Braille unnecessary. In contrast, most of these individuals are referred to schools of the Blind in Ghana. Ocloo [4] reported that children with low vision are educated together with those with blindness; using the same non-visual means predominantly. Indeed, about 40% of students in the schools of the blind in Ghana have been reported to

have varying degrees of low vision with majority of these pupils using Braille because they assume it is been imposed on them. [5] Optometrists in Ghana receive training in the provision of primary low vision services as part of their course requirement in school; however, the practice of low vision is on the downside. There are numerous anecdotes but little research on the topic of referral and provision of services for visually impaired people in Ghana. This situation has led to assumptions that many eye care providers lack interest or do not find the practice of low vision to be rewarding. [6] Even when they do refer patients, most wait until the patients have counting fingers vision, which makes the rehabilitation process much more difficult than it would have been had the patient been sent earlier when the vision was better. Optometrists in Ghana are well suited to provide accessible vision rehabilitation and low vision services due to their distribution nationwide in cities and rural areas. So, what are the reasons that optometrists do not commonly provide low vision services? The aim of this study was to identify barriers to the provision of low vision services by Ghanaian optometrists.

METHOD

The study was a cross sectional descriptive study which used a short questionnaire generated to access the extent of low vision service provision among Ghanaian optometrists. The questionnaire is a modified form used in an earlier study [7] which came in an online and print version to encourage responses; these were anonymous. The survey collected information on type of practice, year of graduation, type of low vision services provided and if not, the reasons or limitations. Most of the questions allowed multiple answers and therefore the percentages totaled more than 100% in such circumstances. All analysis were done using R studio. The study adhered to the tenets of the Declaration of Helsinki and was reviewed and approved by the Committee on Human Research, Publications and Ethics of the Kwame Nkrumah University of Science and Technology, School of Medical Sciences and KomfoAnokye Teaching Hospital, Kumasi-Ghana. All participants gave informed consent in writing.

RESULTS

Table 1. Characteristics of study respondents (n=128)

	n	percent
Type of practice		
Private practice	101	78.9
Government practice	17	13.3
Other	10	7.8
Low vision training		
Doctor of Optometry	128	100
Postgraduate	3	2.3
Provides low vision services	4	3.1

One hundred and thirty-five optometrists were surveyed between January to May 2018, out of which 128 submitted complete responses. The majority 78.9% (101/128) worked in private practice (Table 1) with male and female genders representing 78.1% and 21.9% of total responders respectively. Although all respondents had low vision training during their OD training, only 2.3% (4/128) reported providing low vision services. Out of those that practiced low vision, 75% (3/4) had received postgraduate training. Those practicing low vision had been doing so for about 3.9 ± 2.3years.Low vision practitioners in government practice reported seeing more than100 low vision patients in a year (Table 2). All responders delivering low vision services reported conducting low vision assessment for their patients. As expected, 100% of low vision practitioners had their cases referred from other optometrists. About 64.3% reported getting their referrals from ophthalmologists. Handheld magnifiers and magnifying glasses were the most commonly available aids, 75% and 100% respectively. The availability of field enhancing devices was reported by only one optometrist. Out of the 124 optometrists who do not provide low vision services, the non - availability of low vision aids

accounted for the main reason (95.2%) for not delivering low vision services.

Table 2. Delivery of low vision services (n=4)

	Number of patients seen in a year			
Type of practice (n)	< 10	20-100	>100	Not stated
Private practice (1/4)	0	1	0	0
Government practice (2/4)	0	0	2	0
Other (1/4)	0	1	0	0
Patients are referred from			**n**	**percent**
Own practice			0	-
Ophthalmologists			2	50
Optometrists			4	100
General practitioners			1	25
Ophthalmic nurses			2	50
Others			4	100
Assessment provided			**n**	**percent**
Low vision history taking			4	100
Vision assessment			4	100
Others			2	50
	for patient demonstration		**for purchase**	
Low vision devices available	**n**	**percent**	**n**	**percent**
Handheld magnifiers	3	75	2	50
Stand magnifiers	2	50	1	25
Telescopes	1	25	1	25
Magnifying glasses	4	100	4	100
CCTV	1	25	1	25
Field enhancing devices	0	-	0	-
Others	2	50	2	50

Table 3. Responses of non-low vision practitioners (n=124)

Reasons for not providing low vision services	**n**	**percent**
Lack of adequate training	56	43.8
Lack of interest/motivation	52	41.9
Non availability of low vision aids	118	95.2
Low vision services are time consuming	78	62.9
Low vision care is less profitable	28	22.6
Others	15	12.1
Ways to improve low vision service delivery		
Advanced training in low vision	65	85.5
Creating public awareness	74	97.4
Incorporating low vision delivery in eye clinics	74	97.4
Others	14	18.4
Referral hospitals for low vision patients		
Koforidua Regional Hospital	43	34.7
KomfoAnokye Teaching Hospital	26	21.0
Korle-Bu Teaching Hospital	31	25.0
Ghana Blind Union	15	12.1
37 Military Hospital	9	7.3
Others	17	13.7

Surprisingly, most responders considered the time-consuming nature of low vision practice too as a barrier. Most of these non-low vision practitioners referred low vision cases to the Koforidua regional hospital (34.7%) and the Korle-Bu Teaching Hospital (25%), (Table 3).

DISCUSSION

To the knowledge of the authors, this is the first exploratory survey on the barriers to low vision delivery by optometrists in Ghana. In Ghana, optometrists are relatively spread more evenly geographically in cities and rural areas compared to other eye care practitioners. Also, every optometrist in Ghana has been trained to provide low vision assessment and rehabilitation. Therefore, optometrists are well suited to deliver accessible low vision services. The main objective of this study was to determine the barriers for the delivery of these services by optometrists in Ghana. Most people with low vision retain some useful vision that when rehabilitated with optical devices, can help to maximize the residual sight and improve quality of life. Indeed, the effectiveness of low vision rehabilitation has been demonstrated in several studies; [8,9] but despite these benefits, low vision service delivery rates are alarmingly low in Ghana. About 40% of students in the schools of the blind who use braille for learning have been reported to have some useful sight.[5]Despite the urgent demand for low vision services, few (4/128) optometrists reported delivering low vision services in their practice. Devices for near work were the commonest visual aids which corroborates findings by Ogbomo and

colleagues. [10] Results from this current study show the inaccessibility of visual aids for patients with field loss (e.g. hemianopes) and those needing them for far work. This shows how mobility may be limited for the cohort of patients who will need them. Also, it's imperative to state that the optometrists who reported practicing low vision have had some sought of post-graduate low vision training overseas; this is of no surprise since there is no such training in Ghana. Most optometrists who do not practice low vision reported referring patients to the Koforidua regional hospital (34.7%), Korle-Bu teaching hospital (25%) and the Komfo Anokye teaching hospital (21%). It is noteworthy that these hospitals are found in the capital cities of the three most developed regions of Ghana. With an aging population, many of those affected will be among the oldest and will be unable to travel long distances for such services. Due to the expensive nature of these devices, an insurance plan that absorbs some of these costs may be beneficial. In Ghana, the national health insurance scheme (NHIS) which is a government sponsored program designed to cater for the health care needs of its citizenry does not support costs associated with devices for vision rehabilitation. This imposes a huge burden on the patients most of whom are unemployable or have lost their jobs as a result of them being visually impaired. Since costs is a major barrier to the delivery and uptake of low vision services among patients, any national health and social policy on eye care which considers the blind should consider the plight of persons with low vision as well. The NHIS could include basic and less expensive devices for improving the everyday lives of persons with low vision in the benefits package of the scheme. Counselling sessions included as part of the care package for persons with low vision visiting large tertiary hospital such as the Korle-Bu Teaching Hospital is essential. This calls for increased role of other professionals like clinical psychologist in the eye care team. Therefore, there should bead vocacy for increased remuneration for low vision practitioners and a moderate reimbursement for low vision devices. With these in place, Optometrists in Ghanamay strive to expand optometric primary care services to include low vision and improve access to care for Ghanaians with low vision. Also, optometrists together with other eye care practitioners have a central role in advancing the provision of low vision services in Ghana. Education is also very important since most visually impaired people would avail themselves of these services if they would only be told about them.

This study's findings highlight potential areas for action: building confidence of optometrists by providing 'refresher' training for those interested in low vision care but who see few patients with low vision and by increasing optometrists' access to low vision devices. Extensive research is needed on the on the characteristics of low vision patients as well as the factors that influence its utilization among patients.

REFERENCES

1. https://www.iapb.org/vision-2020/ghana-national-blindness-and-visual-impairment-study/
2. Ntim-Amponsah CT. Childhood Visual Impairment and Unmet Low-vision Care in Blind School Students in Ghana. Journal-Childhood Visual Impairment and Unmet Low-vision Care in Blind School Students in Ghana. 2012.
3. Akafo SK, Hagan M. Causes of childhood blindness in Southern Ghana- a blind school survey. Ghana Med J. 1990;24:113-9.
4. Ocloo MA. The use of instructional technology in teaching children with low vision in Ghana. Ghana Educational Media & Technology Association Journal. 1998; 2:81-5.
5. Ntim-Amponsah CT, Amoaku WM. Causes of childhood visual impairment and unmet low-vision care in blind school students in Ghana. International ophthalmology. 2008 Oct 1;28(5):317-23.
6. Gadagbui GY, Ocloo MA. The attitude of children with low vision towards braille as a

system of written communication in schools for the blind in Ghana.
7. Lim HY, O'Connor PM, Keeffe JE. Low vision services provided by optometrists in Victoria, Australia. Clinical and Experimental Optometry. 2008 Mar;91(2): 177-82.
8. Stelmack JA, Tang XC, Reda DJ, Rinne S, Mancil RM, Massof RW. Outcomes of the veterans affairs low vision intervention trial (LOVIT). Archives of Ophthalmology. 2008 May 1;126(5):608-17
9. Hinds A, Sinclair A, Park J, Suttie A, Paterson H, Macdonald M. Impact of an interdisciplinary low vision service on the quality of life of low vision patients. British Journal of Ophthalmology. 2003 Nov 1;87(11):1391-6.
10. Ovenseri-Ogbomo GO, Akpalaba RE, Osafo-Agyei H, Addy J, Ovenseri EO. Impact of low vision services on the quality of life of low vision patients in Ghana. African Vision and Eye Health. 2016 Jan 1;75(1):1-5.

SUPPLEMENTARY QUESTIONNAIRE

1. Age:
2. Sex:
3. Type of practice:
- Private practice
- Government practice
- Other: please specify----------

4. What level of training do you have in low vision?
- Doctor of optometry
- Postgraduate

LOW VISION SERVICES ARE PROVIDED

5. Do you provide low vision services? A. Yes B. No
If yes, how many years of practice?
6. How many patients with low vision do you see per year?
- <20
- 20- 100
- >100

7. Where are these patients usually referred from?
- Own practice
- Ophthalmologists
- Optometrists
- General practitioners
- Ophthalmic nurses
- Other: please specify----------

8. What assessments are you likely to provide for the next five low vision patients?

a. Low vision history taking
- Medical
- General functional
- Illumination and contrast
- Daily living skills
- Mobility
- Objectives and expectations
- Other: please specify _____

b. Vision assessment
- Distance visual acuity
- Near visual acuity
- Refraction
- Visual fields
- Contrast sensitivity
- Other: please specify----------

9. What low vision equipment do you have available for purchase in your practice?
- Handheld magnifiers
- Stand magnifiers
- Telescopes
- Magnifying glasses
- CCTV
- Field enhancing devices
- Others; please specify----------

LOW VISION SERVICES ARE NOT PROVIDED

10. According to you what are the major barriers that you face in your practice in providing low vision care? (Tick all that apply)
- Lack of adequate training
- Lack of interest or motivation
- Non availability of low vision aids
- Low vision services are time consuming
- Low vision care is less profitable
- Others

11. According to you, how can we improve low vision practice?
- Advanced training in low vision
- Creating public awareness
- Incorporating low vision delivery in eye clinics
- Others

12. Where do you refer low vision patients to?
- Koforidua Regional Hospital
- KomfoAnokye Teaching Hospital
- Korle-Bu Teaching Hospital
- Ghana Blind Union
- 37 Military Hospital
- Others

How to cite this article: Nyankerh CNA, Agyekum S, Boateng AK et.al. Low vision service delivery by Optometrists in Ghana. Int J Health Sci Res. 2019; 9(11):115-119.

******