Achieving Access to Eye Care Services through Primary Health Care Facilities: Current Situation in Nigeria

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ABSTRACT

Background: Provision of eye care services at primary health care facilities is essential for the elimination of avoidable blindness by 2020. This study examines the current resources and services available for eye patients at the primary health care facilities in Cross River State, Nigeria.

Methods: A cross-sectional study was conducted using quantitative and qualitative methods of data collection. A multistage random sampling technique was used to select 12 primary health care facilities and 146 participants. Data were collected using a semi-structured questionnaire and an observation check list.

Results: Of the 146 primary health care workers, 136 (93.2%) were females, about 58.2% were community health extension workers and 13% were nurses. Only eight (5.5%) workers had primary eye care training, 14 (9.6%) provided visual acuity assessment and pen torch examination. Referral of eye cases was done by 'word of mouth' without records and follow up. Health education was routinely done but lacked appropriate vision promotion content.

Conclusions: The primary health care facilities were not adequately staffed and equipped to provide eye care services. Policy on primary eye care integration, adequate training of existing human resources and provision of equipment for primary eye care services are sorely needed.

INTRODUCTION

Primary eye care services provide care for all ophthalmic conditions including referral, follow-up, preventive and rehabilitative care of selected ophthalmic conditions [1]. The services include promotion of eye health through health education and provision of basic preventive and curative treatment for common eye disorders [2]. The content of primary eye care delivery is country specific and dependent on the available resources and facilities [1]. The elimination of avoidable blindness requires development of human resources and infrastructure at all levels [3]. According to Prozesky, the availability and distribution of human and material resources for eye care is associated with the quality of eye care delivery, its uptake and, therefore, on blindness prevention [4].

Primary eye care services are essential for the identification and treatment of common ocular problems and reduction of avoidable blindness. These include provision of essential, affordable, equitable, accessible, knowledgeable, responsive, efficient, practical and sustainable eye care to the general population [1,5,6]. The delivery of these services uses the horizontal integration matrix model proposed by the World Health Organization (WHO) to incorporate Primary Eye Care (PEC) programmes into the existing Primary Health Care (PHC) structure [7]. In the developing world where avoidable blindness constitutes a major public health problem, primary eye care should be an integral part of primary health care. This, however, is not the case in most States in Nigeria [2]. In this context, priority should be given to identification of necessary workforce, equipment and eye care services available at the primary level of care. A study of suitability of ophthalmic cases presenting to a Nigerian tertiary health facility showed that overwhelmingly, most of the patients directly accessed eye care at the tertiary level, even though most of their ailments could have been satisfactorily treated at the lower facilities of health care if the latter were functioning effectively [8].

According to Mahmoud et al, there is a need for a better coordinated and strengthened health care system, particularly at the primary and secondary health care facilities as this would ease the burden of inappropriate presentations on tertiary health facilities in Nigeria [8]. We, therefore, sought to assess the human and material resources available at the primary health care facilities for the delivery of primary eye care in Cross River State, South Nigeria. This is a necessary step because the main causes of blindness in Nigeria are avoidable and can be prevented at the primary health care level. Nigeria needs an effective primary eye care delivery system to meet up with the global eye care action plan of 25% reduction in the prevalence of visual impairment by 2019.

MATERIALS AND METHODS

Study Design and Setting

We used a descriptive cross-sectional design. Using both qualitative and quantitative methods, the study focused on describing and interpreting the existing state of eye care delivery at the primary health care centres. The population for the study consisted of primary health centre (PHC) staff providing health care at the primary health care facilities. A multistage random sampling method was used to select PHC facilities in the communities in Cross River State. Cross River State with a population of about 3.1 million has 18 Local Government Areas (LGA) and three Senatorial Districts (Southern, Central and North). In the first stage, one LGA each was randomly selected from a list of LGAs in each of the three senatorial districts/health zones. As there is at least one PHC in a population ward/community, four wards were selected per LGA using simple random sampling. In each of the selected wards, one PHC centre was randomly selected. Thus, a total of 12 PHC facilities (4 per zone) were sampled. In addition, a total of 146 PHC staff were sampled for the study.

Data Collection Tools

Data were collected using both qualitative and quantitative methods. A pre-tested semi-structured questionnaire was used to obtain required information on demographic characteristics of the workers, human resources, infrastructure, health technology, equipment,
consumable supply available for eye care services, eye care services provided at the centre, level of integration of eye care services with the PHC centres activities and information on any previous training on eye care services. The questionnaire was administered to all PHC workers of the 12 selected centres which came to a total of 146 staff (primary health care providers and support staff). A check list was developed and used for observation of the facility and activities at the centres. Items investigated were the state of the primary health care facility, the placement of visual acuity chart, available basic eye care instruments, care procedures, hygiene practices, record book for cases seen, referral forms and procedures, number of staff with skills or training on basic eye care. Four field assistants (two optometrists, one public health practitioner, one community worker) were recruited and trained for two days by the chief researcher. Check list of facilities, equipment, personnel strength and services was usually done before administration of the questionnaire.

Ethical Considerations

Ethical approval was granted by the Cross River State ethics committee before commencement of the research. Consent was obtained both verbally and in writing from all participants before data collection.

Statistical Analyses

All quantitative analyses were conducted using SPSS version 20 (IBM, NY, USA) and Microsoft Excel. Data are presented in frequency tables. The instrument for data collection was pre-tested for reliability, validity and objectivity in one randomly selected PHC centre in Calabar South LGA one week before the main research started.

RESULTS

Characteristics of the Participants

Table 1 gives the socio-demographic characteristics of the participants. A total of 146 health care providers were interviewed using the questionnaire, of which, 136 (93.2%) were females, and more than half (54.8%) were under
40 years of age. A large proportion (58.2%) was community health extension workers.

**Availability of Ophthalmic Equipment**

Visual acuity charts and pen torches were the only ophthalmic equipments available at some of the centres visited. Visual acuity charts were available at 11 of the 12 centres and pen torches were available at five of the 12 centres. None of the PHC facility had any other equipment available for basic eye care delivery like ophthalmoscope, retinoscope, tonometer, and trial lens box. The available visual charts and pen torches were donated by NGOs working the State.

**Assessment of the Ophthalmic Services**

Assessment of the ophthalmic services provided at the PHC centres showed that only four centres (33.3%) provided visual acuity tests and referred patients when necessary. Only one facility had the chart displayed on the wall while the others kept it locked-up in cabinets. All the facilities visited provided health education but most of them lacked information on eye health with only two centres mentioned that they provide information on the need for immunization to avoid blindness from measles during health education talks with their clients. All the surveyed facilities referred eye care cases that presented to them. All the referrals were by word of mouth, and no follow-up or referral forms were available as shown in Table 2.

<table>
<thead>
<tr>
<th>Ophthalmic Services</th>
<th>Primary Health Care Centres Providing the Services</th>
<th>n</th>
<th>%</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Education</td>
<td>12</td>
<td>100</td>
<td></td>
<td>Routinely done</td>
</tr>
<tr>
<td>Eye Health Education</td>
<td>2</td>
<td>16.7</td>
<td></td>
<td>Not routinely done</td>
</tr>
<tr>
<td>Ocular First Aid</td>
<td>1</td>
<td>8.0</td>
<td></td>
<td>Dispense antibiotic eye drops</td>
</tr>
<tr>
<td>Eye examination with pen torch</td>
<td>1</td>
<td>8.0</td>
<td></td>
<td>Not routinely done</td>
</tr>
<tr>
<td>Referral</td>
<td>12</td>
<td>100</td>
<td></td>
<td>By word of mouth</td>
</tr>
</tbody>
</table>

## DISCUSSION

A total of 146 service providers across the 12 selected PHC centres in Cross River State participated in the study. The majority of the participants were females, and a large proportion was between 30 to 49 years. Our finding is similar to that of Tanzania, Kenya and Malawi where 70%, 66% and 51% of the PHC workers were females, respectively [9]. The majority of the PHC workers were community health extension workers (Junior and Senior), accounting for 58% of the work force. Only three medical doctors were part of the study representing the three LGAs. Only one PHC centre recorder was available in the 12 PHC visited. In a similar study in Nigeria by Eze and Maduka-Okafor, a majority of the health care force at the PHC centers were community health extension workers (CHEWs) [10]. Among the participants only eight (5.5%) had received training in eye care assessment. In a similar study carried in south western Nigeria, none of the primary health care workers have had any training in eye care [11]. Irrespective of the staffing of the centers, the CHEWs can be trained to provide eye care services in the absence of a primary eye care professional. According to Kalua et al, nurses accounted for 55% of the PHC workers in Tanzania, 72% in Kenya and 27% in Malawi [9]. Those who said they had received eye training were 34%, 97% and 28% for Tanzania, Kenya and Malawi, respectively. In some centers, 14 (9.6%) PHC workers were able to provide basic eye care due
to the presence of trained personnel. A checklist of categories of primary health care worker revealed the absence of ophthalmic nurses, optometrists and other eye health care providers. Only one facility had the visual acuity chart displayed at the reception area. The pen torches available in some facilities were not functional. It was observed that referral for eye care was by word of mouth, no referral forms were available, and follow-up of cases was done by the care providers. The centres, however, have provided immunization, antenatal, postnatal care and other health care services.

CONCLUSIONS

The purpose of this study was to assess the current situation of eye care services provided at the PHC facilities in Cross River State Nigeria. The results confirmed that primary eye care is not fully integrated into the services provided at the facilities. Basic eye care services such as visual acuity test, pen torch examination, eye health education, diagnosis and management of minor eye conditions are not routinely provided, in addition to weak referral system. This could be due to lack of adequately trained manpower, enabling eye care policy and lack of basic equipment for eye care. The current situation of primary eye care in the State was as unhealthy for the eye health of the populace. Provision of required resources, facilities and empowerment of staff would help improve the state of eye care services.

AUTHORS’ CONTRIBUTIONS

BNE conceptualised the research and participated in all stages of the research. AON and AE participated in data collection. NO and NA provided professional guidance and supervision. All authors have read and approved the final manuscript.

CONFLICT OF INTEREST

Authors have declared that no competing interests exist.

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