

COMMUNITY OPHTHALMOLOGY

Screening for visual Impairment among pupils in primary schools in Mbalmayo

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Background: Mbalmayo town is located 50 km away from Yaoundé, the capital city of Cameroon. It has 37 public schools and 12 private schools, with over 17,278 pupils. School eye health programme is a public health priority in Cameroon with weaknesses in its policies including, a lack of national protocol for visual impairment (VI) screening, few specialists engaged in the process, no effective reference centres for the screened, and no school eye health rapid assessment (SEHRA) data available. This led us to determine the prevalence of visual impairment among primary school pupils in Mbalmayo.

Methods: It was a cross-sectional study, conducted between December 2021 and June 2022, in 12 purposively selected primary schools within Mbalmayo that were located less than 5 km from Mbalmayo District hospital and were easily accessible by car. The visual acuity (VA) of pupils in class 1 through class 6 was tested using the E Snellen chart. The vision testing was conducted by 4 teams of 3 persons each. The teams consisted of second-year student ophthalmic nurses and third-year student opticians. Visual impairment was set at VA \leq 6/9 in at least one eye, with or without any optical correction. Parents of those with visual impairment (VI) were invited by a phone call or a letter to bring

their children for an ophthalmic examination at the Mbalmayo District Hospital.

Results: A total of 9061 pupils aged between 5 and 15 years under went VA testing. There was a female predominance of 51.4%. 364 pupils were visually impaired, giving a prevalence of 4 %. Of these, 153 pupils presented at the hospital, that is 42.2 % of those requiring ophthalmic assessment. Of those who showed up, 21.6 % had no VI (i.e.false positives). Ocular disorders found included: refractive errors (77.1%), allergic conjunctivitis (5.2%), strabismus (3.3%), suspected glaucoma (3.3%), oculocutaneous albinism (3.3%) and cataract (1.3%). Refractive errors included astigmatism (56%), hypermetropia (35%), and myopia (9%). The summed-up prevalences for all types of myopias (myopic astigmatism and spherical myopia) revealed aprevalence of 37.5% (Table 1).

Table 1: Distribution of ametropia

Ametropia	% (n = 140)
Astigmatism	56
Myopic	28.5
Hyperopic	19
Mixed	08.5
Spherical hypermetropia	35
Spherical myopia	09

Discussion: The prevalence of VI in this study is less than those from other African studies done in Ethiopia¹, Nigeria² and Tanzania³ which were 5.2%, 6.9% and 10.2%, respectively. This discrepancy could be explained by different cut-off points for VI.A low proportion of pupils showed up for the hospital phase of the investigation. This is best explained by our weak referral system, as opposed to the smartphone-based screening technique⁴, which could greatly enhance hospital referrals. We also found the need for more training of the screeners in order to reduce false positive rate. Because they were students in their final year of training, it was expected that they knew how to measure visual acuity, so we didn't perform a

training session. In our next screening, we should train them and get a good level of agreement of teams to standardize our procedures. All forms of astigmatism were the major form in the varied ametropia noted, as opposed to hospital-based findings in Cameroon that reveal spherical hypermetropia instead⁵. Myopias were highly prevalent, consistent with worldwide trends and is probably explained by excessive near-work or screen time of our pupils⁶.

Conclusion: Vision impairment among pupils in Mbalmayo is prevalent at 4%. Refractive disorders were the main aetiologies for vision impairment.

Keywords: Screening, visual impairment, primary school

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Effect of presbyopic correction on vision related quality of life among Nigerian public secondary school teachers.

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Background: Presbyopia which blurs near sight in the aging populace worldwide, can be much more bothersome among school teachers who typically read and write both at work and at home to prepare lessons and grade pupils' papers. The aim of this study was to determine the effect of presbyopic correction on vision-related quality of life (VRQOL) among public secondary school teachers in Lokoja, Nigeria.

Methods: This was a quasi-experimental study and 329 public secondary school teachers aged 35 years and above were recruited. All teachers had both distance and near visual acuity (VA) assessments, those with VA worse than 6/18 had refraction done. Teachers with uncorrected presbyopia and those with inappropriate spectacles received near correction and their VRQOL was reassessed two months after. Statistical analysis was performed using IBM-SPSS version 22. Paired T-test was used to determine any differences in between the VRQOL scores before and after treatment of presbyopia.

Results: The mean age of the selected teachers was 45.9±6.49 years with a female to male ratio of 3.2:1. The prevalence of presbyopia was 71.1%.