

Prevalence and Pattern of Colour Vision Disorders Among Secondary School Students in Emohua Local Government Area, Nigeria.

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Background: Colour Vision Disorders (CVDs) are defined as a defective perception of colour^[1,2]. Although CVDs are thought not to impact significantly in daily living and final educational attainment^[3], several studies have however noted difficulties faced by individuals with CVDs in performing daily tasks^[4,5]. Colour vision is also a requirement in certain occupations which involve the use of colour^[6]. The study was carried out to determine the prevalence and pattern of CVDs in students with the aim to confirm its existence, magnitude and serve as a basis for future studies on its impact and advocacy for its inclusion in Pre-school screening.

Methods: A community based descriptive cross sectional study carried out on 1000 public secondary school students using multistage simple random sampling of public secondary schools in Emohua Local Government Area (LGA), Rivers State. Interviewer administered questionnaires were used to access demographic information including past medical history, drug history, use of topical medications. The Ishihara 24 plate colour vision test was used to determine the prevalence of CVDs while the Farnsworth Munsell D15 test was used to determine the pattern/severity of the colour vision disorders. Data analyses were done using the Statistical Package for Social Sciences (SPSS) Version 20.0.

Results: The study population consisted of 1000 secondary school students (494 males and 506 females). The mean age of the included subjects was 14.3 ±1.8years. The Prevalence of CVDs was

2.8%, with higher prevalence of 2.1% in males and lower prevalence of 0.7% in females (p-value

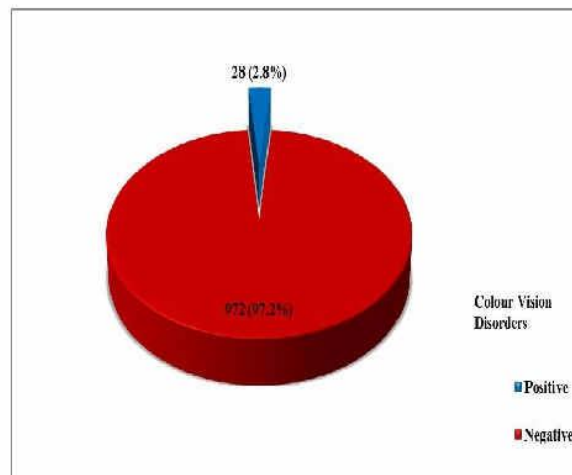


Fig. 1: Prevalence of CVDs among the study population

moderate or severe variant. 73.9% of those affected suggested a family history of CVDs. 76.6% of the population studied were not aware of CVDs. **Discussion/Conclusion:** The study showed a significant prevalence of CVDs in Emohua LGA, which was similar to results noted by Tabansi *et al*,⁷Nwosu *et al*,^[8] and Ugalahi *et al*[9]. Although a higher proportion were of the mild and moderate severity as also noted by Niroula *et al*^[10], a significant proportion (14.3%) were also of the severe variant. Awareness about CVDs was noted to be low. The outcome of the study buttresses the need to carry out more studies to assess the impact of CVD on daily activities which will serve as a basis to advocate for its inclusion in screening programmes and vocational counselling.

Table 1: Pattern and severity of the different types of CVDs

Severity	Deutan n (%)	Protan n (%)	Tritan n (%)	Unclassified n (%)	Total
Mild	7 (25.0)	2 (7.1)	1 (3.6)	4 (14.3)	14 (50.0)
Moderate	7 (25.0)	2 (7.2)	1 (3.5)	0 (0.0)	10 (35.7)
Severe	4 (14.3)	0 (0.0)	0 (0.0)	0 (0.0)	4 (14.3)
X ²	1.000	2.140	2.000	8.301	
p-value	0.606	0.341	0.312	0.016	
Total	18 (64.3)	4 (14.3)	2 (7.1)	4 (14.3)	28 (100.0)

<0.05). Deutan colour blindness accounted for 1.8%, protan 0.4% and tritan 0.2% of those with colour vision disorders. 50% of those colour blind were of the mild variant of CVD while 35.7% were of the moderate variant and 14.3% of the severe variant as shown below. Table 1 shows the pattern and severity of the different types of CVDs. Those in the unclassified group were predominantly of the mild variety. The p value even though significant is not valid as the variables were skewed i.e no individuals in the unclassified group were of the

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