Tripolitana Medical Journal; 2014, Vol. 3, No. 2, pp. 89-90

tmj

Short Communication

ISSN 2077-5628

The Incidence of Colour Blindness among Some School Children of Tripoli City-Libya

Mahjiub Zendah[1@] and Ahmed Sulaiman[2]

[1]Department of Physiology; [2]Department of Anatomy, Faculty of Medicine, University of Tripoli, Libya

Received 20 November 2014/ Accepted 15 December 2014

ABSTRACT

To investigate incidence of colour blindness in children of Tripoli (North Libya), a survey was conducted using Ishihara's Colour Plates chart. In the present study randomly six primary schools were selected. The total number of school children was 1178 (584 boys, 594 girls), age group was 6 to 13 years. Among 584 boys, 13 boys were colour blind with the prevalence of 2.22 %, and 5 girls were found to be colour blind with the prevalence of 0.84%. The average incidence of colour blindness was 1.52%. Studies on colour blindness in Libya are very few; this student-based investigation is meant to fill a gap in this field.

Keywords - *Colour blindness; School children; Tripoli city.*

INTRODUCTION

Colour blindness is the inability or decreased ability to see colour, or perceive colour differences, under normal lighting conditions.

Colour blindness is most frequently inherited as sex-linked recessive disorder, and can also be produced by physical or chemical damage to the eye. Its incidence is much more common in males as compared to females.[1-3]

There are two major inherited types of colour blindness: those who have difficulty distinguishing between red and green[4], and who have difficulty distinguishing between blue and yellow.[5] Various professions require normal colour vision. A colour blind person should therefore be advised against training for such occupation as electrical jobs, navigators, pilots, police and aircraft maintenance workers.[6]

This inability to see colours vary from race to race and different in the different geographical regions of the world inhrrited by people of different ethnicity. The maximum incidence of this inability to see colours has been reported mostly of the European Whites[7, 8] and the minimum from certain regions of Africa.[9,10] and the Asian population being between these races.[1,6,11] Although the incidence of colour blindness has been reported from various populations of several countries, no study appears to have been reported for the Libyan children. This study was done to investigate the incidence of colour blindness among the school children of Tripoli city, North Libya.

MATERIALS AND METHODS

This study was conducted among Libyan students of preliminary schools in Tripoli city. The total number of students was 1178 individuals (584 boys and 594 girls) from grade 1 to grade 6 with age between (6 to 13 years). Colour vision was tested by using Ishihara's Chart (24 plates). Subject were asked to seat in a room with sufficient light and read all the plates keeping it 33 cm away from the eyes and each of their readings was recorded.

RESULTS

In the present study 1187 school children (boys 584, girls 594, age 8.45 ± 1.7 years) from six schools of Tripoli city were slected. The distribution of colour blindness among the subjects of the present study is presented in Table 1. Among the boys 13 were colour blind with a prevalence of 2.22% and only 5 of the girls were found to be colour blind with a prevalence of 0.84%. The average incidence of colour blindness was 1.52%.

Table 1: Percentage colour blind

Sex	Number examined	Number of colour blind	Percentage (%)
Male	584	13	2.22
Female	594	5	0.84
Total	1178	18	1.52

DISCUSSION

The percentage distributions of colour blindness in different countries are found to be variable: in our finding the prevalence of colour blindness among the boys 2.2% were found to be higher than African countries like Uganda, 1.9%[10] and Congo, 1.8%.[9] But less than the European whites, 8.0%[7], American, 8.0%[8] and Asian countries like Singapore, 5.3%[11], Philippine, 5.13%.[1] and Nepal 3.8%.[12] However, some researchers reported that none of the girls were found to be colour blind.[12-16] But in few studies colour blindness were detected among girls, our finding 0.84% corroborates with the other observations 0.2% in Singapore[11], 0.4% in Korea.[17] and 0.4% in Tehran[2] while it was similar 0.84% amongst the Indian females.[18] The maximum incidence of colour blindness in females 1.37% has been reported in Iraq (Erbil city).[19]

@Author to whom correspondence should be addressed. Dr. Mahjiub Zendah; Tel + 00218926462027; E mail: mahjubzendah@gmail.com

CONCLUSION

2.2% of boys and 0.84% of girls were found to be colour blind in this Libyan-based study. Although the Ishihara test proved useful in identifying colour-blind children, further study in a large sample with different age and other tests are necessary to accurately classify the types of blindness in Libyan population.

AKNOWLEDGMENT

We would like to thank Sidiq Igbili, Zubida Regeai, research assistant, Department of Physiology and Seham Othman, research assistant, Department of Anatomy for unreserved assistance in the field wok during data collection. We are also thankful to all staffs and students of various schools, who helped us and participated as subjects in this study.

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