E ect o Tinted Lenses on Near Contrast Sensitivity

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Abstract

Tinted lenses are known to infuence contrast sensitivity by interfering with light transmission. The aim of this study was to investigate the efect of diferent gradings of grey tinted lenses such as 15% and 25% on near contrast sensitivity. Forty-four healthy individuals including sixteen males and twenty-eight females participated in this study. The mean age was 22.09 ± 1.84 years with mean spherical equivalent of -2.22 ± 1.71D. Contrast sensitivity was measured by using near FACT chart with only 6cpd spatial frequency was measured. The ysensitivity without any tinted lenses and with the < 0.001. In this study, it could be noted that contrast sensitivity at 6cpd was higher with the 15% tinted lens followed by the habitual state and a reduction was also found with the 25% tinted lens. Therefore, to conclude, it is of utmost importance to consider the spatial aspects of tasks and the efect of tints on contrast sensitivity before prescribing

Keywords: [illegible]

Introduction

[illegible] [1]. [illegible] [2]. [illegible] [3]. [illegible] [4]. [illegible] [1]. [illegible] [3].

[illegible] [5]. [illegible] [6]. [illegible] -6D, [illegible] [7]. [illegible] [8]. [illegible] [9].

[illegible] 6cpd [illegible] 12 and 18cpd. [illegible] 1.5 and 3cpd. [illegible] [2]. [illegible] [2]. [illegible]

[illegible] Raabe, Kinni, and Lee [illegible] 15% and 25% [illegible] [1].

Materials and Methods

[illegible] & Vision Science, SEGi University, Kota Damansara. [illegible] 44 [illegible] 22.09 ± 1.84 years [illegible] 16 [illegible] 28 [illegible] 19

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29 ea d, e e e a d e -6.00 DS. i h a ig a i le ha -1.00DC a d. i a ac i 6/6 be e a di a ce a d N5 a ea , i h c la a h g ge a d ea b ea i e f e ha e ec d . I di id a h did ee he i c i c i e ia i c di g c ac le ea e e e e c ded f he d M e e , f d h a a e f ic b ec e ha -4.00DS b i g COBRA HD f d ca e a (CSO, Sca dicci, Fi e e, I a). I addi i , bef e ceedi g i h he d he c e f he b ec a b ai ed a d i c i ab he ced e e e gi e he C a e i i i a ea ed b i g a ea FACT cha laced a 46c a ca led d a d 6c d a ia l f e e c a ea ed. Nea c a e i i i ea e e i h he habi a a e a a e , he he a l be f b ec a a d di ided i 2 g a e A a d B. e ea c a e i i i f g A a ec ded i h a 15% g e i ed le (HOYA T e G e Na a l F-15F) a h i Fig e 1 a d he ea e e f g B a a e i h a 25% g e i ed le (HOYA T e G e Rich F-25F) a h i Fig e 2. e ea e e a he e ea ed i h 25% a d 15% i ed le f g A a d B e ec i e i de e e bia e f e . e b ec had a e b ide if i g he di ec i f he g a i g ha i le , igh , aigh ( ) f di R C (6c d) hich c i ed f 9 c i he FACT cha i he e e ab le a ecia e he ie a i f he g adi g . A ia f a e a ed hich c i ed f he b ec ' e ec i i a b ai ed i he e i i a a e e a d he i ed le e e e laced he ia l f a e i e f. O he igh e e f a l he b ec a e ed i he d

Results

I a , 44 b ec e e e lec ed f hi d i h a ea age f 22.09 1.84 ea . Q f he 44 b ec , 16 e e a le (36%) a d 28 e e fe a le (64%) a h i Fig e 3. e ea he ica l e i a le a f d be -2.22 1.71D a d he ea ea b ea i e (TBUT) a 7.41 0.79 ec d .

Tab le 1 i a e he ea a d a da d de ia i f he l g c e f he c a e i i i ea e e i h i ed le e , i h 15% a d 25% i ed le e . I c ld be f d ha he ea l g c e f c a e i i i ea e e i h i ed le e a 2.03 0.13, hi le he ea a e f he l g c e f he 15% a d 25% i ed le e e e 2.08 0.11 a d 1.96 0.15 e ec i e

Tab le 2 h he e f a i f he l g c a e i i i FAC i h i ed le e a b

15% g e i ed le e . he c a ed he habi al a e. Acc di g Shai e al., (2013) a d . a c d c ed d he e ec f i ed ec acle le e c a e i i i [2]. e e a a i e e i l . idd e a ial f e e cie i h igh e i i c di g g e i ed le e . hich had 85% a d 75% igh a i i ha i 15% a d 25% i ed le e . I addi i , he d . a c d c ed b i g he FACT cha a 3 di a ce a d all he a ial f e e cie e e e al a ed. I c ld be f d ha a 6c d, i h i ed le e a d i h he 15% a d 25% g e i ed le e a 3 , he ea c a e i i i ae f d de ce b 0.85, 1.9 d a le 89 he eca i l 5% i dica i g ha he e

di e e ce i c a e i i i i h i ed le e a d i h he di e e le el f g e i ed i d , F (1.74, 74.74) = 26.25, <0.001.

Table 6 a d 7 e e e he e i a ed a gi al ea a d he ai i e c a i e ec i e , e e l f he ai i e c a i i ba ed he e i a ed a gi al ea be ee i h i ed le e a d i h di e e le el f g e i ed le e ha i 15% a d 25% i ed le e . I c ld be ded ced ha he e a a i ica l ig i ca di e e ce a g all f he e ecia l he c a a e i i i c e be ee 15% a d 25% i ed le e (Table 7).

e ea c a e i i i c e i h 25% i ed le (M = 1.96, SD = 0.15) a f d be l e ha he ea c a e i i i c e i h i ed le e (M = 2.03, SD = 0.13) a d ea c a e i i i c e i h 15% i ed le (M = 2.08, SD = 0.11).

Discussion

C a e i i i i a i a i al f c i hich ca be ea i a ec ed b a i fac i c di g i ed le e . i d a ca ied b i g di e e le el f g e i ed le e c i i g f 15% a d 25% i he eb he ai a b e e he e ec f he i ed le e he ea c a e i i i

i d a c d c ed b i g he ea FACT cha a d 6c d a ial f e e c a ea ed de a da d igh i g c di i . e e l b ai ed e ea led ha he e a a i ica l ig i ca di e e ce i he c a e i i i ea e e de di e e le el f g e i ed le e . e ea f he ig i ca di e e ce b ai ed c ld be d e he fac ha i ed le e i e fe e i h igh a i i de e di g he g adi g f he i h a ec i g he c a e i i i ec a e i i i a f d be l e i h he 25% i ed le c a ed i h 15% i ed le a d i h a i ed le e .

Q d e ea led a i e e i c a e i i i i h

b e i h a a i a ce f 35%, b a d g ee i h a i a ce le ha 10% he c a ed he g e e i h 15% a i a ce, he g ea e ed c i i c a e i i i a 6c d a f d [3]. e e ec f he i ed le e he c a e i i i f ci a c d e he a i la ec a l igh le i g a d a e a i i he e i a i i a i . I addi i , a he l igh i g ed ce , he i di la e a d he e i a i c e e i highe de abe a i a d h he e i a ca f de ec highe a ia f e e cie [13]. Whe a 25% i ed le i i d ced i f f he e e, he i i e i h gh be la ge c a ed i h a i ed le e a d i h 15% i ed le i c d be a ea f he ed c i i he c a e i i i a he i i e i c ide ed a a fac ha i e ce c a e i i i [6]. P i di la i ca e he ica abe a i , hich de e i a e he e i a i age a i a d ie d i a ed c i i he c a e i i i [14]. Acc di g he d e ed ea lie b C , N a a d N a , i a a c c ded ha he he ea i a ce g a i g a c ide ab g ea e ig i ca le e ha he d i a ce, c a e i i i a di i i hed. I a b e ed ha he he d i a ce a e a ab le e ha he ea a ge i a ce hich a 3cd/ 2 a d 7% f he ea a ge i a ce, i h ed a dec ea e i he c a e i i i [11]. i i beca e a he di e e ce i i a ce be ee he d a d he b ec i c ea e , he c a gai dec ea e a d i a e , he e i a ed c i i c a e i i i

Be ide , d a c d c ed de a da d e ce l igh i g c di i . I i de iab le he fac ha , l igh i g c di i i e f he fac i e ci g c a e i i i . Ba ed a d b Sa e a , i a ed ha h ee di e e e ce l igh hich e e f 3918K, 4141K a d 4305K e ea led ha he c a e i i i ea ed ie ded i e a ab a l cha ge a g he e ce i i a i , hi c d e i a e he e i f d [15].

Conclusion