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## Use of vitamin supplements and cataract: the blue mountains eye study

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Accepted 1 February 2001.

### Abstract

**PURPOSE:** To investigate relationships between use of vitamin supplements and the three principal cataract types in a population-based sample.

**METHODS:** We studied 2873 of the 3654 participants (79%) aged 49 to 97 years attending the cross-sectional Blue Mountains Eye Study who completed a detailed food frequency questionnaire, which included type, dose, and duration of vitamin supplement use. Masked grading of nuclear, cortical, and posterior subcapsular opacities from lens photographs was performed, using the Wisconsin method.

**RESULTS:** Use of multivitamin supplements was associated with reduced prevalence of nuclear cataract, odds ratio 0.6, 95% confidence interval 0.4 to 1.0,  $P = .05$ . For both nuclear and cortical cataract, longer duration of multivitamin use was associated with reduced cataract prevalence (nuclear cataract, trend  $P = .02$ ; cortical cataract, trend  $P = .03$ ). Use of thiamin supplements was associated with reduced prevalence of nuclear (odds ratio 0.6, confidence interval 0.4 to 1.0,  $P = .03$ , dose trend  $P = .03$ ) and cortical cataract (odds ratio 0.7, confidence interval 0.5 to 0.9,  $P = .01$ , dose trend  $P = .02$ ). Riboflavin (odds ratio 0.8, confidence interval 0.6 to 1.0,  $P = .05$ ) and niacin (odds ratio 0.7, confidence interval 0.6 to 1.0,  $P = .04$ ) supplements exerted a weaker protective influence on cortical cataract. Vitamin A supplements were protective against nuclear cataract (odds ratio 0.4, confidence interval 0.2 to 0.8,  $P = .01$ , dose trend  $P = .01$ ). Folate (odds ratio 0.4, confidence interval 0.2 to 0.9,  $P = .03$ ) appeared protective for nuclear cataract, whereas both folate (odds ratio 0.6, confidence interval 0.3 to 0.9,  $P = .01$ , dose trend  $P = .04$ ) and vitamin B12 supplements (odds ratio 0.7, confidence interval 0.5 to 1.0,  $P = .03$ , dose trend  $P = .02$ ) were strongly protective against cortical cataract.

**CONCLUSIONS:** Long-term use of multivitamins, B group and vitamin A supplements was associated with reduced prevalence of either nuclear or cortical cataract. A strong protective influence on cortical cataract, from use of folate or vitamin B12 supplements, is a new finding.

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