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Effects of an Immunomodulating Supplement on Upper Respiratory Tract Infection Symptoms in Wildland Firefighters: 2001: Board #165 May 29 3:30 PM - 5:00 PM [D-35 Free Communication/Poster - Occupational Physiology and Medicine: Physiological Stresses and Demands: MAY 29, 2008 1:00 PM - 6:00 PM: ROOM: Hall B]

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Previous research from our lab has demonstrated increased water turnover and energy expenditure in the wildland firefighter (WLFF).

PURPOSE: The purpose of this study was to determine the effects of a yeast based (beta glucan) antioxidant supplement on symptoms of upper respiratory tract infections (URTI) in WLFF.

METHODS: Fifty-four members from eight Type I and II hand crews were recruited from national regions I, III, V and VI, and served as subjects for this study. In a single blind, random cross-over design subjects consumed either the beta glucan supplement (BG) or the placebo (P) daily for 14 days, followed by a 3-day wash out period and another 14-day treatment period. Two cross-sectional, non-incentive based health surveys were completed during and at the end of each treatment period. Subjects were classified with a URTI if symptoms occurred on two or more consecutive days. Twenty-four subjects wore accelerometers in order to quantify activity counts between trials. A Wilcoxon's signed ranks test was used to examine differences in URTI symptoms between treatments. A dependent t-test was used to examine differences in days of work missed during each trial, and a 2-way ANOVA with repeated measures was used to analyze activity counts. Statistics from the surveys were also performed on the subset of subjects that used the accelerometers. Significance was set the 0.05 level.


RESULTS: There was a trend for the BG trial to demonstrate a lower incidence of URTI symptoms of URTI ($p=0.06$) compared to placebo. Perceived overall health was significantly higher in the BG compared to the placebo trial ($p=0.006$). No differences were found in days missed from work between the two trials. In the subset of subjects that wore activity monitors, there were no differences in the average daily activity over the 14-day work period (154.9 \pm 508.5 and 180.4 \pm 534.0 counts/min for the BG and P trials, respectively).

CONCLUSIONS: A beta glucan antioxidant supplement may help to suppress symptoms of URTI and increase perceptions of overall health in WLFF during 14 days of arduous wildfire management.

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