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Identifying Risk of Increase UV Exposure Among Adolescent Athletes and Coaches in Alabama

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ABSTRACT

Background to the Study - Over 7 million high school students participate in athletics annually and are at elevated risk for UV radiation. Between 2-3 million non-melanoma and 132,000 melanoma skin cancers occur globally each year. The WHO estimated in 2004 that skin cancer incidence may increase with a 10% depletion of the ozone. *Healthy People 2010* includes two objectives aimed at reducing skin cancers in the U.S.; neither specifically address children and young adults. In 2001, the CDC reported that 13 states offered sun safety education in elementary grades and 16 in secondary grades. Four purposes guided the research project: (a) Identify risk of increased UV exposure among athletes; (b) assess role modeling behaviors for skin cancer prevention among coaches; (c) assess sun protection information within a state curriculum; and (d) advocate for increased sun protection of athletes.

Methods - Risk factors associated with UV exposure was determined by reviewing cancer content of state-approved health texts and surveying coaches of spring sports in secondary grades. In addition, investigators administered surveys to statewide samples of health teachers and members of school-level wellness teams. Seven experts independently reviewed surveys to suggest improvements before administration. Surveys were pretested with two groups of public school teachers (n=100) during state-sponsored workshops in a rural and urban city. Investigators compiled a listserv of more than 300 lead health teachers and coordinators of school curricula, HIV/AIDS and drug education with assistance from the state department of education and school system administrators. Investigators sent Email invitations to complete online or written surveys and mailed survey forms to public school administrators.

Analysis/Results - Two researchers determined percentages of cancer content in state-approved health textbooks by reviewing tables of contents, glossaries and all pages. Review of the state course of study reviewed a single mention of skin cancer. The total content dedicated to six cancers in state-approved textbooks was *less than* 10%. Three cancers were most frequently included in textbooks (lung, skin and oral cavity/pharynx). The highest percentage of content dedicated to skin cancer was 0.025%; the lowest percentage of content was 0.002%.

Ninety-one health teachers replied to the *Alabama Teacher's Survey About Cancer Education*, which contained 31 objective items (8 demographic, 6 support for cancer education, 5 beliefs about cancer education, 3 teaching methods, 1 cancer topics, & 8 textbooks and instructional resources). Of respondents, 70% are classroom teachers, 27% are school administrators & remainder are curriculum coordinators employed in 65 of the 131 school systems. Sixty percent teach health in grades 6-12, most in high school. Forty-four percent completed between 1-9 hours of professional development in health

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education during the past year; 28% reported 10 or more hours of professional development. More than half perceived adequate training to teach students about skin (75%), lung (70%), breast (64%), oral cavity (56%) & uterine/cervical (54%) cancers. Respondents differed in their perceptions about whether state standards provide adequate guidance to teach students about lung (61%), skin (55%), breast (48%), oral cavity (48%), uterine/cervical (38%) and testicular (36%) cancers. A second survey with several parallel items was administered to members of school wellness teams composed of teachers, administrators, nurses, parents and other community representatives. Results were similar. Respondents less often agreed that there was adequate support for cancer education for breast, testicular and uterine/cervical. Approximately one-half felt there is room for improvement to promote student health behaviors to reduce cancer risk.

Investigators administered the *Alabama Coaches Survey About Sun Exposure* to estimate time athletes and coaches spent outdoors during practice and competition by geographic area, gender and sport, and self-reported sun protection practices. Investigators recorded UV Index using EPA forecasts across 94 days and 13 areas during spring of 2008. A total of 352 coaches participated representing six sports (softball, baseball, track and field, soccer, tennis and golf). Coaches spent a mean of 16.94 hours per week outdoors and estimated athletes spent a mean of 17.87 hours outdoors weekly. Three of six sun protection practices were most commonly reported: wearing sunglasses, long pants, and a wide brimmed hat.

Conclusions - This research project relates to AAPAR's mission of promoting active lifestyles with a focus on safety and risk management and AAHE's Resolution, "Skin Cancer Prevention within Health Education." Results will be used to communicate teachers' perceptions of adequacy of cancer education, guide development of prevention programs in schools, select comprehensive health textbooks for grades K-12, and offer assistance to develop professional education programs for coaches and athletic staff.

Keyword(s): coaching, research, youth sports