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Relationship Between Sleep Quality and Quantity with Sports-Related Injury Rates

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Sleep may be considered one of the most important mechanisms of recovery in athletes. For an individual to obtain good quality and quantity of sleep has been shown to be very beneficial, especially when looking at athletes. Athletes that lack proper sleep can have many detrimental effects, but in this case the question is does a lack of sleep lead to possible injury due to fatigue or tiredness. There has been inconsistent research to this question. **PURPOSE:** The primary aim of this study is to evaluate the relationship between sleep and injury rates in NCAA Division II athletes. **METHODS:** Following IRB approval, surveys and informed consent forms were given to the coaches of eight NCAA Division II sports teams to distribute during team meetings. Athletes were instructed to fill out the informed consent form prior to survey. Teams included in this study were: soccer (women: n=21, men: n=11), softball (n=16), volleyball (n=5), baseball (n=24), lacrosse (n=6), track and field (n=37), field hockey (n=21). The surveys asked questions related to sleep quantity, perceived sleep quality, and sport-related injury. Paired sample t-tests were used to compare dependent variables. Significance was defined as $p < 0.05$ **RESULTS:** Out of 114 subjects, 78 reported sport-related injuries in the past 6 months. Sleep quantity for all athletes was 7.10 ± 1.0 hours. There were no significant differences ($p = 0.77$) in sleep quantity between injured (7.06 ± 1.1 hours) and non-injured (7.13 ± 1.0 hours) athletes. Perceived sleep quality for all athletes was 6.87 ± 1.6 on a ten point scale. There were no significant differences ($p = 0.82$) in sleep quantity between injured (6.82 ± 1.7) and non-injured (6.90 ± 1.6 hours) athletes. **CONCLUSION:** Amount of sleep and quality of sleep had no effect on sport related injuries. The reason for this is unknown but may point in the direction to the research that is supporting overuse injuries as compared to fatigue related injuries. Some future suggestions for the research may be to set the recommended sleep hours to the NCAA standard of 8-10 rather than 7-9 since they are athletes and not the general population. The second suggestion may be to track the athletes sleep over a period of time via Fitbit, apple watch, ect, instead of through a survey.