

ADOLESCENT ATHLETES: SLEEP PATTERNS AND NEEDS

Baharav A^{1,2}, Shargal E¹, Fuxman Y², Weisblat D³, Navot D¹

¹Wingate Institute, Netanya, Israel; ²HypnoCore, Petach Tiqva, Israel

³Kibutzim College, Tel Aviv, Israel

Introduction

Recent research indicates that adequate sleep duration is essential for athletic performance. Adolescent recommended sleep time is 8.5-9.25 hours per night, while according to a CDC health telephone survey 68.9% of 12,154 teenagers get less than 7 hours, and only 23.5% report 8 hours nightly sleep. Sleep deprivation affects health, well-being, cognitive and physical performance, and leads to increased sports injuries.

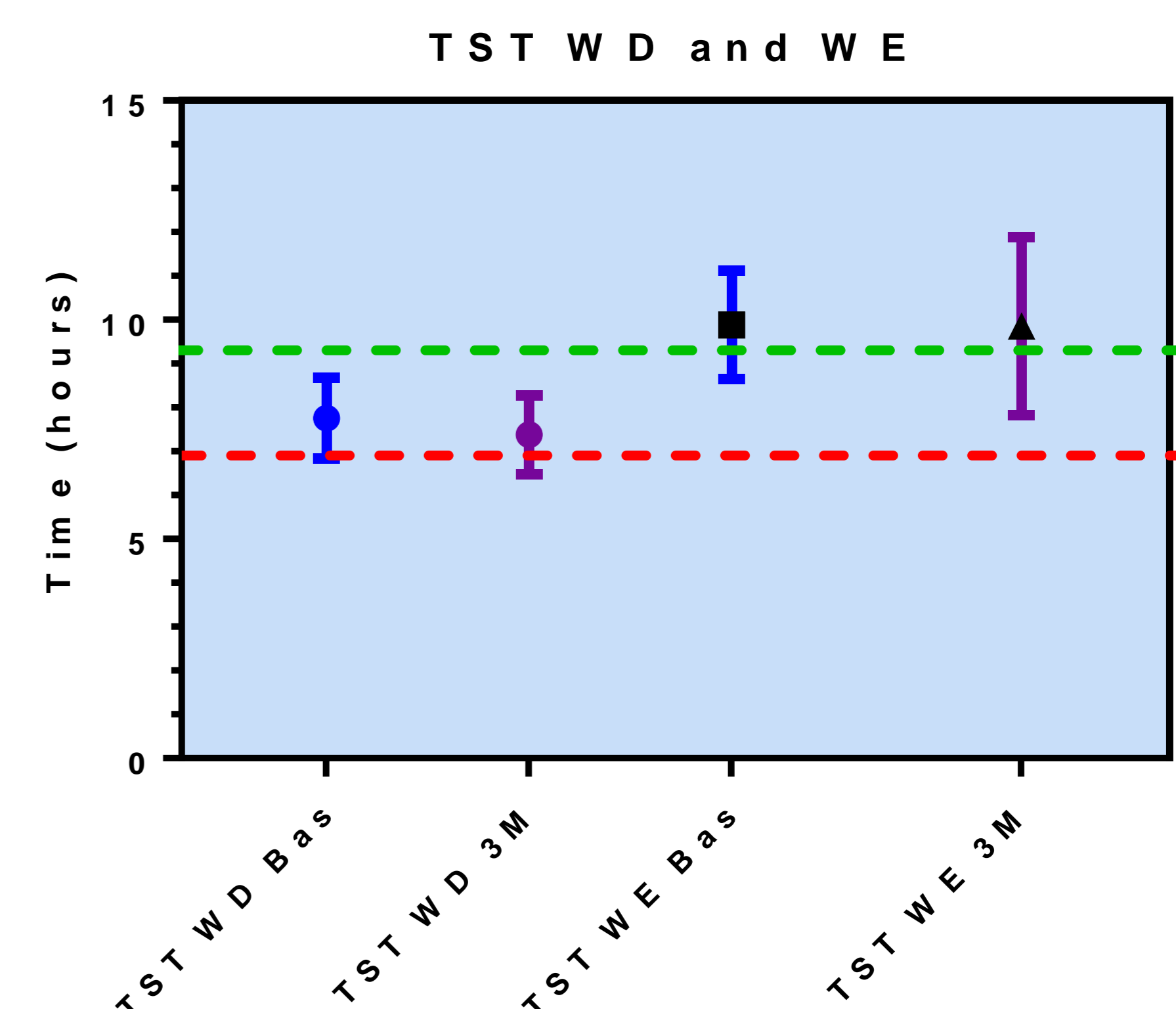
We aimed at characterizing sleep patterns in adolescents who chose to attend an excellence-in-sports high school program that allows them to have regular studies and intensive athletic professional training in a special facility with live-in setup.

Methods

58 subjects: 55% males; age 14.9y/SD 1.1y answered a first round of interviews and

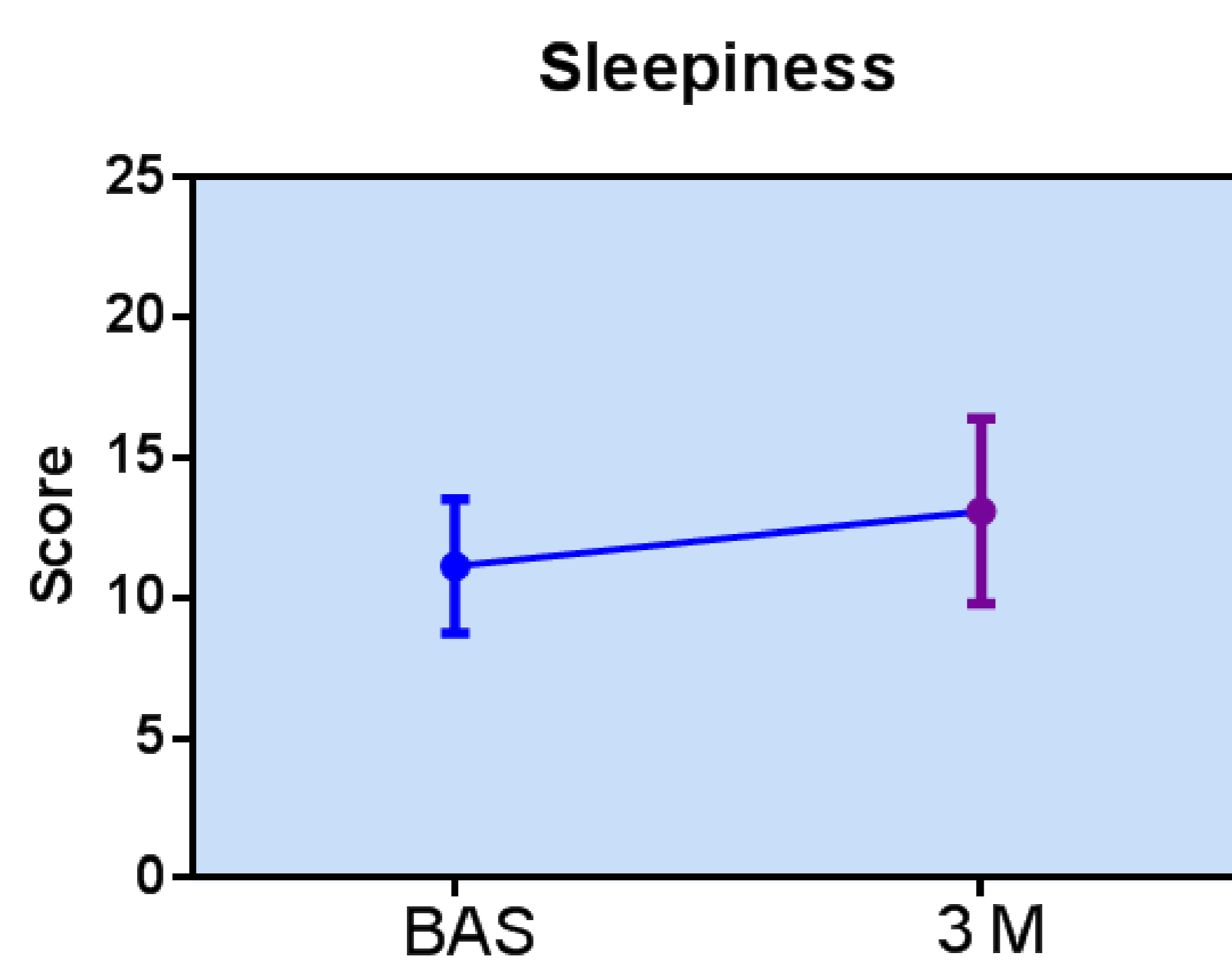
50 subjects: answered a second one after 3 months in the program (8 dropped before joining the program or had sleep problems uncovered at the first interview and were excluded).

The youngsters sleep in dorms during weekdays (WD) and at home weekend nights (WE). All new candidates were interviewed before they started the program and after the completion of three months of the academic year. The interview included standard or validated questionnaires regarding sleep duration, sleep quality, bed time, wake up time, sleepiness, mood, and circadian preferences.

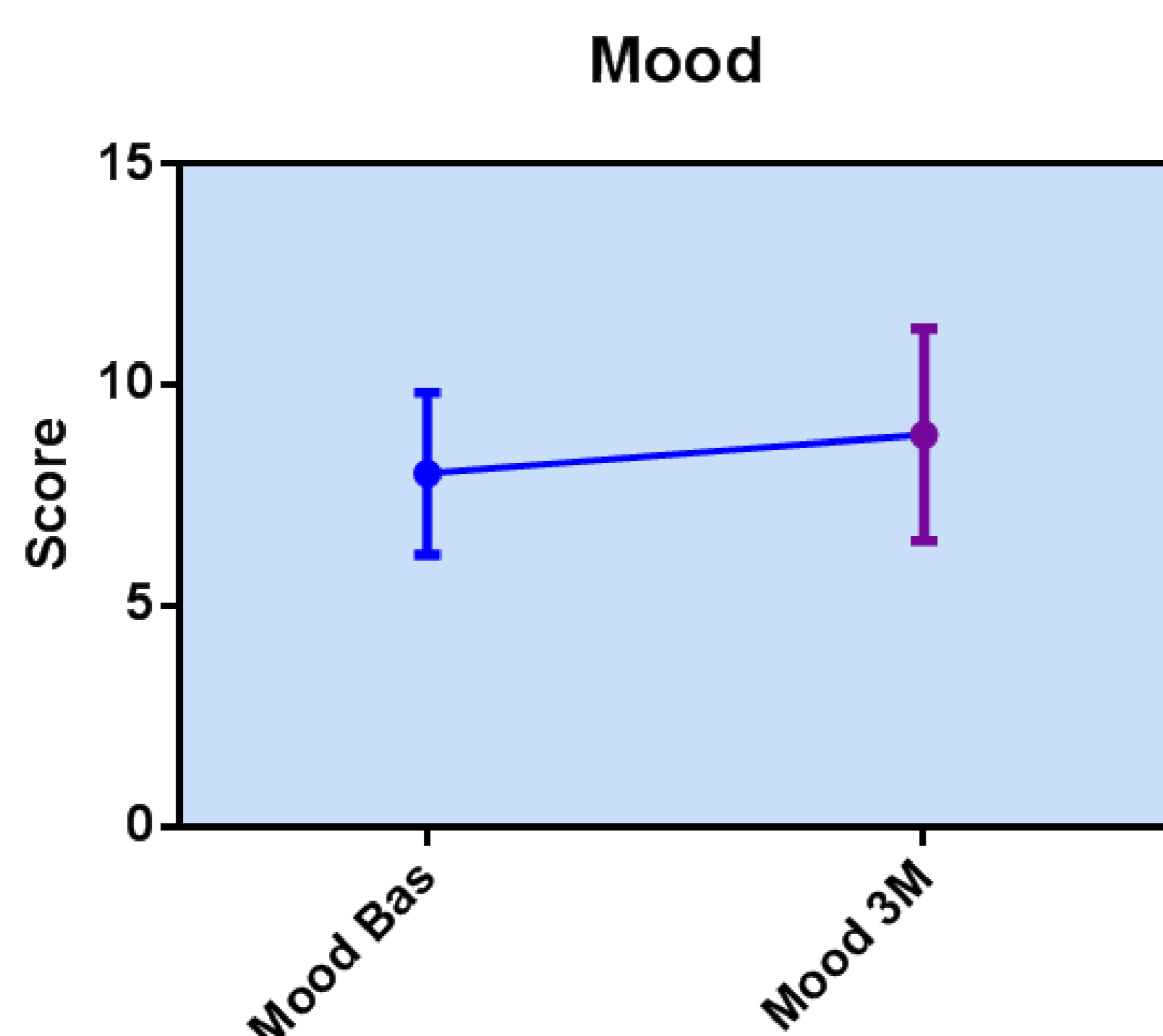


Results

The initial Total Sleep Time (TST), already shorter than optimal during week nights, decreased by 0.4 hours (7.8h/SD0.9 vs 7.4h/SD0.9; $p < 0.04$); TST during weekend nights remained unchanged, but became more irregular (mean 9.8h/SD1.2 vs 9.9h/SD2.3)



- ✓ Not enough time to nap regularly
- ✓ Increased daytime sleepiness: ESS 11 vs 13 ($p < 0.002$)
- ✓ Improved mood scores: from 8 to 8.9 ($p < 0.01$)
- ✓ Bed time 23:00 on average during week nights after the beginning of the program (lights off at 22:30)
- ✓ Wake-up time at 6:20 on average during week nights
- ✓ Correlation has been found between the change in TST and school grades ($P = 0.03$)
- ✓ No correlation between TST and referrals to medical services for sport injuries;
- ✓ Increased referrals for sleep difficulties



Take Home

- ✓ Teenagers at WinExcellence are as sleep deprived as their mates at large
- ✓ Not enough bed time at night, have to wake up early for scheduled training before school
- ✓ Naps help, but not enough to make up for sleep loss
- ✓ Longer sleep on weekends is not enough to catch up
- ✓ Motivation alone is not enough even in the driven individual
- ✓ Sleepiness is the price of the sleep debt
- ✓ The interest in sleep role in performance is high

Discussion

Teenagers in this special program for excellence in sports are sleep deprived, the price is increased sleepiness and a decrease in their regular curricular achievements as well as sleep complaints. These problems are addressed by making sleep care and education available; general changes in the training and school schedules are needed to allow more time for sleep.