Does soccer lead to genu varum?

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Studies have been shown the progressive varusing in the period from childhood to adolescence. Variables such as age, weight, vitamin/hormone intake, the environment, and soccer training may interfere with the knee alignment. PURPOSE: a- to compare the alignment of knee in soccer and non-soccer players, and b- to determine the association of this alignment with anthropometric and neuromotors variables. METHODS: The intercondilar (IC) and intermaleolar (IM) distances were measured in centimeters in 128 male aged from 14-17 years, soccer players (n=65) and non soccer players (n=63). Soccer players have participated in at least, three one-hour section per week of soccer on a structured training on Brazilian team. The anthropometric measured were body weight and height, whereas neuromotors variables included agility, speed, through shuttle run and the 50 meters dash-test, respectively, following CELAFISCS standard. Data of the IC and IM distance are presented as mean and standard deviation. The Kruskal Wallis and Mann Whitney tests were used to compare the means of IC and IM distance from the same and different groups in different ages, respectively. Spearman rho test was taken to correlate the alignment of knee with anthropometric and neuromotor variables in each group. SPSS 15.0 was used for statistical analysis. Statistical significance was accepted at the level of p<.05. RESULTS: Soccer players revealed a greater degree of genu varum (IC) than non soccer players in all ages, but just in 14, 17 years-old and total group (all ages together) these differences were statistically significant (p< .05). Genu valgum (IM) tended to be lower in soccer players than in non soccer players in all ages, however significant differences were observed only in 17 years and total group (p< .05). The IC distances in soccer players correlated (p< .05) with agility (r= -.27), weight (r= -.27); while IM distances correlated (p< .05) with weight(r=.26).CONCLUSION: Soccer players showed a more marked genu varum than the non-soccer players. There was a significant association among degrees of varus and valgum with body weight and agility, that deserves further studies to explain this interesting relationship. Present findings support the hypothesis that soccer leads to a greater varus and/or select subjects with a certain degree of varus.