

Abstract

The aim of this diploma thesis was to summarize the topic of the anterior cruciate ligament (LCA) injury dependency on the menstrual cycle phase of young women with regular sport activity. The general part describes basic knowledge about connective tissue, LCA, issues of LCA injury and related risk situations. Large chapter is dedicated to sex hormones and menstrual and ovarian cycle, which is crucial for understanding the whole topic. The main part is focused on impact of sex hormones and hormonal contraception on connective tissue, but also on muscle and nervous tissues, which might be as well important for LCA injury incidence.

Next part of the thesis consists of a questionnaire survey. 52 respondents aged 15-35 with rupture or partial rupture of LCA answered the non-standardized questionnaire compiled specially for this thesis and the results were statistically processed. 14 respondents were using hormonal contraception, remaining 38 had physiological menstrual cycle. Based on the theoretical findings we expected highest incidence of LCA injuries among women without contraception in phases of menstrual cycle with highest levels of oestrogen (10th-15th day). That was confirmed (P-value: 0,0218) as well as overall lower incidence among women using contraception (P-value: 0,0006). Expected higher incidence in follicular phase compared to luteal phase was not confirmed. In conclusion, this thesis proved that there is a relationship between phase of menstrual cycle, or more precisely of higher levels of oestrogen, and the incidence of LCA injuries and that hormonal contraception has certain protective function on this kind of injuries.