

Abstract

Playing a musical instrument requires hours of exposure to a fixed position and a performance of greatly repeated movements. This excessive physical load in combination with other factors can often result in playing-related musculoskeletal disorders (PRMD). This thesis specifies the definition of PRMD, clarifies the idea of musician's medicine as a fairly new specialization, titles the most commonly occurring medical conditions and risk factors in musicians with an emphasis on guitarists (classical and electric guitar players) and pianists. It also offers recommendations on how to play these instruments with respect to the ergonomics. The aim of practical part of the thesis was to find the possible relation between PRMD and instrument playing among guitarists and pianists in the last 12 months. It was composed of three parts: questionnaire of musculoskeletal disorders, clinical examination and video-analysis of instrument playing. The study surveyed 401 guitarists and pianists without specified instrumental level. 19 of these participated in the clinical examination.

The analysis of questionnaire data revealed PRMD in 55,6 % musicians mainly localized in neck (19,8 %); more specifically, in pianists in neck and both hands (equally 27,4 %); however, in guitarists in left hand (18,6 %). Asymmetry has been found in distribution of PRMD among guitarists but it seems that asymmetrical position is not the main risk factor for the rise of PRMD. The study prove that guitarists who are changing positions while playing suffer of PRMD less often than those who do not ($p=0,047$), this has been also proven for left hand only ($p=0,01$). Pianists who are using adjustable piano stool refer less frequency of PRMD in the area of shoulders ($p=0,04$). Guitarists refer the opposite effect in shoulders while using guitar stool ($p=0,03$). Performing while experiencing the pain or discomfort significantly elevate the frequency of PRMD in musicians ($p=0,008$) and it applies for individual body regions. Women suffer of PRMD more often than man ($p=0,001$). Furthermore, the study proved a significant correlation between PRMD and age ($p=0,006$), years of practicing ($p=0,007$) and hours of weekly practicing ($p=0,034$).

Keywords

PRMD, playing-related musculoskeletal disorder, guitar, piano, musician's medicine