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Contributing factors to playing-related musculoskeletal disorders in female flute players**TaeYeong Kim^a, PT, MSc, Hey Won Jung^b, MM, Jin Yana, MD of TCM, Jeeyoung Yoon^c, MM, BumChul Yoon^{a,d}, PT, OT, PhD**^a Major in Rehabilitation Science, College of Health Science, Korea University Graduate School^b Dongduk Women's University^c Sejong Campus, Korea University^d Department of Physical Therapy, College of Health Science, Korea University

Background: Flutists maintain asymmetrical and rotated postures of the neck-trunk-pelvis while playing the flute. The asymmetrical playing posture potentially causes functional disabilities and increased muscle strain. The characteristics of flutists' playing posture may lead to a high prevalence of playing-related musculoskeletal disorders (PRMDs) in female flutists.

Objective: To identify physical and psychological risk factors of PRMDs in female flutists, we examined pain intensity, functional disabilities in the upper extremities, and psychological factors through a self-administered questionnaire.

Methods: Professional flutists with >5 years of experience were sampled to participate in this study. Participants were divided into three groups depending on professional tenure (5–10, 11–20, and 21–30 years). Self-administered questionnaires were used to assess pain intensity, functional disabilities, and fear-avoidance belief (FABQ) scores. The relationships between factors were analyzed using one-way analysis of variance. The significance level for all tests was set at 0.05.

Results: Twenty-one female flutists (mean age: 31.57 years; mean experience duration: 15 years) were included in the study. A significant interaction was observed between career durations and the FABQ scores ($p = 0.030$). Upon Bonferroni post hoc analysis, flutists with professional experience >21 years were found to have greater FABQ scores than those with 5–10 years ($p = 0.031$) of experience. No other significant interactions were observed.

Conclusions: PRMDs in female flutists can be prevented and managed not only through exercise interventions for physical improvement but also through professional education and psychological support. Thus, professional flutists, physical therapists, and psychologists should collaborate in an effort to develop professional educational programs for flutists.

Biography

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