The Relationship between Breathing Pattern and Shooting Performance of Elite School-Level Air Pistol Shooters in Sri Lanka

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There is a significant gap in understanding how breathing patterns directly influence shooting performance metrics in the context of shooting sports. This study aimed to explore the relationship between breathing patterns and shooting performance metrics such as precision and accuracy among national air pistol shooters in Sri Lankan schools using pre-charged pneumatics pistols (PCP). The data were analyzed using R statistical software (version 3.5.0). A specialized breathing guide was given to ensure a consistent breathing rate as a pattern. The structured testing procedures included preparation shots, test shots, and random breathing patterns to evaluate athletes' adaptability. The data were collected using standard score measuring cards. The findings indicated no significant relationship between breathing patterns with shooting accuracy ($p=0.397$) and precision ($p=0.549$). In conclusion, this study highlights that breathing patterns do not significantly affect the shooting performance of national air pistol shooters in Sri Lankan schools.

Keywords: *breathing rate, shooting performance, shooting accuracy, shooting precision*