

A Cross-Sectional Survey on Musculoskeletal Pain Among Professional and Non-Professional Gamers in Saudi Arabia: Associations with Gaming Genre, Duration, and Ergonomic Factors [Letter]

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Dear editor

We read the article by Alqabbani et al¹ recently published in the Journal of Pain Research, titled “A Cross-Sectional Survey on Musculoskeletal Pain Among Professional and Non-Professional Gamers in Saudi Arabia: Associations with Gaming Genre, Duration, and Ergonomic Factors”. The study addresses an emerging public-health concern regarding musculoskeletal (MSK) problems in gaming populations. However, there are several methodological and statistical issues in this article which I want to address.

First, in Table 1 several typographical inconsistencies are evident in the reporting of daily gaming duration. For instance, the category “1–2 hours” is reported as 145 participants (58.2%), which is mathematically inconsistent with the total sample size ($n = 593$), as this value corresponds to approximately 24.5%. Additionally, the category label “8–7 hours” appears to be incorrectly ordered and should likely read “7–8 hours,” while the final category “<8 hours” is logically inconsistent with the preceding intervals and may represent a typographical error for “>8 hours.” These discrepancies suggest possible errors in data transcription and percentage calculation within the table.

Second, statistical errors appear in the logistic regression results. For example, the odds ratio (OR) for the association between puzzle games and neck pain is reported as $OR = 1.189$ with a 95% confidence interval of 1.184–3.016. This is mathematically inconsistent because the point estimate should always lie within the confidence interval and typically near its midpoint. The reported lower bound (1.184) is almost identical to the odds ratio, while the upper bound (3.016) is disproportionately distant, suggesting either a calculation or transcription error.

Third, the interpretation of device-related effects is contradictory. The authors state that device type was significantly associated with shoulder pain in the bivariate analysis but not in the adjusted regression model. Despite this, the discussion concludes that device type “appeared to outweigh game genre in determining MSK pain risks,” which is not supported by the multivariable analysis presented. Such inconsistencies may lead to misleading clinical implications. To resolve this discrepancy, the authors should align their interpretation strictly with the multivariable analysis results, which account for potential confounding variables. The discussion should clearly distinguish between findings from bivariate and adjusted models.

Fourth, the study design introduces potential selection and information bias. A non-probability convenience sample recruited via social media and messaging platforms may not adequately represent the gaming population in Saudi Arabia. Moreover, reliance on self-reported MSK symptoms without objective clinical verification increases the likelihood of recall bias, a limitation previously highlighted in esports epidemiology research.^{2,3} Future studies could strengthen

methodological robustness by adopting probability-based sampling techniques or recruiting participants from multiple structured settings such as esports clubs, gaming communities, or universities.

Fifth, the comparison between professional and non-professional gamers is potentially confounded by gender imbalance, as the authors note that all professional gamers were male. Although subgroup analysis attempted to address this, residual confounding likely persists and weakens the validity of the comparative conclusions. To mitigate gender-related confounding, future research should aim to recruit more gender-balanced samples across gaming categories or apply statistical methods such as stratified analyses or multivariable adjustments for gender.

Finally, the study uses lifetime MSK pain prevalence as a primary outcome. Given the cross-sectional design, such measures cannot establish temporal relationships between gaming exposure and symptoms, limiting causal inference. Previous esports studies have emphasized the need for longitudinal designs to establish risk relationships between gaming behaviors and musculoskeletal disorders.^{3,4} Future investigations should consider longitudinal or prospective cohort designs that track gamers over time to better establish temporal relationships between gaming behaviors and musculoskeletal symptoms. Repeated assessments of exposure duration, ergonomic practices, and physical health outcomes would allow researchers to identify causal pathways and risk factors more accurately.

Conclusion

In summary, while the study highlights an important topic, issues related to data reporting accuracy, statistical consistency, sampling methodology, and interpretation of results require clarification. Addressing these concerns would strengthen the validity and clinical relevance of the findings and improve their contribution to the growing literature on esports health.

AI Statement

The authors used ChatGPT (OpenAI, GPT-5.3) for minor language editing during manuscript preparation. All content was reviewed and verified by the authors, who take full responsibility for the final manuscript.

Disclosure

The authors report no conflicts of interest in this communication.

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