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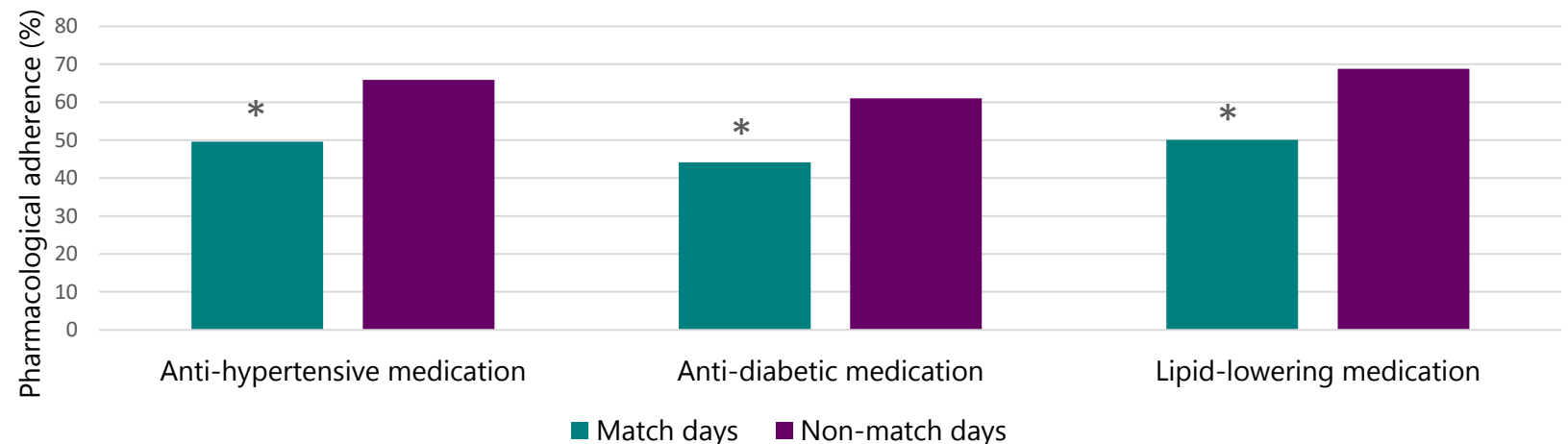
A retrospective study in Croatia found that there was an increased number of emergency cardiovascular admissions in a university hospital center during and after World Cup 2018 matches, particularly in women. It showed an increase in arrhythmias and angina pectoris events during or two days after World Cup matches.¹

Emotional stress might be a contributing factor to the cardiovascular events.¹ Another hypothesis on the association would be the decrease in pharmacological adherence on football match days, as demonstrated in a study on non-World Cup football matches.³ Other potential factors include lifestyle and dietary changes during football match days.

A Spanish study investigated the association between football spectatorship and incidence of acute coronary syndrome during a football league competition.³ Figure 1 shows that patient admitted on football match days with acute coronary syndrome had significantly lower pharmacological adherence than patients admitted on nonmatch days.³



Figure 1. Pharmacological adherence to anti-hypertensive, anti-diabetic, and lipid-lowering medications on match days and non-match days ($*p < 0.05$)



Another study in Poland, which was conducted only in the male population, found no population-wide association between watching football matches and acute cardiovascular events. It showed no significant difference in the incidence of acute myocardial infarction, cardiac arrest and sudden arrhythmias.² The difference in the association could be related to the study size and the type of cardiovascular event recorded.



Research can be done in the form of a systematic review and meta-analysis to summarise the association across different countries, especially with the new data from World Cup 2022. Other suggestions on future research include studying the effect of spectators' expectation on winning the football match, and the effect of time zone difference on the association between football spectatorship and various cardiovascular events.

References

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