

Abstract

Background

Wheelchair basketball (WB) is plagued with shoulder pain (SP), associated with overuse and muscle imbalances among others, with prevalence rates ranging from 44% to 72% in South Africa. However, its prevention remains uncertain due to the scarcity of research.

Aim

The aim of this study was to map the range of strategies to prevent shoulder injuries and develop an exercise programme suitable for the prevention of SP for WB players in South Africa.

Method

A mixed methods study was conducted beginning with a scoping review followed by a modified Delphi survey. In the review, Scopus, Pubmed, EbscoHost, SportDiscus, Medline complete and CINAHL were searched. Then relevant studies were identified, and an exercise-based injury prevention programme was formulated from the data extracted. Then, in the second part of the study, individual exercises in the programme were rated on a 5-point Likert scale from strongly disagree to strongly agree in three rounds, by an expert panel of four physiotherapists and a sports scientist. The first two rounds were conducted via RedCap and a consensus meeting was conducted via zoom in the third round. Finally, a final shoulder pain prevention programme (SPP) was compiled from the exercises that reached a consensus agreement of $\geq 80\%$.

Results

Only five studies were identified from the scoping review. These studies supported strengthening exercises and stretching of the shoulder girdle muscles to prevent shoulder pain in WB and wheelchair sports. One study included a warm-up of active movements of the shoulder. Then, in the Delphi, 39.1% of the exercises reached consensus in the first round, none in the second round and then 75% of modified exercises had 100% agreement in the third round. These exercises formed the final SPP which consisted of muscle endurance, functional and scapular activation exercises in addition to strengthening exercises and stretching.

Conclusion

Few studies have been done on strategies for preventing shoulder pain in WB. A holistic programme incorporating shoulder muscle strength and endurance, scapular stabilisers activation and flexibility exercises may help in preventing shoulder pain among WB players and may inform further experimental research implementing the program.