



Investigation of Injury Etiology and Prevalence in Indian Classical Dance

Pranamy Suri, MD¹, Kelli Sharp, DPT^{1,2}

1:UC Irvine Department of Physical Medicine and Rehabilitation, 2:UC Irvine Claire Trevor School of the Arts, Department of Dance



Introduction

- Indian classical dance forms maintain characteristics of consecrated history and culture.
- The physical and biomechanical demands placed on these dancers make them just as susceptible to musculoskeletal injuries as athletes of other sports.
- While there is increased awareness of Indian classical dance globally, there is a dearth of research on injuries and injury prevention.
- Lack of adequate research and documentation is a barrier to injury prevention and appropriate rehabilitation methods.
- This study serves to understand the incidence, nature of, location and distribution of musculoskeletal injuries in Indian classical dancers. It also investigates the possibility of association between pain and type of flooring.

Results

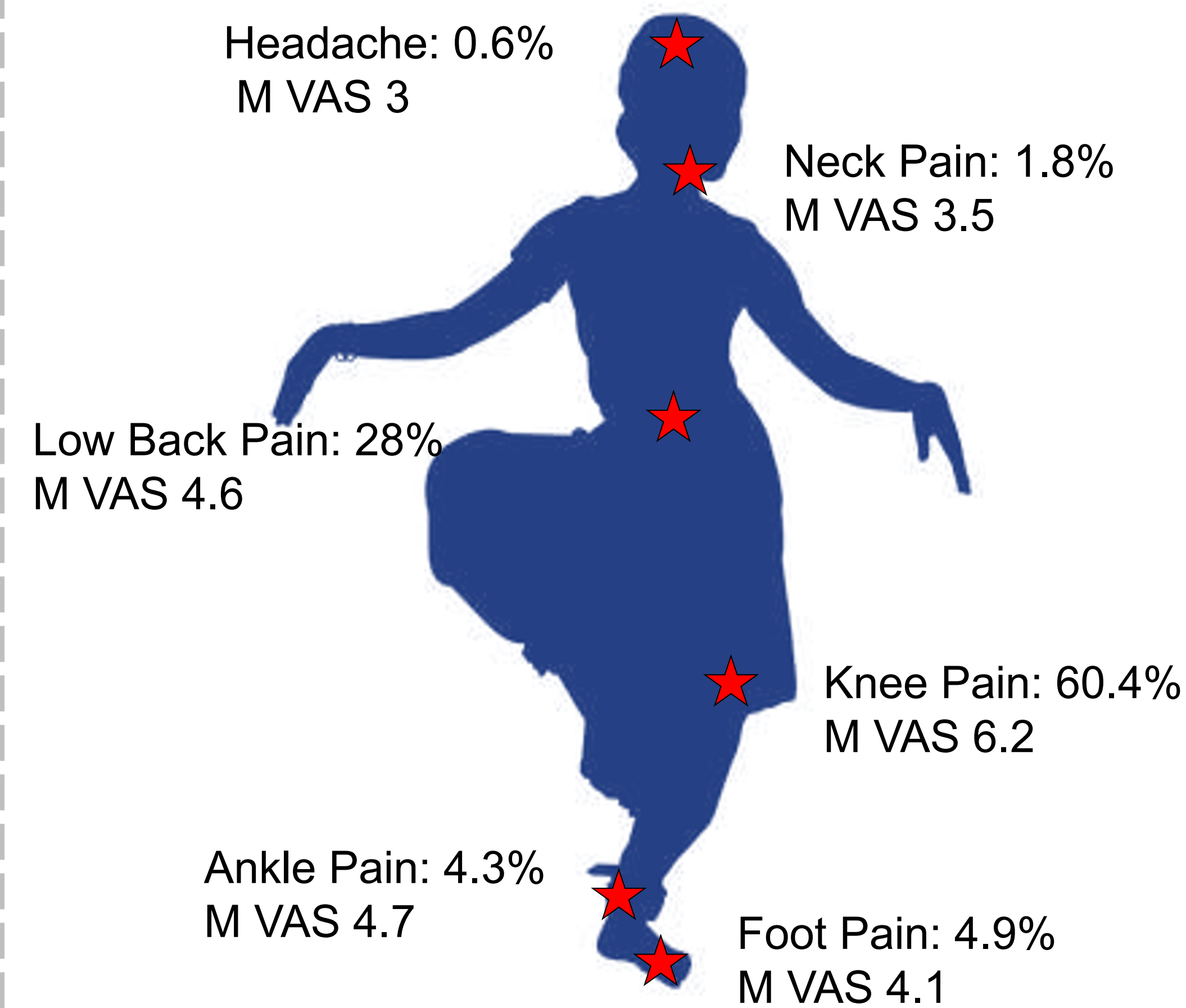


Figure 3: Left knee pain was the predominant issue in Indian classical dancers. This was followed by low back pain.

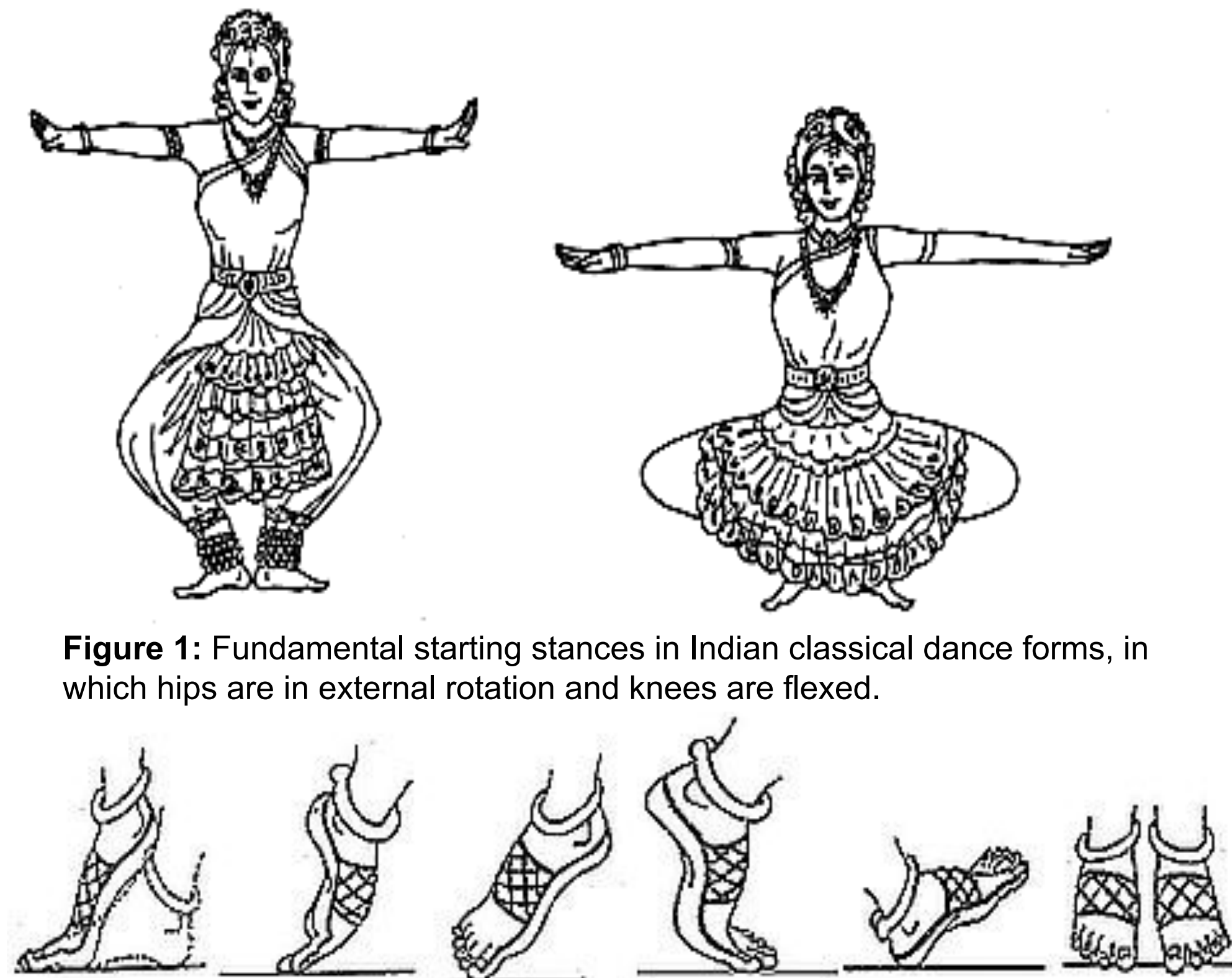


Figure 1: Fundamental starting stances in Indian classical dance forms, in which hips are in external rotation and knees are flexed.

Figure 2: Characteristic movements of the feet in one of the dance forms.

Methods

- An electronic survey, which included pertinent information (demographic information, dance history, injury history), was created on RedCap software
- Indian classical dancers who practiced any of the nine classical dance forms were requested anonymously to fill out survey

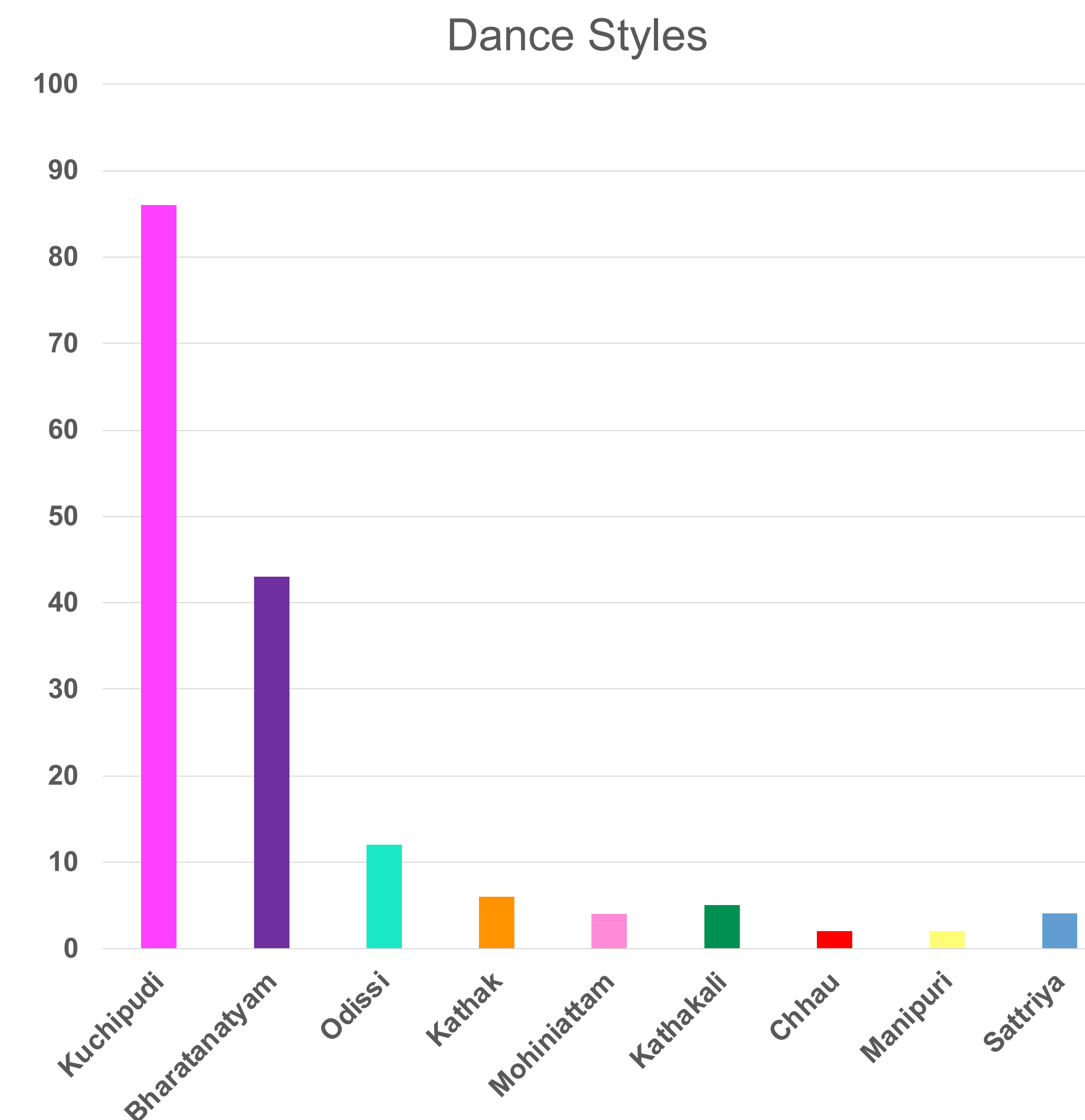


Figure 5: Majority of the participants were Kuchipudi (52.4) or Bharatanatyam (26.2%). These dance forms especially utilize the stance seen in figure 1 and 2.

Type of Flooring and Occurance of Pain

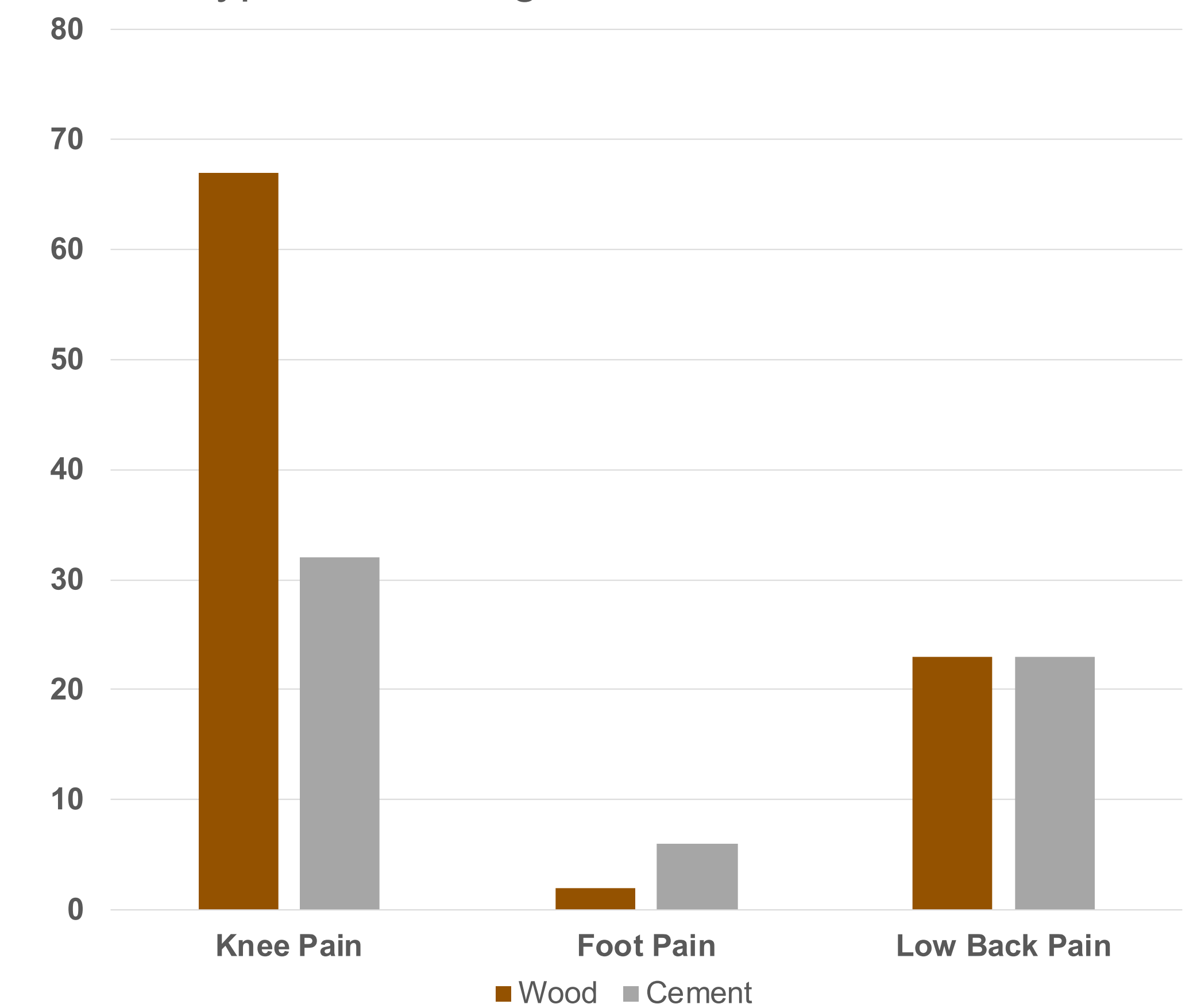


Figure 7: Back pain was the predominant issue for dancers practicing on cement. Knee pain was the predominant issue for dancers practicing on wood.

- 37% had back pain and 52.4% had knee pain if subjects practiced on cement flooring.
- 37.8% had back pain 72.8% had knee pain if subjects practiced on wooden flooring.

Type of Practice Flooring

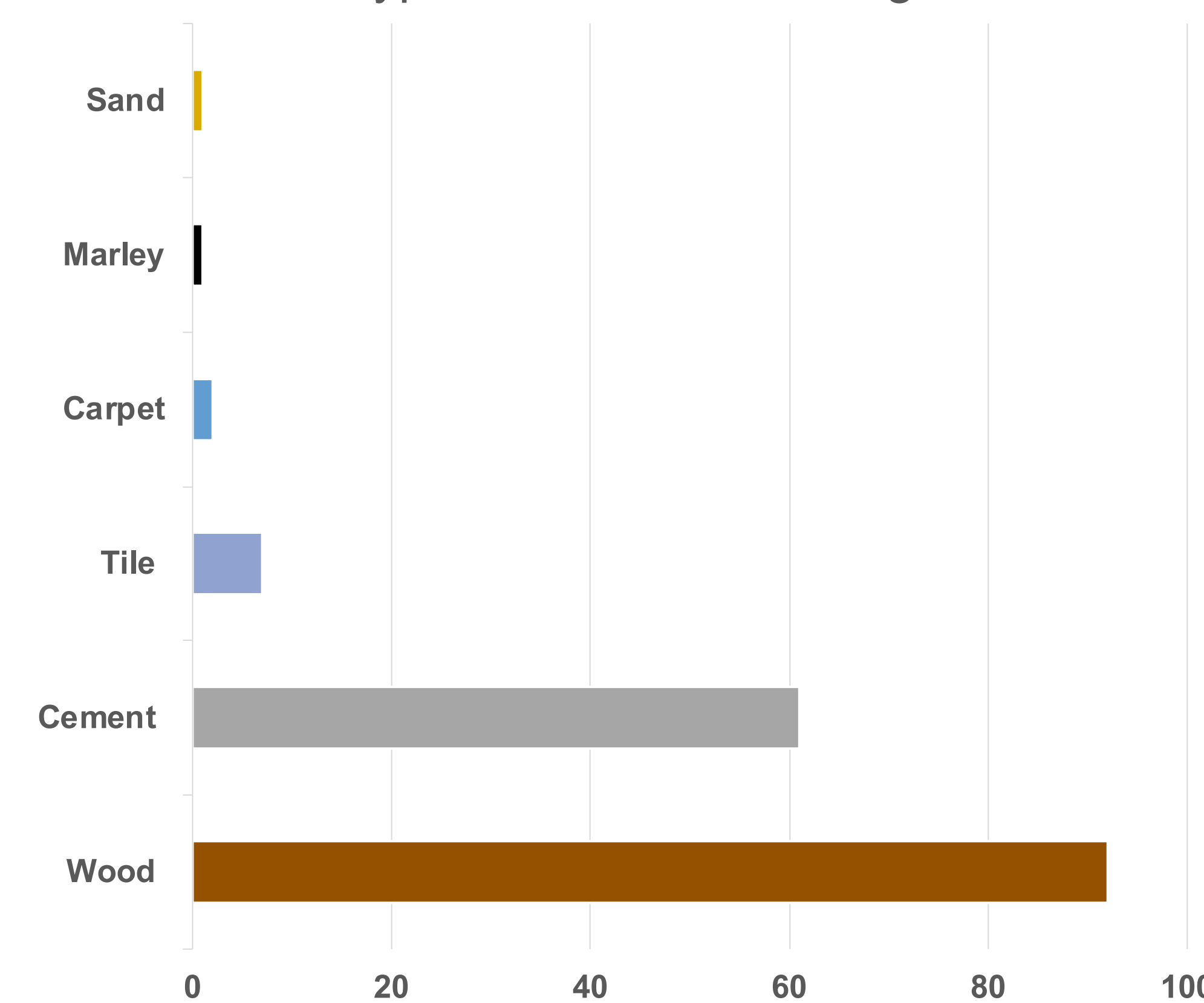


Figure 6: 51% of dancers practiced on wooden flooring; 29% practiced on cement; 13% practiced on tile; 5% practiced on carpet; 1% practiced on Marley; 1% practiced on sand.

Discussion

- Indian classical dance injuries commonly occurred during practice/rehearsals.
- The most common injury site was in the lower extremities. Knee pain was the predominant issue followed by low back pain, ankle and foot pain.
- The majority of Indian classical dancers practice on cement or wooden floor without underlying support or protective gear. The majority of them do not have prior education regarding common injuries and injury prevention techniques.
- Further investigation about ground reaction forces on joint mechanics is necessary.
- There are very little post injury rehabilitation practices executed in this population of dancers.

References

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- Preponderance (82.4%) of the injuries were sustained on the respective flooring during rehearsal/practice for an upcoming performance
- 92% did not use any protective gear while practicing on these floorings

