Editorial

Falls: Risk, Prevention, and Rehabilitation

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1. Introduction

Life expectancy has dramatically increased over the past half-century owing to advancements in healthcare systems and continuous research [1]. Our society is now, however, facing challenges posed by this increased longevity. Modern, human-centric societies are experiencing difficulties in ensuring the wellbeing of vulnerable populations, particularly for seniors and other frail individuals. Traditional healthcare systems have primarily focused on treating injuries or diseases after they occur. These systems must now adopt prevention-centred approach to ensure sustainability [2]. Although we are living longer, our susceptibility to various health issues generally increases with age. The continuous growth in the ageing population and the shrinking workforce raise concerns about ensuring the future sustainability of healthcare systems without compromising the quality of care. This debate continues: one potential solution is preventing gateway issues, such as fall-related injuries.

Falls occur suddenly and often result in severe injuries for frail populations, leading to a vicious cycle that negatively impacts physical, mental, and social health [3]. Together, these consequences hinder the return to the preinjury state for these vulnerable individuals, often leading to increased reliance on healthcare systems. This vicious cycle, which may start with physical injuries but extend to other areas, incurs considerable societal costs. Therefore, preventing falls is crucial in avoiding these secondary issues. As such, fall prevention can be seen as a gateway approach for protecting frail individuals while contributing to the sustainability of our ageing society.

2. Summary of the Published Articles

This Special Issue gathers studies from multidisciplinary domains addressing fall prevention among older adults.

2.1. Overview

Nagano (contribution 1) summarises a framework of gait analysis methods for fall prevention, providing an initial reference point on biomechanical approaches.

2.2. Physical Intervention

Sarashina et al. (contribution 2) introduced a Pilates intervention for seniors over the age of 75 years, focusing on reducing fall risk and improving cognitive functions.

Rogers et al. (contribution 3) investigated the effects of video-game-based exercise interventions on senior populations, particularly in developing countries.

Kawano et al. (contribution 4) used Boccia as an intervention for seniors in need of long-term care, finding improvements in mood.

Derby et al. (contribution 5) provided slip-like stimuli in virtual reality environments as a safe training method to prevent slip-related falls.

2.3. Risk Factors

Srijaroon et al. (contribution 6) studies the negative effects of total knee arthroplasty on obstacle clearance ability.

Kadry et al. (contribution 7) used machine learning to investigate the distinct effects of subjective feelings of energy and fatigue on gait patterns.

Presta et al. (contribution 8) used receiver operating characteristics to predict falls and the onset of frailty.

Cesarelli et al. (contribution 9) analysed fall risk in rehabilitation hospitals using a multidisciplinary approach, recommending the Morse and Stratify scales for identifying at-risk patients.

3. Conclusions

This Special Issue is impactful for not only the research community but also the practical application of the latest scientific findings on the currently critical issue of fall prevention. The information provided here can be applied in the real world and contributes to the academic community.

Conflicts of Interest: The author declares no conflict of interest.

List of Contributions:

1. Nagano, H. Gait Biomechanics for Fall Prevention among Older Adults. *Appl. Sci.* **2022**, *12*, 6660. https://doi.org/10.3390/app12136660.
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3. Rogers, C.; Shamley, D.; Amosun, S. Older Adults' Experience of an Exergaming Intervention to Improve Balance and Prevent Falls: A Nested Explanatory Qualitative Study. *Appl. Sci.* **2021**, *11*, 11678. https://doi.org/10.3390/app112411678.
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5. Derby, H.; Conner, N.; Hull, J.; Hagan, F.; Barfield, S.; Stewart, T.; Jones, J.; Knight, A.; Chander, H. Effects of Acute Exposure to Virtually Generated Slip Hazards during Overground Walking. *Appl. Sci.* **2023**, *13*, 12848. https://doi.org/10.3390/app132312848.
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