Implications of falls on adults' health

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The effects of falls upon older adults' health can range from superficial to fatal. Whilst children and athletes have higher incidence of falls than older adults, older adults have a higher susceptibility to injury, leading to increased complication and severity in injuries. One such example of a physiological impact of falls upon older adults is bone fracture. Between 10 and 15% of falls lead to fracture. Dependent upon the location and severity of the fracture, quality of life may be impaired, as ambulation and mobility may be compromised to the extent that day-to-day tasks, such as maintenance of self-hygiene and walking, are no longer possible. Hip fractures are the most frequent cause of hospitalization following a fall suffered by older adults, and are expensive to treat.

Around 70-75, 000 hip fractures occur annually in the UK. Hip fractures in older adults frequently cause pain, and have been suggested to increase the mortality rate by up to 33% within the following year. They often severely restrict the ability to walk, and reduce quality of life. Research has found that older adults who have suffered a hip fracture are likely to experience depression within the following year. This outlines the negative implications of falls leading to hip fracture, upon physiological and psychological health and wellbeing. Furthermore, there is a large financial burden placed upon the patient, their family, and healthcare provider.

Following a hip fracture, loss of independence can result in older adults moving into sheltered accommodation, paid for by family. The cost of a hip fracture to the NHS is estimated to be £16, 202 (. In combination with the negative impacts upon physical and psychological, the financial burden causes additional pressure. Therefore, it is widely agreed that hip fractures

in older adults have a detrimental effect on all aspects of their life. The incidence rate of fracture is higher amongst those older adults diagnosed with osteoporosis, a condition which leads to increased fragility in bones. This highlights the damaging physiological effects that falls can have in comorbidity alongside other health conditions.

Traumatic brain injury is another possible consequence of falling. Within older adult populations, falls account for around two-thirds of traumatic brain injury incidence. There are 155, 000 cases of traumatic brain injury in older adults annually in the United States leading to 12, 000 deaths. Adults aged 75 years or older have been found to have the highest rates of hospitalization and death from traumatic brain injury. Research from Goldstein et al., (1994) suggests consequences of traumatic brain injury in older adults include decreased cognitive performance including language, memory and executive function. An investigation by LeBlanc, Guise, Gosselin and Feyz (2006) compared traumatic brain injury patients of various ages. They were assessed using both the Extended Glasgow Outcome Scale (GOSE) and the Functional Independence Measure (FIM). Elderly patients showed worse outcomes, and had longer lengths of stay at hospital. This highlights the impact that falling can have upon older adults individual's cognitive ability and independence. Further research has explored the psychological effects of falls upon older adults.

Fear of falling (FOF) can develop following a fall, as fall history contributes towards FOF, although FOF affects some older adults whom have no history of falls. FOF has been identified as a risk factor for disability, reduced quality of life (Lawrence et al., 1998), and decreased mobility. FOF is also linked with

withdrawal from physical and social activities, resulting in social isolation, depression and psychological distress. This highlights the psychological impact that FOF can have upon older adults. To expand upon the impacts of FOF, social isolation is a key area of concern within older adult populations. Factors which contribute to social isolation and loneliness in older adults include increased geographic mobility of family, decreased geographic mobility of one's self, and death of fellow elderly friends and family. Social isolation has been demonstrated to lead to an increase in all-cause mortality, dementia, risk of re-hospitalization, and falls (Nicholson, 2012). Furthermore, research conducted within the USA suggests that social isolation and perceived loneliness are predictors of different diseases such as diabetes and asthma amongst different ethnic groups within older adult populations.

In the Western world, where life expectancy is greater, there are often instances of diverse multiculturalism, particularly in major cities. Therefore, future interventions may need to provide attention to cultural differences. It is unclear whether FOF is a result of social isolation, or vice versa. This provides debate as to whether FOF or social isolation is the main issue, and the other a consequence. Ultimately, the large body of literature outlining the relationship between the two, as well as their negative impacts upon older adults' health, justifies the need for future research into the psychological antecedents behind FOF.

Reduced quality of life can be a consequence that older adults suffer following a fall. Quality of life is described as a wellness resulting from a combination of physical, functional, emotional and social factors. The aforementioned consequences of falls, such as fractures, isolation and FOF,

can all have drastically negative impacts upon these factors. Reduced quality of life is associated with a loss of independence and is a negative consequence of falling.

Impacts of falls such as development of FOF, reduced quality of life, reduced mobility and increased loneliness and social isolation can all have damaging effects upon the health and wellbeing of older adults. One significant aspect of these impacts is that they are all very closely linked together, and can potentiate the effects of one another. For example, increased FOF could lead to withdrawal from physical activities, potentially increasing the risk of social isolation. On the other hand, the contrary can be suggested, that social isolation and withdrawal from physical activity can lead to increased FOF, by way of physical deconditioning. Additionally, a review conducted by Terroso et al., (2013) states that socio-economic factors such as living within the community, or living alone, can also influence the impacts that falls have upon older adults. Brummel-Smith (1989) proposed a conceptual framework for falls within older adults, proposing that FOF leads to increased activity restriction, which in turn leads to muscle atrophy and physical deconditioning. The consequent impacts of FOF are impaired balance and gait, which lead to falls. This suggests there is a cyclical nature of the fall process, indicating that FOF can develop following a fall. This highlights the complexity of identifying risk factors and impacts of falls. Therefore, interventions must consider both the psychological and physiological impacts of falls, and how they interact with one another.