

Dizziness among older adult

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Abstract: People aged 60 and over numbered around 600 million worldwide in 2000, and these figures are expected to reach 1.2 billion by 2025 and 2 billion by 2050. Of these, about two thirds currently live in the developing world, and by 2025 it is estimated that this figure will rise to 75% [1]. Globally, this increase in both overall numbers of older people and the relative percentage compared to the total population has considerable implications both for older people themselves and for the health services generally [2]. By this date, the number of old people is expected to grow from approximately 1 million (4 % of the population) to roughly 2.5 million (7 % of the population). This increase in numbers of older people presents numerous challenges to the health care system in Saudi Arabia [3]. However, little prior research has been undertaken examining older people and dizziness. Significantly, Older people suffer from dizziness. It is common in the elderly and increases the risk of falls, thus affecting the quality of life [2]. A major debate is whether dizziness is a normal part of the process of aging or is due to multiple factors, and how that will affect older people regarding treatment and quality of life. However, we do not know how common dizziness is in the general population of older adults. Studies were reviewed from the Cumulative Index of Nursing and Allied Health Literature (CINAHL); MEDLINE and ASSIA were searched using Ovid and CSA. [Amer Al Saif and Samira Alsenany. **Dizziness among older adult.** *J Am Sci* 2012;8(8):305-309]. (ISSN: 1545-1003). <http://www.iofamericanscience.org>. 46

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Introduction

People aged 60 and over numbered around 600 million worldwide in 2000, and these figures are expected to reach 1.2 billion by 2025 and 2 billion by 2050. Of these, about two thirds currently live in the developing world, and by 2025 it is estimated that this figure will rise to 75% [1]. Globally, this increase in both overall numbers of older people and the relative percentage compared to the total population has considerable implications both for older people themselves and for the health services generally [2]. By this date, the number of old people is expected to grow from approximately 1 million (4 % of the population) to roughly 2.5 million (7 % of the population). This increase in numbers of older people presents numerous challenges to the health care system in Saudi Arabia [3]. However, little prior research has been undertaken examining older people and dizziness. Significantly, Older people suffer from dizziness. It is common in the elderly and increases the risk of falls, thus affecting the quality of life [2]. A major debate is whether dizziness is a normal part of the process of aging or is due to multiple factors, and how that will affect older people regarding treatment and quality of life. However, we do not know how

common dizziness is in the general population of older adults.

The symptom of dizziness has been associated with an increased risk of falls, fainting, disability, and, in a few studies, stroke and death. Furthermore, there has been very little research investigating whether falls in general have an effect on declining movement [2,4]. It has been found that outside falls are more common among well and vigorous elderly people, while falls inside institutions are frequently associated with intrinsic risk factors, such as deprived health and poor balance [2,5]. Risk factors for falls been reported in several studies, such as fall incidents having a significant negative influence on the balance, gait, and Activities of Daily Living functioning in community-dwelling older adults [6].

Falls are considered the most serious problem in older people and so need more attention [2,3]. One study found that each year, 1500 new patients are seen in the unit, of whom 500 (33%) describe either dizziness alone, or dizziness in addition to falls and/or syncope. In large population studies, it has been noted that up to 25% of adults report current dizziness and a screening test for poor balance due to vestibular

dysfunction showed deficits in 35% of adults, with 50% of those being older than 60.

However, the exact aetiology of dizziness in older people is frequently made difficult because of comorbidity and age-related changes within the cardiovascular, neurological and vestibular systems [7,30]. This problem has been further confused by the wrong belief that dizziness in older people is untreatable and should be regarded as a part of normal ageing. However, while peripheral vestibular disorder is the most regular reason for dizziness presenting in primary care, anxiety or another type of psychiatric disturbance is also frequently present, and a multifactorial syndrome is often identified in older people.[8]. Nonetheless, chronic dizziness that is related poor balance is an important risk factor for falling and fear of falling, [9] which in turn leads to a decrease of movement, and an increase in morbidity and healthcare costs [26,27]. Neuromuscular changes may impede the body's ability to maintain balance. Altered balance and gait, common in older adults increase their risk for falling. Women tend to assume a narrow walking and standing base, with a tendency to waddle, while men have a wide standing and walking base, causing a shuffling gait. Stooped posture, resulting from change in bones, muscles, and joints, affect their ability to maintain their balance. However, there is now extensive agreement that an exercise-based form of treatment known as "vestibular rehabilitation" or "balance retraining" is the most successful means of treating dizziness caused by vestibular dysfunction [10].

The central element of vestibular rehabilitation is a programme of graded exercises, consisting of eye, head, and body movements designed to stimulate the vestibular system. On the other hand, one important factor that can cause of dizziness is benign paroxysmal positional vertigo (BPPV); this increases in prevalence with age. Significantly, a study that compared patients with BPPV referred initially to a Falls and Syncope Unit (FSS group) found that FSS patients were more likely to have more than one type of dizziness (16% vs. 0%, $p = 0.001$), more likely to have cerebrovascular or cardiovascular co-morbidity (13% vs. 4%, $p = 0.0152$) and were taking significantly more medication (3.2 vs. 1.7; $p = 0$) and that these issues could be a curable cause for dizziness and so of falls in older people [10].

Similarly, another study to differentiate between dizziness and balance disorders used a cross-sectional design to verify the occurrence of unrecognized benign paroxysmal positional vertigo (BPPV) and associated lifestyle issues in a public,

inner-city geriatric population. The study noted that dizziness was common in 61% of patients, whereas balance disorders were found in 77% of patients. In addition, nine percent were found to have unrecognized BPPV. Multivariate analysis demonstrated that the presence of a spinning sensation and the absence of a lightheadedness sensation predicted the presence of unrecognized BPPV. Patients with unrecognized BPPV were more likely to have reduced activities of daily living scores, to have had continual falls in the previous three months, and to have depression. These data indicate that unrecognized BPPV is common among older people and is related to causes of death [12,29,30]

Significantly, many older people with dizziness complain of two diverse types of dizzy symptoms [9,27,28]. The most common is a gait disorder, but they may also have symptoms stemming from the cardiovascular and peripheral vestibular systems. Furthermore, some causes of dizziness represent a danger to life. Similarly, another study found that occurrence of BPPV increases with age. Older people suffering from dizziness may be transferred to a different special unit. Usually, the diagnosis of posterior canal BPPV is expected when typical signs (nystagmus) and symptoms (vertigo and nausea) are aggravated by positional tests such as the Dix-Hallpike test [13].

On the other hand, one study found that the occurrence of specific causes differs widely and either no or multiple causes have been recognized. Dizziness might be better considered as being related to aging and as resulting from affects or disease in multiple systems. This study found that 261 participants (24%) reported dizziness, 56% of dizzy persons described several sensations and 74% reported several triggering activities. The adjusted relative risks for characteristics associated with dizziness were 1.69 (95% CI, 1.24 to 2.30) for anxiety, 1.36 (CI, 1.02 to 1.80) for depressive symptoms, 1.27 (CI, 0.99 to 1.63) for impaired hearing, 1.30 (CI, 1.01 to 1.68) for five or more medications, 1.31 (CI, 0.92 to 1.87) for postural hypotension, 1.34 (CI, 0.95 to 1.90) for impaired balance, and 1.31 (CI, 1.00 to 1.71) for post myocardial infarction. The adjusted relative risk for dizziness was 1.38 (CI, 1.27 to 1.49) for each additional characteristic.

The result suggests that dizziness may be a geriatric syndrome; similar to delirium, falling is among associated characteristics in multiple domains (cardiovascular, neurologic, sensory, psychological, and medication-related) and dizziness is coupled with a multiplicity of sensations and triggering activities

[14]. Patients with dementia often place themselves in dangerous situations, personal safety becomes a major risk liability. Currently, about four million persons are affected with dementia disorders, and this number is projected to be twelve to fourteen million by the year 2040 [15]. The physical design of special care units must address the unique need for controlled levels of stimulation, for personalised sequential structuring of daily events based on the patient care plan, and for the provision of verbal and visual guides to assist Alzheimers patients as they move from one activity to another.

Care for these patients must be planned, monitored, and adjusted to accommodate any cognitive impairment. The hospital should strive for the elimination of chemical and physical restraints in caring for patients with dementia and should include appropriate policies and procedures and proper documentation of restraints, when used. In Sweden, almost one-third of all hip fractures occurs in the hospital population.

Despite this, very few prevention strategies have been developed and tested. In this study, a risk assessment and recording program in relation to the risk of falling among patients in a geriatric department at a Swedish hospital was implemented. The records of all patients admitted to a geriatric unit during one year, and a stratified random sample of patient records, constituting the control group from the year before, were reviewed. No recordings of assessments regarding the patients risk of falling, and no preventive nursing interventions, were found in the records of the control group. The study group, however, increased the recording of risk assessment to 96%. Only implemented nursing interventions were found in 12 the patients' records, despite. If so, an impairment reduction strategy, proven effective for other geriatric syndromes, may be effective in reducing the symptoms and disabilities associated with dizziness. In contrast with ageing as the cause of dizziness, one study found that age is not necessarily a cause of dizziness; patients might be unconcerned about mild dizziness or balance deficits, but more than one in ten people of working age [16] and one in five people older than 60 years currently have dizziness that causes considerable interference with daily activities, medical consultation, or medication use. In the same vein, one study identified fall risk factors and the possible interaction effects of those risk factors.

Furthermore, aging is generally associated with steady decreases in muscle strength and muscle mass, often resulting in reduced functional capacity, physical frailty, impaired mobility and associated

accidental falls [17]. A subgroup of older adults aged 65 years and above ($N = 9,592$) with a history of falls and either no limitations in activities of daily living (ADL) and at least one instrumental activity of daily living or at least one ADL limitation was classified as being at a high risk of falling. Additionally, within each identified subgroup, the best predictor of falls varied over subgroups and was also evaluated. The study findings suggest the application of tree-based methods may provide helpful information for intervention program design and resource allocation planning targeting subpopulations of older adults at risk of falls.

Some of the study found relation between patient accident and medical diagnosis on of the study of patient falls from bed found 39.6% of patients with primary cardio-vascular diagnosis and 22.6% of patient with secondary cardio vascular diagnosis had sustained falls [17]. Another study of falls in cancer patient, found the greatest number of falls occurred on the day shift 45% [18]. Most seriously, such episodes are indicative of underlying cerebral or cardiac disorder. Cerebral disorders may involve epilepsy, which if occurring for the first time must be carefully investigated, or transient ischaemic attacks (TIAs). Cardiac involvement will include episodes of hypo tension, or a change in the cardiac rate or rhythm. Postural hypo tension, a sudden lowering of the blood pressure as the individual stands up, is fairly common in the elderly and maybe precipitated by certain prescribed drugs [19]. Aging itself causes changes in the body that increase the risk of falling, vision making it difficult to see hazards [6].

Study of fatal cerebral injury found in studied 71 fatal cerebral injuries based on medical examiners records. Falls represented almost two thirds of injuries, and occurred in infirm and / or alcoholic elderly. Eleven of the patients were hospitalised at the time of fatal injury. Skull fractures occurred in one half of the cases and subdural haematoma occurred in two-thirds of the cases, frequently opposite the site impact [19]. Another report into falls in the institution result that residents with three to six concurrent chronic diseases and those treated more than three drugs had greatest number of falls peak frequencies of falls occurred from 4 pm to 5 pm, 7 pm to 8 pm, and 6 am to 7 pm. Residents over the age 85 were at grate risk for major accident [26]. also suggest that number of drugs that patient received represented the multiple pathological disorders in these 27 patients, and increased their underlying risk. They also reported that alert, wheelchair-bound patients were at higher risk because of their mobility, whereas those who used

assertive devices (walkers, canes, and crutches) were at the lowest risk.

In conclusion, no drug in recent use has been found to treat or have preventive value or is affective for palliative use in the long term [8] while, admission to vestibular rehabilitation usually involves high costs and long waiting lists, [11]. While it is also essential to locate suitably trained physical therapists to teach exercises to patients, this can be difficult. As result, it is important to find different management and treatment that can provide help and reduce the cost of treatment to a larger number of patients [20].

Despite this, very few prevention strategies have been developed and tested. Providing a hazard-free environment for patients is the shared responsibility of all health care workers. Environmental hazards that frequently contribute to these falls include wet floors caused by episodes of incontinence, poor lighting, bedrails, and improper bed height [21]. Several devices that alert caregivers to patient movement or that protect patients from injuries from falls are currently being developed and marketed as possible alternatives to restraints for many high-risk patients. The most widely available devices are various alarm systems that are activated when patients try to get out of bed or move unassisted. One such alarm system was pilot-tested on an orthopaedic and a general medicine hospital ward. Preliminary 5-month 50 data indicated that the number of patient falls was reduce 33% and 45% on each ward, respectively [22].

An infrared scanning system that activates an alarm in the nursing station when a patient sits up or gets out of bed was found to reduce the incidence of nighttime falls from 2.8 to 1.0 falls per month when installed on psycho geriatric unit [23]. Video recording systems are also being used as a means of providing closer monitoring of patient activity.

Falls have also been reported to increase when nurse staffing is low, such as during breaks and at shift changes, presumably because of lack of staff supervision "Change-in-support" (CIS) balance-recovery reactions that engage rapid stepping or reaching movements play a critical role in fall prevention; however, age-related discrepancy in the neuro-musculoskeletal systems may slow down the ability to carry out these reactions effectively [24]. The majority of events happened in the day time and in the patients' room during the first week of hospitalisation and during the interval when hospital density was greatest [21].

The lifestyle adopted can make a difference to an individual's risk of falls. As well as exercising

regularly, reducing alcohol intake, not smoking and ensuring a balanced diet will help to reduce the risk of falls and osteoporosis [25]. Previous studies have stressed the need to prevent falls, a systematic therapeutic approach to patient who have fallen is necessary, and close attention must be paid to identifying and rescuing risk factors for falls among frail older persons who have not yet fallen. The problem of falls, focusing on identifiable causes, risk factors, and preventive approaches. The extensive prior literature have confirmed that a focused history and physical examination after a fall can usually determine both the immediate underlying causes of the fall and contributing risk factors. In addition, regular evaluation in the hospital can help identify patients at high risk who can then be targeted for specific treatment and prevention strategies.

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