

Research Article

Study on Nurses' Knowledge about Fall Prevention among Elderly Women

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Abstract

Background: The most common unintentional injury in older adults are falls. Falls are defined as move from a higher to a lower level, typically rapidly and without control: lose one's balance and collapse. A fall is an event that results in a person coming to rest inadvertently on the ground or floor or other lower level. A fall is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level.

Aim of Study was assessing nurses' knowledge about fall prevention among elderly women. **Research design:** A descriptive design **Setting:** Outpatient Clinics at Beni-Suef University Hospital. **Sample:** A cross-sectional sample consisting of one hundred nurses. **Tool:** Self-administered Questionnaire consists of: (I) Personal characteristics of nurses, (II): Nurses' Knowledge assessment sheet.

Results: more than a half of the studied nurses (59.1%) report that they know Morse tool, 86.6% mention that the most ones at risk of falling are those they have a weakness of the lower extremities, 89.0% mention that the medications associated with falls and the harmful effects those are Antihypertensive medications, 73.6% mention that; loss of balance is the main factor that contribute to falls among the elderly, 88.8% report that they provide adequate lighting for safe walking as a safety precautions and basic nursing practice for fall prevention among old women. **Conclusion:** Figure (1) Most of the studied nurses have knowledge regarding whom are at risk of falling, medications associated with falls and the harmful effects, complications resulting from falls for the elderly, factors that contribute to falls among the elderly and information/instructions should be given to the patient to avoid falling. **Recommendation:** Further study should be conducted for identifying and understanding the combination of factors that produce successful unit-level fall prevention strategies.

Keywords: Nurses' Knowledge; Fall Prevention; Elderly Women

Introduction

Early adulthood marks the start of the slow, ongoing process of natural change known as aging. Many body processes start to progressively deteriorate in the early middle years of life. Chronic obstructive pulmonary disease, diabetes, depression, dementia, back and neck discomfort, cataracts, refractive errors, hearing loss and osteoarthritis are common illnesses in older adults. People are more prone to encounter multiple conditions concurrently as they get older [1-4]. Furthermore, some elders internalize the prevalent attitudes and views about aging in the larger culture. A weakened feeling of self-worth and self-trust may arise from older people accepting negative stereotypes about aging, dependency and a loss in their abilities. Believing that one is incapable of making decisions for themselves or that one must heavily rely on others to do so can become self-fulfilling [5-10].

Aging takes place in a cell, an organ, or the total organism with the passage of time, is a process that goes on over the entire adult life span of any living thing. Gerontology, the study of the aging process, is devoted to the understanding and control of all factors contributing to the finitude of individual life, is not concerned exclusively with debility, which looms so large in human experience, but deals with a much wider range of phenomena [11].

Old age cannot be universally defined because is context-sensitive. The United Nations, for example, considers old age to be 60 years or older. The World Health Organization's [WHO] Regional Office for Africa and the U.S. National Institute on Aging jointly released a paper in 2001 that placed the age of old age in Sub-Saharan Africa at 50. The reason for the lower threshold is mostly due to the distinct perspective that developing nations have on old age. Lower life expectancy across the developing world has a significant impact on old age determination as well. In contrast to the developed world, where chronological age dictates retirement, societies in developing countries determine old age based on an individual's ability to make active contributions to society [12].

All countries face major challenges to ensure that health and social systems are ready to make the most of demographic shift. In 2050, 80% of older people will be living in low- and middle-income countries. The pace of population ageing is much faster than in the past. In 2020, the number of people aged 60 years and older outnumbered children younger than 5 years. Between 2015 and 2050, the proportion of the world's population over 60 years will nearly double from 12% to 22% [13].

By 2030, 1 in 6 people in the world will be aged 60 years or over. At this time the share of the population aged 60 years and over will increase from 1 billion in 2020 to 1.4 billion. By 2050, the world's population of people aged 60 years and older will double (2.1 billion). The number of persons aged 80 years or older is expected to triple between 2020 and 2050 to reach 426 million. By 2050, two-thirds of the world's population over 60 years will live in low- and middle-income countries. Recent evidence suggests that age-related risk of death plateaus after age 105. The maximum human lifespan is suggested to be 115 years [14].

Falls are the leading cause of unintentional injury in older. Falls defined as move from a higher to a lower level, typically rapidly and without control: lose one's balance and collapse. A fall is an event that results in a person coming to rest inadvertently on the ground or floor or other lower level. A fall is defined as an event that results in a person coming to rest inadvertently on the ground or floor or other lower level [15].

Death from falls is a serious and endemic problem among older people, is estimated that fall death rates in the U.S. have increased 30% from 2007 to 2016. If this rate continues, the CDC anticipates seven fall deaths every hour by 2030. Injuries from falls are costly and cause prolonged hospitalization for the older people. Additionally, the quality of life after sustaining falls is significantly changed. Falls are the most common cause of Traumatic Brain Injuries (TBI) and most hip fractures are caused by falling. Each year, over 800,000 patients are hospitalized because of falls [16].

Nurses play a major role in preventing falls for patients through education, evaluating fall risk, creating safer environments and providing interventions in preventing injuries from falls. Injury and fall prevention for older women patients involves several strategies, including conducting comprehensive assessments of the patient's mobility, strength and balance, implementing environmental modifications to reduce hazards [17]. This makes the study extremely important since it will assist hospital administrators in developing new policies and strategic plans to raise the standard of care and lower the rate of fall prevention among senior women.

Aim of Study

The study's objective is to evaluate study nurses' understanding of fall prevention strategies for senior citizens.

Research Question

What about the nurses at Beni-Suef University Hospital understand of fall prevention among older women?

Material and Methods

Research Design

In this study, a descriptive design was used.

Study Settings

The Beni-Suef University Hospital served as the study's patient population.

Sample: 100 nurses, both male and female, who were caring for patients related to direct patient care made up this cross-sectional sample.

Tools of data collection: Tool (1): Self-administered Questionnaire:

It was composed of the following paragraphs and was written in basic Arabic.

Part I: Personal characteristics of nurses such as age, level of education, years of experience and training.

Part II: Knowledge assessment sheet: it developed by the investigator after reviewing the related literature [18]. Scoring system: The total scores of the 22 questions were 22 degree which equal 100%, each question was assigned a score according to nurses' knowledge responses were correct answer scored with 1 and incorrect answer scored with 0.

Content Validity: Cronbach's alpha test was used to measure the tool's internal consistency in the reliability analysis and the knowledge assessment sheet's result was 0.824.

Reliability: A panel of five professors with expertise in community health nursing made the determination. Regarding the form, layout, accuracy, consistency and relevance of the instruments, their thoughts were solicited.

Ethical Considerations

The ethical committee of Beni-Suef University's faculty of medicine granted approval for the project. Before beginning, the investigator gave the nurses who were part of the study a clear explanation of its goals. Before being enrolled in the trial, the nurses gave their oral agreement; a clear and concise explanation was provided based on their comprehension level.

Pilot Study

Pilot research involving ten nurses was conducted. The pilot calculated how long it would take each participant to complete the questionnaire.

Fieldwork

Data were gathered between the start of March 2022 and the conclusion of September 2022. Individual interviews were conducted following the nurses' assent to take part. The nurses took fifteen to thirty minutes to complete the questionnaire. The study's purpose and methodology were communicated to the nurses under investigation and data was gathered utilizing the instruments previously indicated.

Administrative Design

A formal letter from the dean of Beni-Suef University's nursing department to the hospital's director was submitted in order to obtain official approval (SPSS version 22).

Statistical Analysis

A Personal Computer (PC) was used to edit, code and enter the data that was obtained from the analyzed sample. The Statistical Package for Social Sciences (SPSS) version 22 was used for statistical analysis and computerized data entry.

Results

Fig. 1 illustrates knowledge of the studied nurses about information that assesses the nurse's knowledge of falls. It reveals that about two-thirds of them (62.0%, 60.0%) report that they have been given courses and training on the possibility of preventing and don't know the rate of measurement, risks and prevention of falls respectively. The most of the studied nurses (82.0%) report

that they know who is at risk of falling. Almost three quarters of them (73.0%) mention that they know the medications associated with falls and the harmful effects. More than three-quarters of the studied nurses (77.0%) mention that they know the complications resulting from falls for the elderly. As well, most of them (87.0%) state that they know the factors that contribute to falls among the elderly. Moreover, most of the studied nurses (80.0%) report that know what information/instructions should be given to the patient to avoid falling.

The same figure portrays knowledge of the studied nurses about information about nursing care and practices. It shows that most of them (89.0% and 84.0%) report that they know the safety precautions and the standard fall prevention interventions, respectively. Moreover, that most of the studied nurses (88.0%) report that they know what interventions is needed to prevent high-risk falls.

Fig. 2 portrays nurse's knowledge regarding the approved fall risk assessment tool. It reveals that more than a half of them (59.1%) report that they know Morse tool, while 40.9% of them know Humpty dumpty.

Fig. 3 presents nurse's knowledge regarding measurement, risks and prevention of falls respectively, only more than one tenth of them (15.0%) mention that the measurement rate, risks and prevention of falls is more than 46 High Risk (High Risk Fall Prevention Interventions).

Fig. 4 indicates that most of the studied nurses (86.6%) mention that the most ones at risk of falling are those they have a weakness of the lower extremities.

Fig. 5 indicates that most of the studied nurses (89.0%) mention that the medications associated with falls and the harmful effects those are Antihypertensive medications.

Fig. 6 displays that more than three-quarters of the studied nurses (79.2%) mention that; a broken bone is the main complication from falls for the elderly.

Fig. 7 presents that around three-quarters of studied nurses (73.6%) mention that; loss of balance is the main factor that contribute to falls among the elderly.

Fig. 8 shows that most of the studied nurses (92.5%) mention Prior to hospital discharge, teach seniors and the family ways to prevent accidental falls at home, such as correcting common household hazards. Encourage the family to take steps to ensure the safety of the resident" is the main information / instructions should be given to the patient to avoid falls.

Fig. 9 portrays knowledge of the studied nurses about information about nursing care and practices. It shows that most of them (88.8%) report that they provide adequate lighting for safe walking as a safety precautions and basic nursing practice for fall prevention among old women.

Fig. 10 represents that the most of the studied nurses (83.3%) state that they are informing patients "at risk" during the shift / transfer report as a standard fall prevention intervention.

Fig. 11 reveals that most of the studied nurses (90.9%) report that mention the night light is on is needed to prevent high-risk falls.

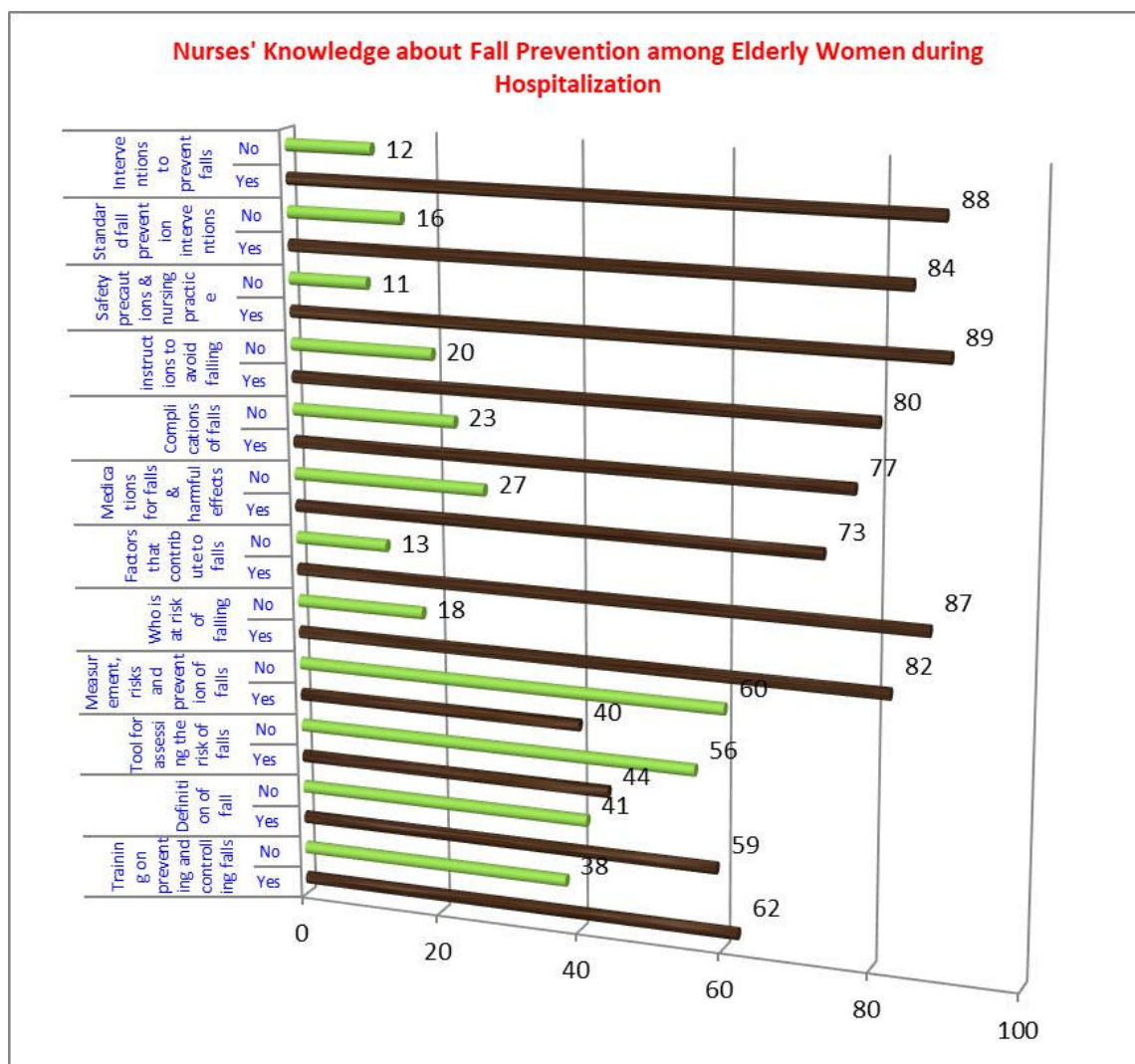


Figure 1: Nurses' knowledge about fall prevention among elderly women during hospitalization.

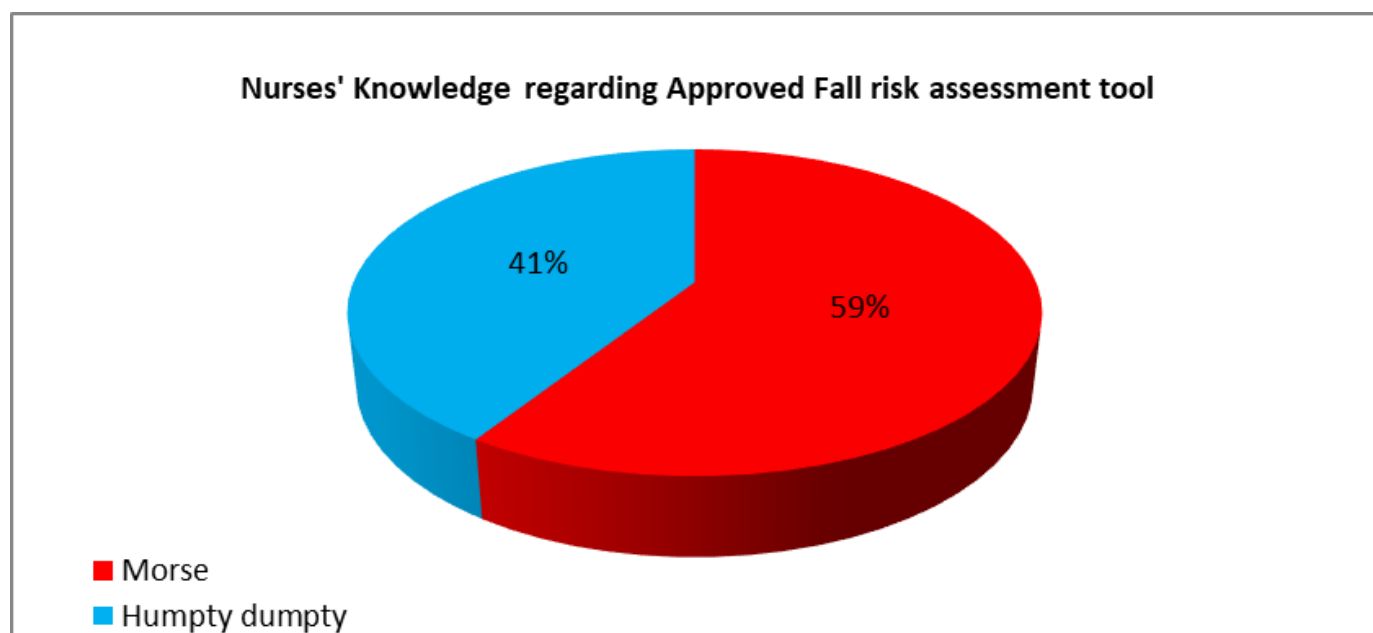


Figure 2: Nurses' Knowledge regarding the Approved Fall risk assessment tool (n=44).

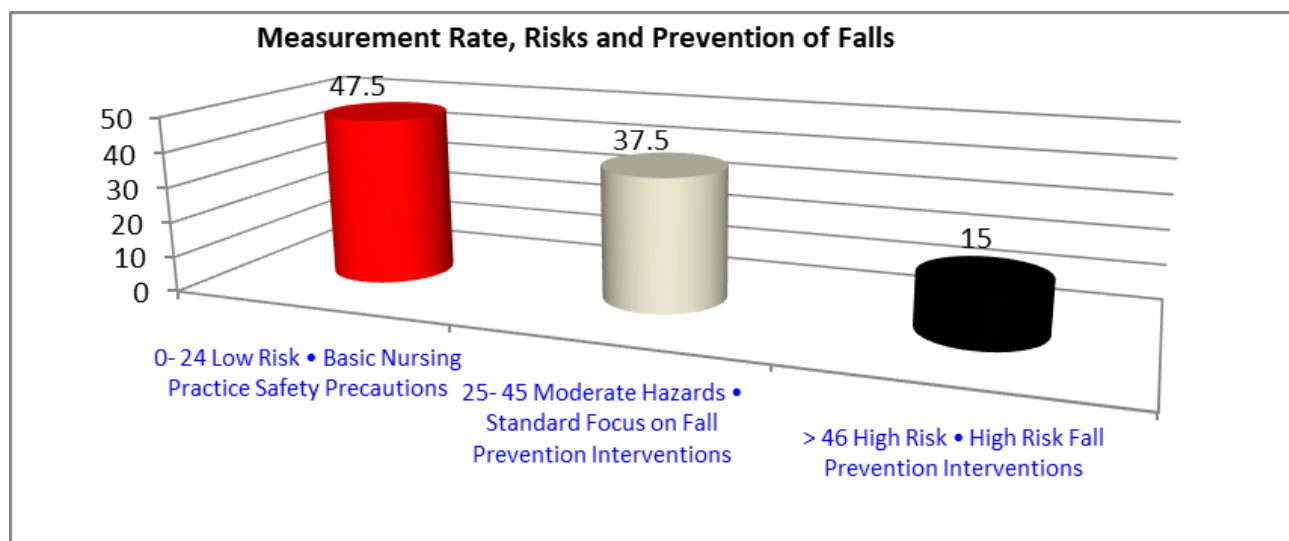


Figure 3: Measurement rate, risks and prevention of falls (n=40).

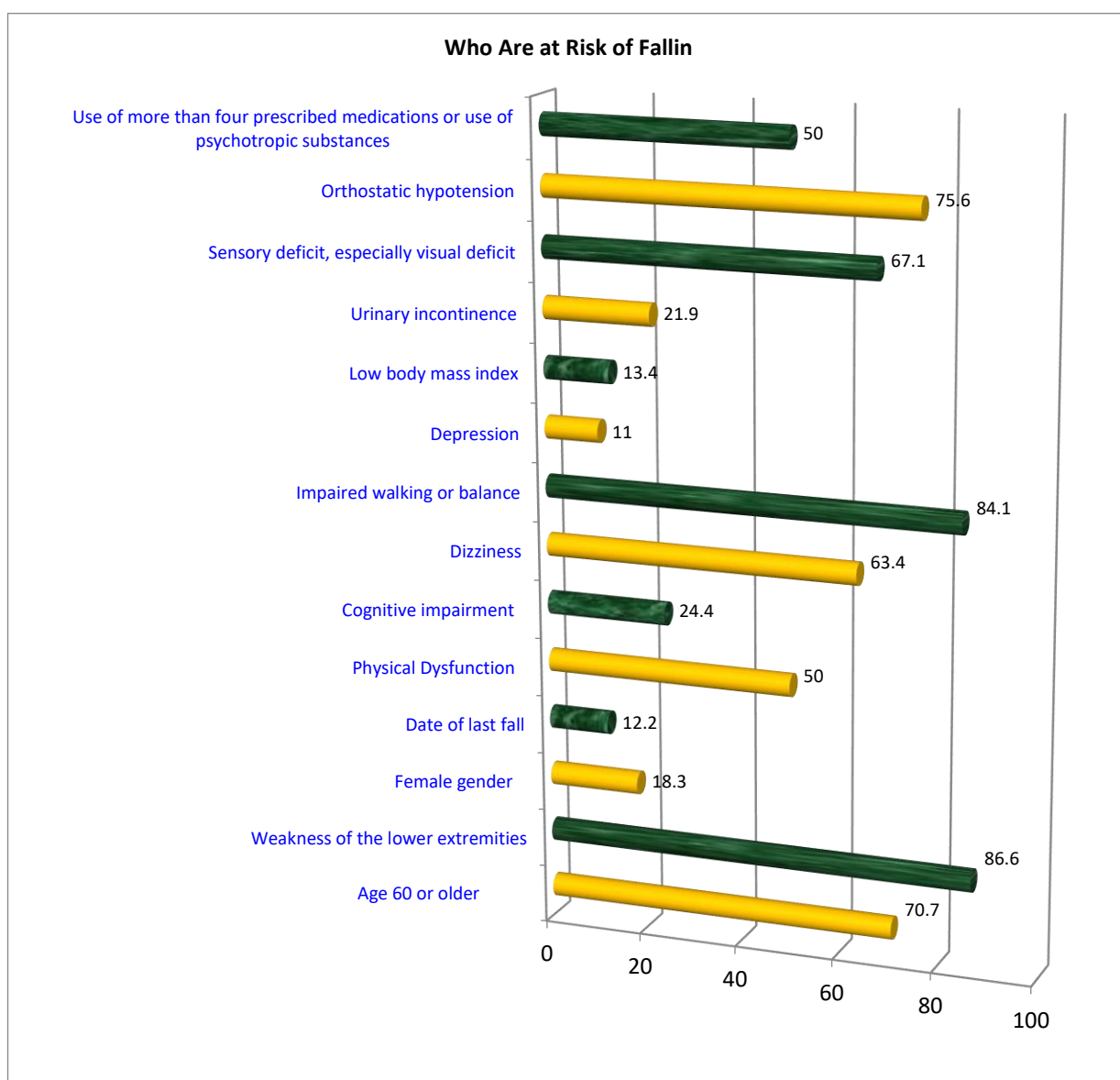


Figure 4: Who are at risk of falling (n=82).

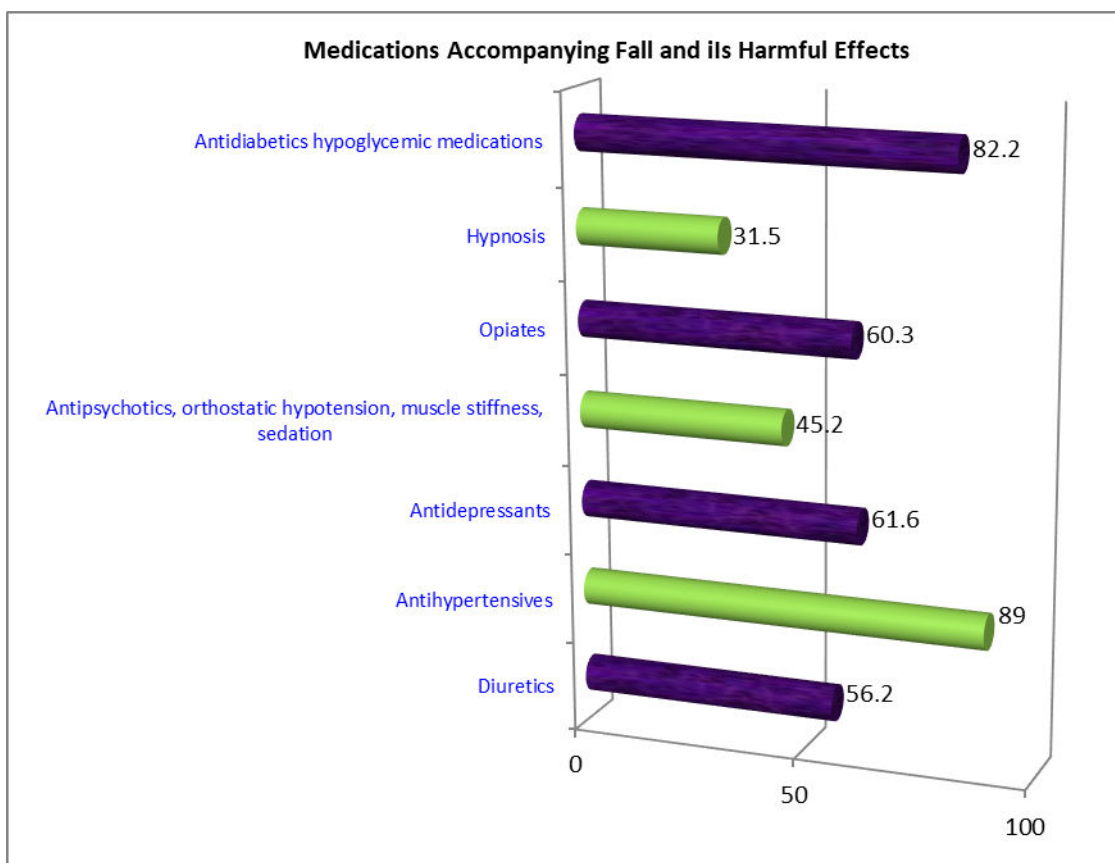


Figure 5: Medications accompanying the fall and its harmful effects (n=73).

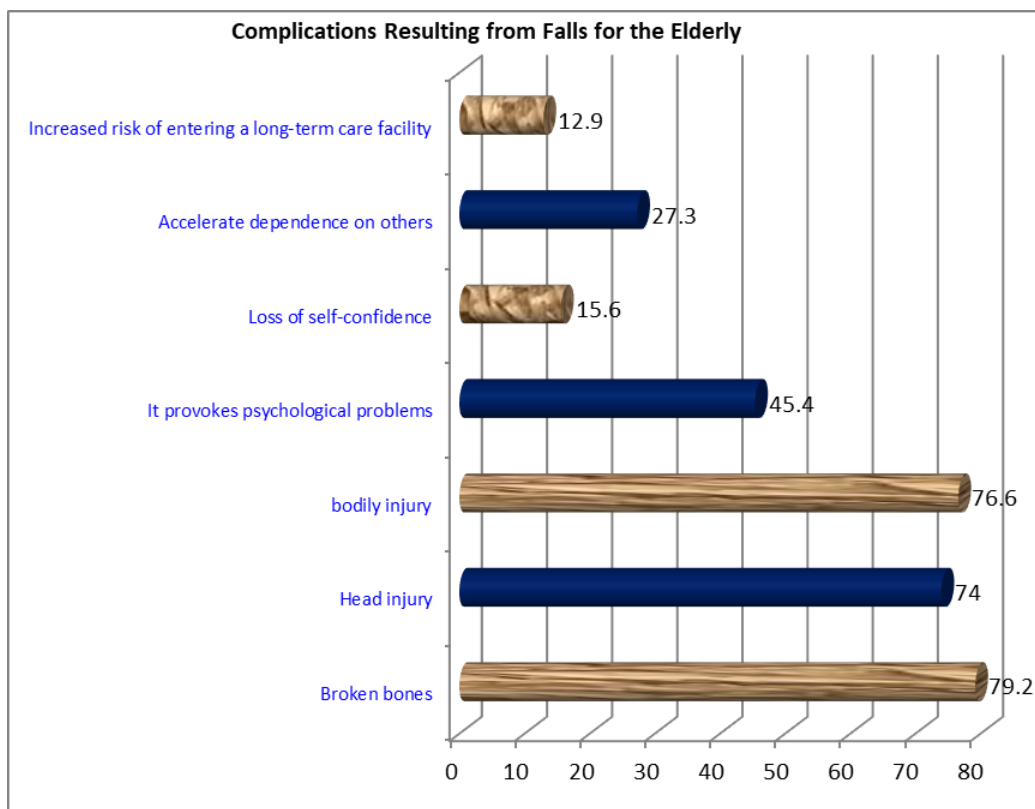


Figure 6: Complications resulting from falls for the elderly (n=77).

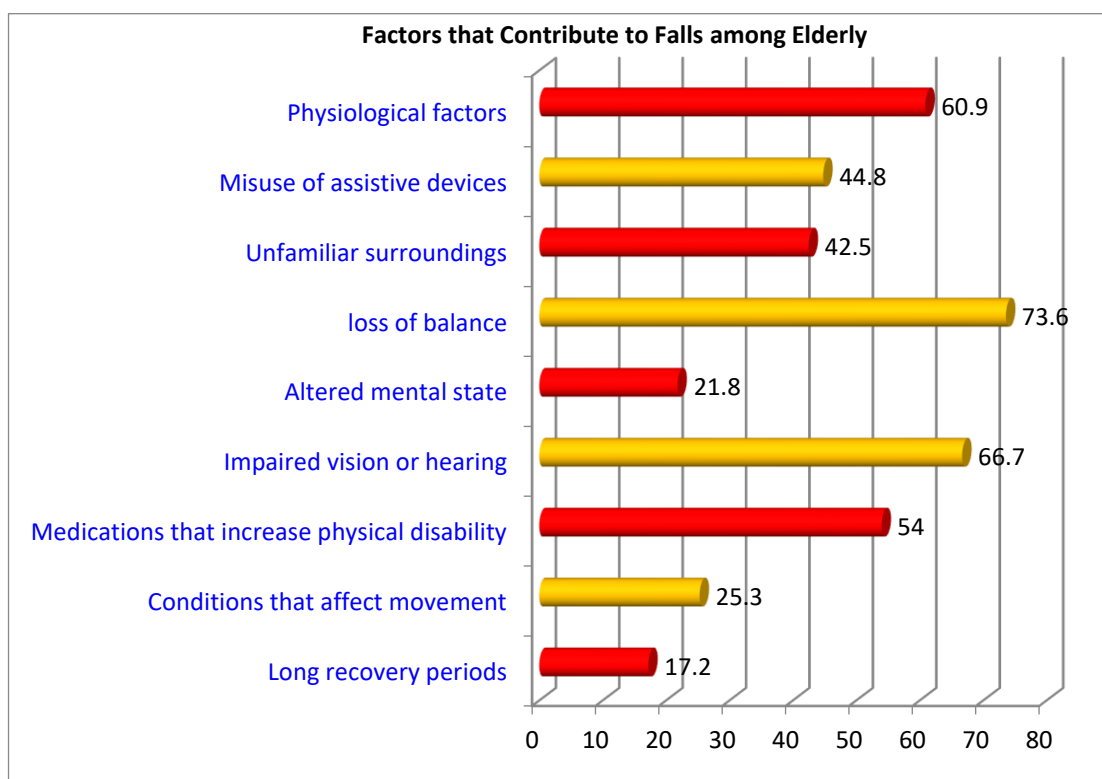


Figure 7: Factors that contribute to falls among the elderly (n=87).

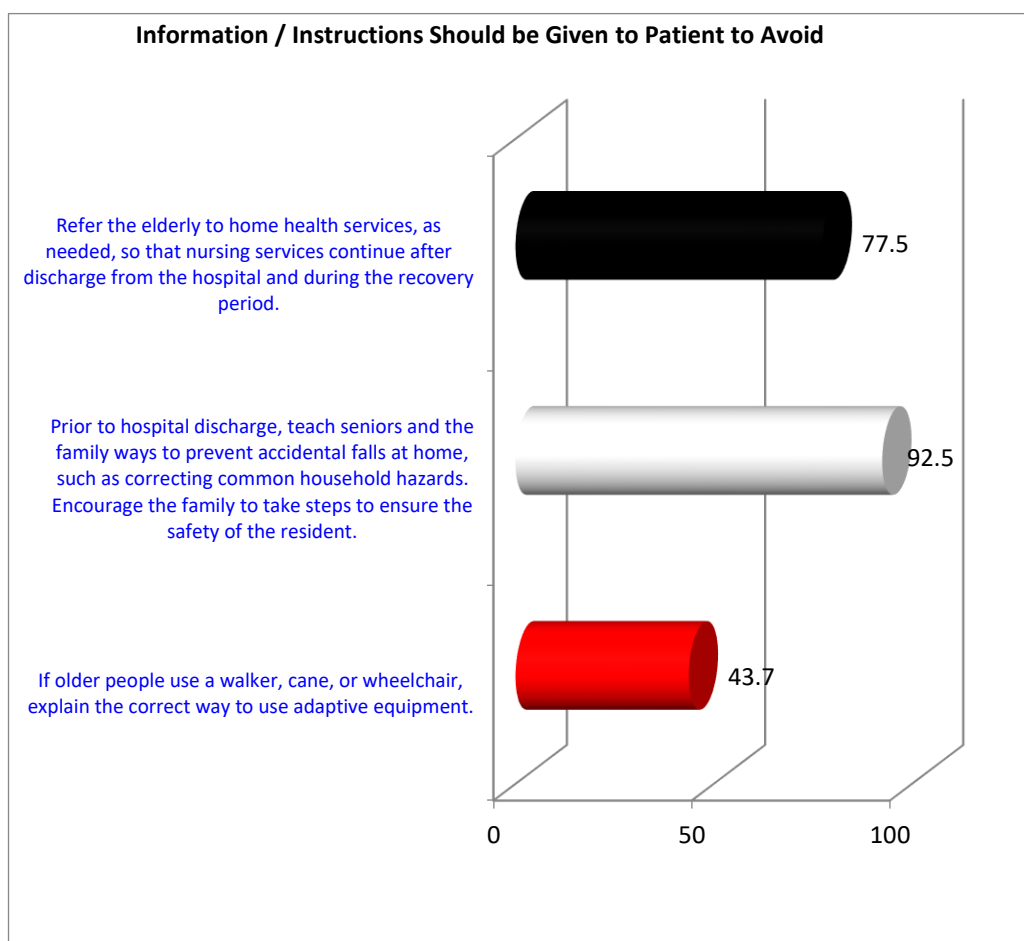


Figure 8: Information / instructions should be given to the patient to avoid falls (n=80).

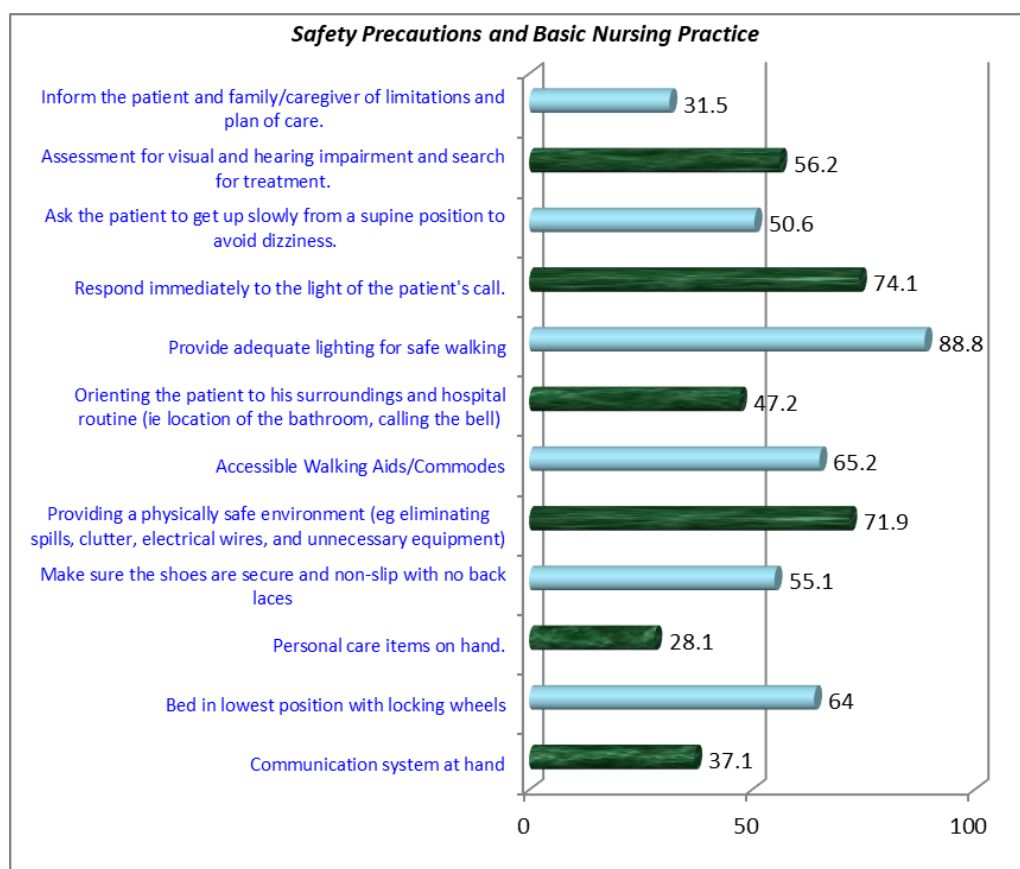


Figure 9: Safety precautions and basic nursing practice (n=89).

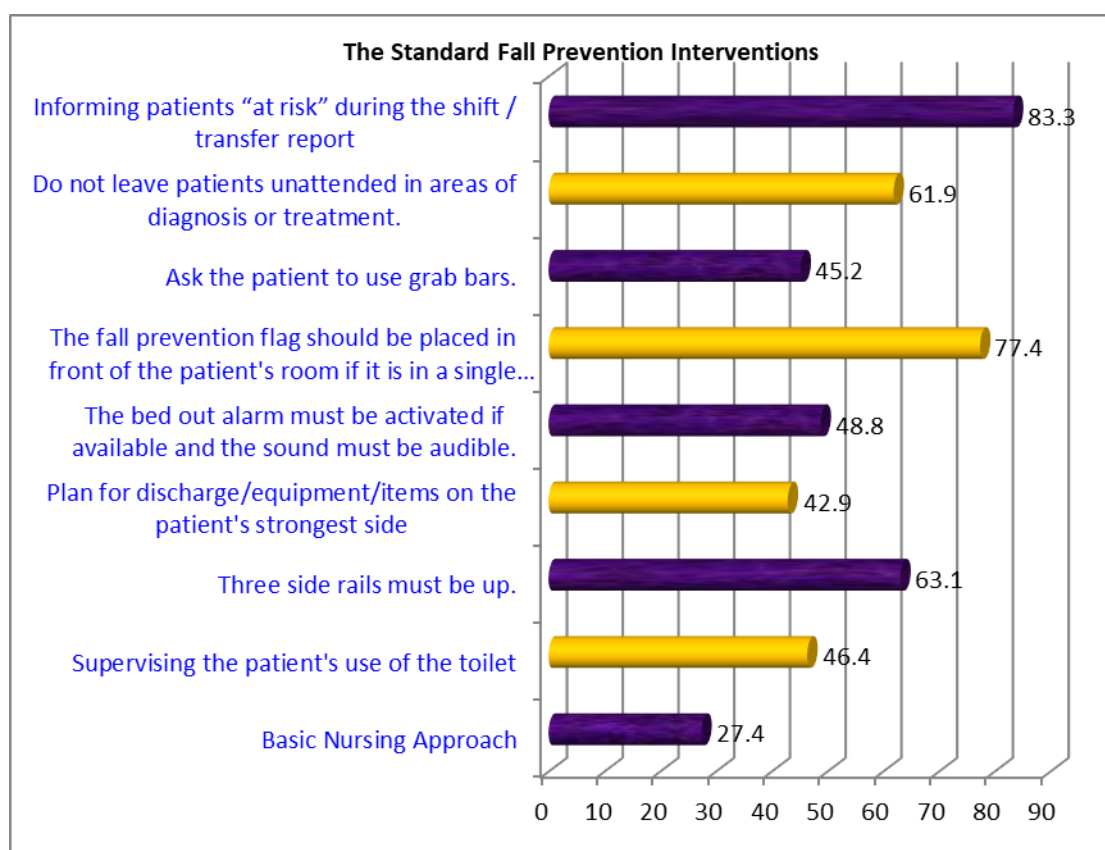


Figure 10: The standard fall prevention interventions (n=84).

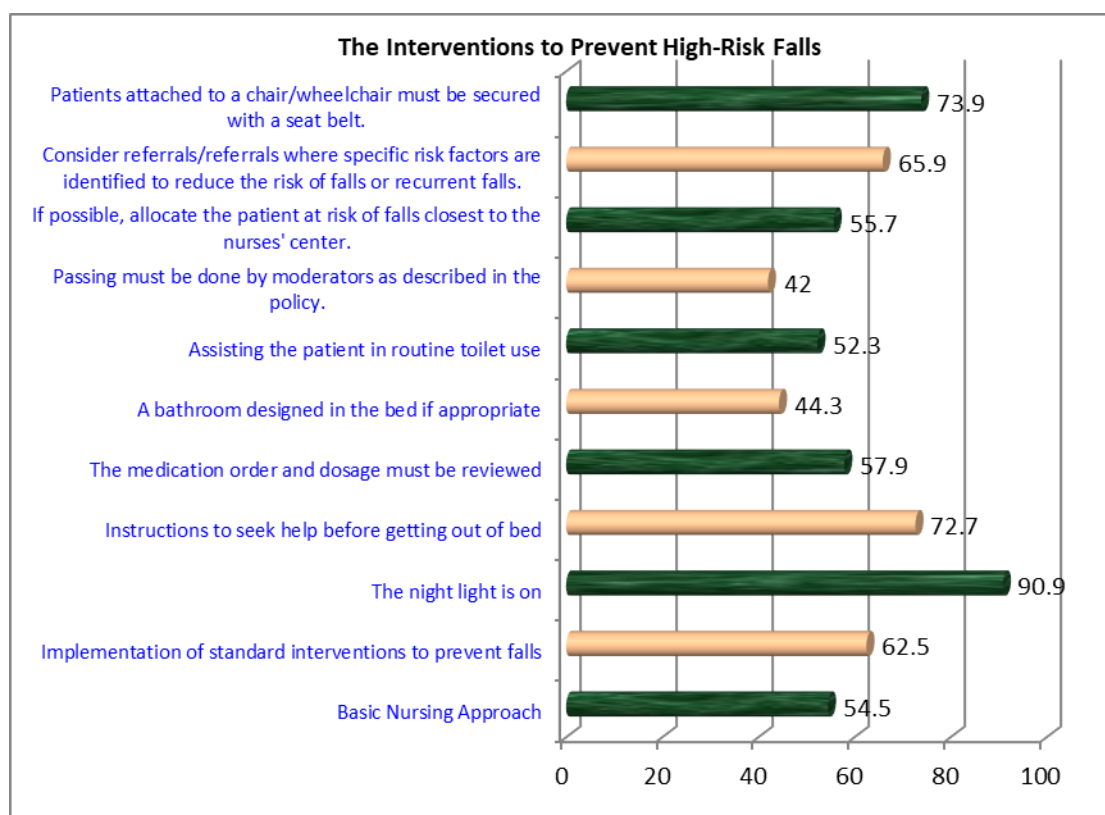


Figure 11: The interventions to prevent high-risk falls (n=88).

Discussion

The aging process is a natural occurrence that begins from pregnancy and lasts until death. It is brought on by the irreversible deterioration of bodily tissues and systems. The aging process involves changes in physiology, psychology, sociology and chronology and it is not a pathological process [19-21]. At the biological level, aging is caused by a broad range of cellular and molecular damage that accumulates over time. This causes a steady decline in mental and physical ability, an increase in the chance of illness and eventually death. These changes are neither linear nor consistent and their association with an individual's age in years is merely tenuous. The variety observed in later life is not coincidental. Beyond biological changes, aging is frequently linked to other life transitions including retirement, moving to a more suitable home and the death of friends and partners [22-26].

The old-age population suffers from chronic diseases and multi-morbidity. Developing countries are witnessing an increasing number of geriatric populations due to ongoing improvement in the health sector and elderly people are living longer. Although the number of old people in developing nations is frequently considerable, the percentage of elderly people is usually minimal. Moreover, 280 million persons aged 60 or older lived in developing countries in 1990, accounting for 58 percent of the world's elderly. Until January 2019, Egypt's elderly population had reached 6.5 million; 3.5 million males and 3 million females; this is according to the Central Agency for Public Mobilization and Statistics [27-31].

Fall is a worldwide health problem, leading cause of disability, resulted from declining physical function among elderly people. So, nurses carry a burden of improving health and reducing falls among older adults with chronic diseases attending any health care setting or even at home through regular home visits. This can be done through educating, training and encouraging older adult to apply Otago Exercise Program [32].

The current study at Beni-Suef University Hospital sought to evaluate study nurses' understanding of fall prevention among senior women. In terms of the nurses under investigation, the current study's findings indicate that fewer than two thirds of them had information regarding the assessment of falls in the senior population. These findings could be explained by the fact

that over half of the nurses in the study did not participate in fall prevention training sessions. These results are consistent with a study by Sinuraya E, about "Nurses' Fall Knowledge and Fall Prevention Practises for Hospitalized Elderly in Medan, Indonesia," which found that approximately two thirds of the nurses in the study were knowledgeable about the definition and assessment of falling [33]. Moreover, this outcome is matched with study by Susanti who conducted study about "Correlation between Nurses knowledge and obedience to the implementation of standard operating procedure" and reported that small percentage of the studied nurses had knowledge about methods of prevention [34].

The findings of the current study about senior people's knowledge of fall risk factors indicated that the majority of them were aware of the possibility of falling and mentioned having a weakness in their lower limbs. This outcome in same line with study by Wang, et al., who conducted study about "The Perceived Knowledge of Fall Prevention in Nurses Working in Acute Care Hospitals in China and the United States" and indicated majority of the studied nurses had knowledge about risk factors among patients [35]. Furthermore, this outcome aligns with the findings of a prior investigation by Gupta, who carried out research regarding "Knowledge among nurses of fall prevention hospital" and showed that majority of the studied had adequate knowledge about at risk of falling and mention that those they have a weakness of the lower extremities, mention that they know the medications associated with falls [36].

Concerning on complications of falls, the result of present study illustrated that more than three quarters of the studied nurses mention that they know the complications results from falls for the elderly and report broken bones. This outcome in same line with study by Nadia and Permanasari, that conducted study about "Compliance of the nurse for fall risk assessment as a procedure of patient safety" It revealed that almost two thirds of the nurses in the study were aware of potential problems [37]. Regarding to information about nursing care and practices among studied nurses', the result of current study illustrated that most of them report that they know the safety precautions and basic nursing practice and state that they provide adequate lighting for safe walking. Also, most of them mention that know the standard fall prevention interventions and state that they are Informing patients "at risk" during the shift/transfer report. These results may be due to about two thirds of studied nurses had experience more than five years. Conversely, this finding disagreed with study by Adly, et al., that "Assessment of Nurses' Knowledge and Practices Regarding the Application of Safety Standard Precautions" who revealed that about two thirds of the studied nurses had incorrect knowledge about the safety precautions and basic nursing practice. This difference between studies might be due to level of education of nurses and lack of continuous supervision about infection control precaution [38].

Related to interventions is needed to prevent high-risk falls among the studied nurses, the result of reveals that most of the studied nurses report that they know what interventions is needed to prevent high-risk falls and mention the night light is on. This outcome agreed with study by Onuekwusi, entitled "Nursing Interventions for Reducing Falls among Older Adults on Polypharmaceutical Agents" and concluded that most of the studied had adequate knowledge regarding about Interventions for Reducing Falls among Older Adults [39].

Conclusion

Most of the studied nurses have knowledge regarding whom are at risk of falling, medications associated with falls and the harmful effects, complications resulting from falls for the elderly, factors that contribute to falls among the elderly and information/instructions should be given to the patient to avoid falling.

Recommendation

1. Further study should be conducted for identifying and understanding the combination of factors that produce successful unit-level fall prevention strategies
2. This study could be replicated to larger sample of nurses and in different settings to generalize the findings

Conflict of Interest

The authors have no conflict of interest to declare.

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