

Oya Nuran EMİROĞLU<sup>1</sup>  
Gülnaz KARATAY<sup>2</sup>

İletişim (Correspondance)

Oya Nuran EMİROĞLU  
Hacettepe Üniversitesi, Sağlık Bilimleri Fakültesi  
Hemşirelik Bölümü ANKARA

Tlf: 0428 213 17 94  
e-posta: oyanuran@gmail.com

Geliş Tarihi: 31/03/2010  
(Received)

Kabul Tarihi: 09/08/2010  
(Accepted)

<sup>1</sup> Hacettepe Üniversitesi Sağlık Bilimleri Fakültesi  
Hemşirelik Bölümü ANKARA

<sup>2</sup> Tunceli Üniversitesi Sağlık Yüksekokulu TUNCELİ



RESEARCH

## PERCEPTIONS OF FALLS AMONG TURKISH ELDERLY LIVING IN INSTITUTIONS: A PHENOMENOLOGICAL RESEARCH

### ABSTRACT

**Introduction:** Falls in the elderly are a significant problem with consequences that may lead to death. Although many studies have been conducted regarding falls in the elderly, little is known of their own perceptions and experiences of falling. The purpose of this study was to better understand how the elderly living in institutions understand and perceive their experiences of falling.

**Materials and Method:** A qualitative design was used based upon van Manen's phenomenological approach. Interviews were conducted with 22 elderly using a purposive sampling method. Van Manen's data analysis approach was used to analyze the data derived from the interviews.

**Results:** Outcomes of this study showed that there were three main perceptions about falls for the elderly: Participants acknowledged falling as a painful experience and that falls should be expected in old age. Still others understood that life goes on but with new areas of concern which will require their attention and care.

**Conclusion:** The results of this study show that all health care personnel, particularly the nurses who care for the elderly in an institutional environment, need to adopt an individualized and empathetic approach to those in their care. Falls happen often and can be fatal to the elderly. Thus it is very important for all health care professionals working with the elderly to be fully informed and involved in ensuring that their patients practice safe behaviors to guard against falls. Care should also be taken to ensure that their living environment is safe and secure.

**Key Words:** Aged; Accidental Fall; Perception; Qualitative Research; Nursing.



ARAŞTIRMA

## KURUMDA YAŞAYAN YAŞLILARIN DÜŞMEYE İLİŞKİN ALGILAMALARI: FENOMENOLOJİK BİR ÇALIŞMA

### Öz

**Giriş:** Yaşlılarda düşme, ölümlere neden olabilen önemli bir sorundur. Düşmeye ilişkin bir çok çalışma yapılmasına rağmen, yaşlıların düşmeye ilişkin deneyimleri ve algıları hala bilinmemektedir. Bu çalışma, kurumda yaşayan yaşlıların düşmeye ilişkin deneyimlerini ve algılarını ortaya çıkarmak amacıyla yapılmıştır.

**Gereç ve Yöntem:** Bu çalışmada Van Manen'in fenomenolojik yaklaşımından köken alan kalitatif desen kullanılmıştır. Amaçlı örnekleme yöntemi ile seçilen 22 yaşlıyla yüz yüze görüşmeler yapılmıştır. Görüşme içeriğinin analizinde Van Manen'in veri analizi yaklaşımı kullanılmıştır.

**Bulgular:** Bu çalışmada, yaşlıların düşme ile ilişkili algılarının üç ana temada toplandığı görülmüştür. Bu temalar; acılı deneyim, yazgı ve yaşamın tehlikelerle devam ettiği biçimindedir.

**Sonuç:** Bu çalışma bulgularının, özellikle kurumda yaşayan yaşlıların sağlık bakımında rol alan profesyonellere ve özellikle önemli görevler üstlenen hemşirelere, yaşlıların her birinin birey olarak ayrı ayrı ele alınarak empati ile yaklaşmalarında yardımcı olacağı düşünülmektedir. Yaşlıların düşmeye ilişkin algılarının bilinmesi güvenli bir çevrede güvenli davranışlar sergilemesi açısından önemlidir.

**Anahtar Sözcükler:** Yaşlanma; Düşme; Algılamalar; Kalitatif Araştırma; Hemşirelik.



## BACKGROUND

Falls in the elderly are a significant health problem, which occur more frequently with advancing age (1). Elderly nursing home residents have a high risk of falls (2). Among people aged 65 years and older one-third of those living in ordinary housing suffer a fall each year, whereas in residential care facilities about two-thirds of elderly experience falls (3). A study conducted in Turkey found that 19.4% of individuals 60 years and older had already experienced accidents and 69.7% of these accidents were the result of falls (4).

Falls that occur in the elderly affect their daily lives, ability to move, independent activities and functions, and can also cause serious injury, even death (5). Since falls in the elderly can result in death, they may also cause psychological problems. Individuals who have already experienced a fall may become more fearful of this occurrence again (6).

The causes for falls in the elderly can be listed under two general headings: individual-related factors and environmental factors. There have been many studies concerning the individual-related factors for falls in the elderly (7,8). The majority of these studies have focused on balance and functional capacity. In particular, the list of important factors includes loss of strength in the lower extremities, style of walking, inability to carry out the activities of daily living, cognitive disorders, using four or more medications daily and a previous history of falling (9).

Some of the environmental factors for falls in the elderly are related to the design of furniture, floor, stairs, toilet and bath, garden, and inappropriate lighting (10-13). When both individual-related and environmental factors are present, there is an even greater risk for falling.

To prevent falls in the elderly the risk factors for falls must be known by caregivers as well as the elderly themselves (14). Other important factors include the older person's adherence to preventive measures (15-18), their caregiver's perceptions of falls and the risk factors (19). Awareness of the risk factors for falls is important for ensuring that the elderly move in a safe manner and that their environment also remains safe.

The available literature has identified many risk factors associated with falls in the elderly and the consequences of such falls. Much is known also about the effectiveness of interventions and fall-reduction programs and caregivers' perceptions of the risks involved. However, there seems to be little information regarding the perceptions and actual experiences of the elderly themselves as related to the risks of falling. To be able to prevent falls in the elderly it is extremely important to know their experiences, feelings and ideas on this subject. In

order for nurses and other caregivers to effectively prevent falls in the elderly, several factors need their attention. Health professionals need to know how the elderly perceive falls, what they have already experienced, and what kinds of precautions they are taking to avoid falls. They also need information about individual and environmental risk factors and strategies to prevent falls of the elderly in their care. This study was therefore conducted to obtain information on how elderly residents in institutional care perceive falls.

## MATERIALS AND METHOD

### Study Design

The purpose of this study was to better understand how the elderly, in institutions, understand, perceive falls and also to document specific experiences of those who had fallen, focusing on their own perspectives and understanding of what had happened.

In phenomenology, perception possesses two variants: memory and imagination. Memory and imagination represents internal fields of experience (20). The study used a Hermeneutic Phenomenological approach outlined by van Manen (21) as a way of uncovering the meaning of lived experiences. This method of inquiry included turning to the nature of the lived experience, identification of themes and also phenomenological reflections.

### Participants and Setting

The Seyranbağları and Ümitköy assisted-living facilities in Ankara city center in Turkey were chosen as the research sites for the purpose of conducting the study with elderly living in an institution. After written permission for the research was received from the Institution of Social Services, a meeting with the administrators of the facilities was held to explain the purpose of the study. The assistance of the health care personnel of each facility was enlisted to determine which residents would be included in the research. A specific sampling method was used to identify elderly who did not have a cognitive disorder, memory problem, or hearing or speaking deficit. Each person chosen for the study was given an explanation of its purpose and how it would be conducted, and those who agreed to participate were interviewed. In-depth interviews were carried out by the second researcher with 22 individuals, 12 of whom were females and 10 males. The age range for those participating in the study was 62 to 90 years and their mean age was 75.6 years. The mean period of time each participant had been living in the institution was 4 years and 7 months.



## Data Collection

Research data were collected during the in-depth interviews conducted by the second researcher. Every interview was begun by asking the interviewee, "Can you tell me what comes to mind when you hear the word 'fall'?" This was followed by asking, "Can you tell me how a fall occurred that you experienced or that you saw happen?" and "Can you tell me what precautions you take to keep from falling?" Semi-structured guidance was used in these interviews.

The interviews were conducted with the elderly residents of the two facilities. One interview was conducted with each study participant. If the person was living alone, the interviews were conducted in his or her own room; if they were living with others, it was held in a sitting room. Interviews were held in a quiet atmosphere, and the possible distraction of others during the interview was kept under control. Before beginning the interview each participant was seated in a comfortable position and asked whether or not they were ready for the interview. Participants were allowed to drink tea or smoke cigarettes during the interview. The contents of each 30-60 minute interview were recorded on tape, and a nursing professional was also present to take notes. After answering questions about their age, period of time living in the facility, and medical health status (illnesses, medications in use), the questions about falls were asked. Data saturation was reached after 19 interviews, but 3 additional interviews were completed to make certain that no new themes developed. A total of 22 interviews were conducted with the study participants.

Adequacy of sample size was determined by the principle of theoretical saturation. Estimating the number of participants in a study required to reach saturation depends on a number of factors, including the quality of data, the scope of the study, the nature of the topic, the amount of useful information obtained from each participant, the number of interviews per participant, the use of shadowed data and the qualitative method and study design used (22). Gray, suggests that phenomenological research should include between five and fifteen participants and that when using interviews as a research method, a sample size of eight is often sufficient (23). For these reasons, 22 participants were interviewed for the research sample.

To address the problem of researcher's bias, the researchers tried to identify their own values and beliefs on this issue and to avoid imposing these during data collection and the data analysis process.

## Data Analysis

Van Manen (21) describes the reflection that occurs in phenomenological study as thematic analysis. In this study, the data were analyzed using van Manen's three steps process, holistic, and selective approaches. First, using the holistic approach, we read textual data several times to gain an understanding of the whole of the participant's perceptions. Second, using the highlighting approach, we re-read each text several times and selected sentences and phrases that seemed particularly revealing about the perceptions described. In the detailed reading approach every single sentence and sentence cluster was of interest, and the question was asked what these sentences and clusters reveal about the phenomenon being described. Third, a detailed approach was used to examine each sentence, phrases and sentence clusters to discover what was particularly revealing about the perceptions described. This holistic approach assisted the process of theme identification within the context. Eventually eight working themes were developed which merged into three main themes. We analyzed the data within the framework of three fundamental themes (see Table 1). The data were analyzed separately by the first and second authors and then discussed. The entire procedure of data analysis was repeated until two authors came to a consensus. To test whether or not the data were correctly understood, the interview recordings were rechecked. Thematic codes were developed, and they were examined for their inclusive and exclusive aspects.

## RESULTS

### Painful Experience

*Being Dependent.* During the interviews the elderly expressed serious concerns about being disabled and dependent on others, in particular. They reported that they would prefer death to being disabled.

**Table 1—** Working Sub-Themes and Fundamental Themes

Working Themes	Main Themes
1. Being dependent	1. Painful experience
2. Possibility of death	
3. Ordinary event	2. Destiny
4. Unpreventable	
5. Recurrent falls	
6. Not fully aware of causes	3. Life goes on with dangers
7. Fear of falling	
8. Individual preventive measure	



“...God forbid... Falling from bed reminds one of the next world. If I can't get up, I can't take care of myself. One is in the hands of a caregiver, it is torture... May God forbid it to happen. Let one be taken when left in that position, so one isn't in need of someone else...”

**Possibility of Death.** All of the elderly stated that falling was a significant happening. When questioned about this, the majority explained a process in which falls cause fractures that do not heal and can later lead to becoming bedridden and eventual death.

“...If you fall and break a bone, you'll go from hospital to hospital. It will take a long time... An older person falling can cause death...”

### Destiny

**Ordinary Event.** The elderly considered falling to be a normal event at this stage of their lives and also considered weakening of the bones, the possibility of falling and the number of falls as part of aging. At the same time, some who had never fallen stated that it was not normal for falls to occur in older people.

“Old people fall... Their blood pressure can go up while they are up and about or while they are walking. God makes them fall, God does it... He writes our destiny. Is there anything that happens without a reason?”

**Not Preventable.** Elders did not think that falls could be prevented. Some of those who thought that falls could not be prevented stated that falling was an event out of their control.

“...How can falls be prevented? They happen suddenly. For example the other day I was walking and walking and suddenly I fell. Did my blood pressure fall, or did I get nervous about something?... If somebody knew they were going to fall they'd be careful. It happens suddenly, how could you know?...”

**Recurrent Falls.** Some of the elderly stated that they had fallen “innumerable” times or “lots, I've fallen lots.” Still others said they had “fallen several times.” One elderly individual who had fallen repeatedly verbalized it in this way:

“...I've fallen several times. I've even fallen when I was using my cane to walk around. People get forgetful, you forget you're old and take off like a young person and suddenly you are falling...”

The elderly individuals who had not fallen were influenced by seeing and hearing about fall incidents. Almost all of the elderly had either seen or heard about a fall incident.

“...Lots and lots... For example I saw a man lose his life. I was going to the toilet, he was coming out, he was going to go to his room. I saw him on the floor...”

### Life Goes on with Dangers

**Not Fully Aware of Causes.** Nearly half of the elderly stated that slipping was the primary cause of falling, and they felt that wet floors in the toilet and bathroom were the most risky areas. Other identified causes related to slipping were stepping on food spilled on the floor or stepping on something small while walking in the garden.

“...I don't know any more. My blood pressure goes down or up. If you trip on something walking in the garden, you fall. You can fall going down the stairs. The toilet and bathroom are slippery and you fall on soapy places...”

Some of the elderly associated tripping with exhaustion, weakness, lack of energy, not paying attention, or poor vision. Their reasons for falling included blood pressure problems, dizziness, and loss of balance, vision problems, style of walking, osteoporosis, forgetfulness and fatigue.

**Fear of Falling.** With the exception of one, all the elderly participants stated that they were afraid of falling. All of those who expressed a great fear of falling had experienced a fall, and some of them had experienced a fracture associated with the fall.

“...I've given up everything... I can't see. I walk very slowly in the garden, I walk like a cripple and I'm afraid...”

**Individual Preventive Measures.** Some of the elderly support themselves with their hands to keep from falling when they lie down in bed; others stated that they put their slippers at the end of the bed to keep from tripping over their slippers. In addition to these methods, each older person had unique ways to protect themselves from falling. One of the participants even indicated that he said a prayer to prevent falls.

“...I pull the table over when I lie down to keep from falling. Because I fall from bed as well, I put a table on one side and a chair on the other side. When I get out of bed I support myself with my hands by putting the table against the wall...”



## DISCUSSION

The elderly individuals who were interviewed perceived that falls were a painful occurrence that can cause fractures, and fractures cause dependency and can lead to death. The association of falls resulting in death is consistent with information in the literature which indicates that fractures can occur from falls in the elderly. Research also shows that there is delayed healing of fractures because of changes in bone structure and that death can occur from secondary complications (24,25). It is known that this process can result in death due to pulmonary infections and emboli when elderly victims of falls become bedridden from fractures. However, when the elderly were making this type of connection they were relying not on medical knowledge but on their perceptions of what they saw or heard about incidents. It was also determined that the elderly are concerned about care problems if they should become dependent after falling. The concerns of the elderly in institutions are a result of their living alone and because they are separated from their families.

The majority of the participating elderly perceived falling as inevitable, and they also perceived falling as a rather ordinary problem. They believed the most significant result of falling would be a decrease in quality of life. Although the majority considered falls to be important, their perception that falls cannot be prevented suggests that the elderly have a knowledge deficit about this subject. The majority of the elderly in our study stated that the causes of falling included blood pressure problems, forgetfulness, poor balance, and tripping over something on the floor. They stated that falls cannot be prevented because they believed that one cannot know when these causes will occur. However, the literature has shown that falls can be decreased and kept under control with ongoing fall prevention programs (3,24-26). In particular, multidisciplinary fall-prevention interventions for the elderly for all professionals involved in their care, to include dietitians, physiotherapists, nurses and physicians, increase the chance of success (5,14). However, the elderly should be convinced that fall-prevention programs are necessary and helpful in order for them to be successful.

In assessing how the elderly perceive the causes of falls, it was determined that, in general, their perceptions are that falls are primarily a result of factors in the elderly themselves. Yet, a study has shown that at least one-third of falls are a result of environmental factors (12). Even the participants who did mention environmental factors also saw the problem to be the elderly not noticing these environmental risks. For

example, one older person pointed out the place on the stairs where someone had fallen. He saw the problem not as the stairs but as the elderly individual who had not climbed the stairs carefully. The elderly who were unaware that environmental challenges could cause falls were often more likely to attribute the causes as personal faults and inattention to their surroundings. For certain individuals who are unaware of the reasons falls occur or the existence of fall prevention programs, it can be expected that they would be influenced by their religious beliefs and take comfort in them.

The majority of the participating elderly had experienced recurrent falls, and their belief that their falling once puts them at risk for falling again is consistent with the information in the literature (27). This study showed that the majority of older people had experienced at least one fall, and some of these had resulted in serious injuries. The primary problem experienced by the elderly after a fall was fractures. In fact, fractures are the greatest consequence, and this was the greatest fear in the elderly. The reason for this was that they had seen or heard about others who had died as a result of a fracture. The literature on this topic indicates that fractures from falls happen often in the elderly and can cause long term disability (5).

It has been reported that even if a fall does not result in a fracture, it can have a significant effect on an elderly person. Those who fall repeatedly may experience psychological problems (6). This condition is known as post-traumatic depression and can cause them to become overly vigilant in trying to avoid falls (6). Interviews with the elderly reveal that they were all afraid of falling. In fact, this fear was an obstacle to some nursing home residents for going outside or even from place to place within the facility and caused them to experience isolation (19). Depression resulting from social isolation is often seen in the elderly. When they have a fear of falling and lack of movement, their immobility can cause weakening of their lower extremities. This weakness can, in turn, cause repetitive falls and disability (6). In particular, it has been reported that the fear of falling is greater in those with poor health and in those who have previously experienced a fall (3,6). In this study it was also observed that those who had a history of falling and those who had experienced problems from these falls were more afraid of falling. The fact that the elderly have a fear of falling is probably related to the fact that nearly all of them had fallen at least once or twice. The majority of our study participants perceived that falls cannot be prevented. Still, they had more than one preventive measure they



employed to prevent falling. These measures varied from person to person, and some of them were not useful or effective. This further illustrates that the elderly need more information about falls and how to prevent them.

### Rigour, Limitations and Future Research

This study strove to achieve credibility, dependability, confirmability and transferability through adherence to van Manen's (21) approach to study design and procedures of data analysis. Despite the limitations in sample size and geographic location, the aim of this study was not to reach general findings but to come to a deeper understanding of the actual experiences of the subjects under study. This deeper understanding may be transferable to other settings and location, but further research is needed in different populations and minorities to obtain detailed information about the cultural aspects of the elderly and their experiences of falling.

In conclusion, the elderly living in an institution, who participated in an interview, perceived falls as painful events accompanied by suffering. It was determined that the elderly were affected by their perception that a fall can cause a fracture which then causes pain and dependence. They feared possible problems associated with receiving good care and becoming dependent on others after a bad fall. Although the elderly perceived that a fall was a result of destiny, they stated that a fall was important because of its effects on their quality of life. However, their lack of knowledge about causes for falls was probably influential in their belief that falls cannot be prevented. During the interviews the majority of those who had fallen several times stated that they had a fear of falling and that because of this they had limitations in their lives. At the same time, a majority of older people employed various ways to prevent falls, but most of these preventive measures were not effective.

The results of this study showed that the elderly who were interviewed perceived falling as a very important problem and concern. Therefore, all members of the health care team, especially the nurses who work in this field, need to practice empathy with their elderly patients, develop a close relationship with them, and consider them as individuals. The research shows that the majority of falls are preventable. Responsibility and awareness for fall prevention begin at the individual level. Thus, it is very important to change the cultural perception that falls among the elderly are an inevitable natural part of aging.

### REFERENCES

1. Stalenhof PA, Diedericks JPM, Knottnerus JA. A risk model for the prediction of recurrent falls in community-dwelling elderly: a prospective cohort study. *Journal of Clinical Epidemiology* 2002;55:1088-94. (PMID:12507672).
2. Nurmi I, Luthje P. Incidence and costs of falls and falls injuries among elderly in institutional care. *Scandinavian Journal of Primary Health Care* 2002;20(2):118-22. (PMID:12184711).
3. James K, Eldemire-Shearer D, Gouldbourne J, Morris C. Falls and falls prevention in the elderly: the Jamaican perspective. *West Indian Medical Journal* 2007;56(6):534-9. (PMID:18646499).
4. Dönmez L, Gokkoca Z. Accident profile of older people in Antalya City Center, Turkey. *Archives of Gerontology and Geriatrics* 2003;37(2):99-108. (PMID:12888223).
5. Kannus P, Sievanen H, Palvanen M, Jarvinen T, Parkkari J. Prevention of falls and consequent injuries in elderly people. *The Lancet* 2005;366(26-2):1885-93. (PMID:16310556).
6. Yardley L, Smith HA. A prospective study of the relationship between feared consequences of falling and avoidance of activity in community-living older people. *Gerontologist* 2003;42:17-23. (PMID:11815695).
7. Coleman A L, Stone K, Ewing S K, et al. Higher risk of multiple falls among elderly women who lose visual acuity. *Ophthalmology* 2004;111(5):857-62. (PMID:15121359).
8. Kario K, Tobin J N, Wolfson L, et al. Lower standing systolic blood pressure as a predictor of falls in the elderly: a community-based prospective study. *Journal of the American College of Cardiology* 2001;38(1):246-52. (PMID:11451282).
9. Rekeneire N, Visser M, Peila R, Nevitt M C, Cauley J A, Tyllavsky F A, Simonsick E M, Tamara B H. Is a fall just a fall: correlates of falling in healthy older person. The healthy, aging and body composition study. *The Journal of American Geriatric Society* 2003;51:841-6. (PMID:12757573).
10. Rubinstein L, Josephson K. The epidemiology of falls and syncope. *Clinical Geriatric Medicine* 2002;18:141-58. (PMID:12180240).
11. Nnodim JO, Alexander NB. Assessing falls in older adults: a comprehensive fall evaluation to reduce fall risk in older adults. *Geriatrics* 2005;60(10):24-8. (PMID:16218764).
12. Murphy SL, Nyquist LU, Strasburg DM. Bath transfer in older adult congregate housing residents: assessing the person-environment interaction. *Journal of The American Geriatric Society* 2006;54:1265-70. (PMID:16913997).
13. Emiroğlu O N, Korkmaz A G. Assessment of environmental risk factors related to falls in rest homes. *Turkish Journal of Geriatrics* 2007;10(1):24-36.
14. Hughes K, Van Beurden E, Eakin E G, et al. Older persons' perception of risk of falling: implementations for preventive campaigns. *The American Journal of Public Health* 2008;98(2):351-7. (PMID:18172132).



15. Yardley L, Beyer N, Haver K, McKee K, Ballinger C, Todd C. Recommendations for promoting the engagement of older people in activities to prevent falls. *Quality and Safety Health Care* 2009;16:230-4. (PMID:17545352).
16. Yang XJ, Haralambous B, Angus J, Hill K. Older Chinese Australians? Understanding of falls and falls prevention: exploring their needs for information. *Australian Journal of Primary Health* 2008;14:36-42.
17. Yardley L, Donovan-Hall M, Francis K, Todd C. Older people's views of advice about falls prevention: a qualitative study. *Health Education Research* 2006;21:508-17. (PMID:16467173).
18. Ballinger C, Clemson L. Older people's views about community falls prevention: an Australian perspective. *British Journal of Occupational Therapy* 2006;69:263-70.
19. Mackintosh S, Fryer C, Sutherland M. For falls sake: older carers' perceptions of falls and falls risk factors. *The Internet Journal of Allied Health Sciences and Practice* 2007;5(3):1-9.
20. Sokolowski R. *Introduction to phenomenology*. Cambridge University Press, Cambridge, 2000, pp 66-77.
21. Van Manen M. *Researching lived experience: human science for an activities sensitive pedagogy*. Second Edition, The Athlone Press, Canada, 1997, pp 80-108.
22. Morse JM. Determining sample size. *Qualitative Health Research* 2000;10(1):3-5.
23. Gray DE. *Doing Research in the Real World*. Sage Pub, London, 2005, p 442.
24. Harrahill M. Falls in the elderly: making the difference. *Journal of Emergency Nursing* 2001;27(2):209-210. (PMID:11275874).
25. Marks R, Allegrante J P, MacKenzie C R, Lane J M. Hip fractures among the elderly: causes, consequences and control. *Ageing Research Reviews* 2003;2(1):57-93. (PMID:12437996).
26. Becker C, Kron M, Lindemann U, Sturm E, Eichner B, Walter-Jung B, Nikolaus T. Effectiveness of a multifaceted intervention on falls in nursing home residents. *The Journal of the American Geriatrics Society* 2003;51:306-13. (PMID:12588573).
27. Vu MQ, Weintraub N, Rubenstein L Z. Falls in the nursing home: are they preventable? *Journal of the American Medical Directors Association* 2005; 6(3):82-87. (PMID:15890306).