The Knowledge of Elderly Clients Attending Geriatric Clinic at Baghdad Teaching Hospital towards the Prevention of Fall

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ABSTRACT:

BACKGROUND:

Falls among the geriatric population, cause frequent morbidity and mortality

OBJECTIVE:

To evaluate the Knowledge of elderly clients toward the prevention of fall.

PATIENTS AND METHODS:

A cross sectional study was carried out on a total of 403 elderly ,aged≥60 years attending geriatric clinic at Baghdad teaching hospital during the period from 6th of February to 26th of June 2017,collection of data by direct interview.

RESULTS:

This study included 403 elderly with mean age (68.5±5.4SD) years, (95%)of them had chronic diseases and (94%) currently on medications,(73.2%) had fall attack previously and (39.3%) of them with ≥5 times attacks of fall. About (52.6%), (60.3%) and (30.8%) had correct knowledge towards risk factors, cause of fall and fall prevention respectively,(56.3%) do not know the intervention to preventfall in elderly while (25.8%) believed that the fall prevention health educationis the best intervention. About two third (65.5%) believed that no action could protect them.

CONCLUSION:

The study concluded that the participants had low level of knowledge and practice about fall prevention in elderly.

KEYWORDS: no

INTRODUCTION:

The aging course brings many health and social problems, and in aging societies meeting these challenges becomes an obligation. [1]

Most developed world countries have accepted the chronological age of 65 years as a definition of elderly or older person.[2] However, the aging process is inevitable and not uniform across the population due to differences in genetics, lifestyle, and overall health.[3]

According to annual report of Ministry of Planning of Iraq in 2015, the percentage of age over 60 years old in the national level is 5.01% and for Baghdad governorate is 5.77%,[4] also the Ministry of Health of Iraq adopted the age 60 years old and above to provide health services for elderly according to its strategy, but there is a lacking in information regarding prevalence of falls and economic burden of falls among this age group.

People aged 65 years and older are the age group mostly affected by falls and their subsequent negative health consequences. [5]

Falls are the second most frequent cause of unintended death factors throughout the world. Moreover, medical expenses associated with falls among the elderly account for approximately 50% of the total medical expenses incurred in hospitals. [6]Falls injuries among older people have adverse effects on quality of life and can be burdensome to families and society. Non-fatal falls injuries are associated with considerable morbidity including decreased functioning, loss of independence and significant use of healthcare services.[7] Also falls can be associated with physical injury, functional impairment, psychological trauma, loss of independence, and death.[8]

Although falls are an important problem for aged individuals, it is necessary to state that most of the causal risk factors are preventable. [9]Systematic reviews and meta-analyses revealed that promoting appropriate physical activities or exercises to improve strength, balance, and flexibility is one of the most feasible and cost-effective strategies to prevent falls among older adults in the community.[10]

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OBJECTIVES OF STUDY:

To assess the knowledge of elderly peoples attending geriatric clinic at Baghdad teaching hospital towards the prevention of fall in elderly, to determine the socio-demographic characteristics of elderly and their association with the knowledge toward the prevention of fall in elderly and to determine the associated factors and circumstances of fall.

SUBJECTS AND METHODS:

A descriptive Cross-sectional study design was used in this study. Data collected from Geriatric clinic at Baghdad Teaching Hospital. The study was conducted during the period from 6th of February to 26th of June 2017.A convenient sample of 403 elderly individuals who were attending the geriatric clinic at Baghdad Teaching Hospital during the period of study was selected.Inclusion criteria: All elderly (equal to or more than 60 years) clients attending geriatric clinic at Baghdad teaching hospital and able to move indoors with or without walking aids.Exclusion criteria: Elderly with severe medical problems who cannot tolerate the interview and Uncooperative individuals. The questionnaire covered the following items: socio-demographic data which includes age, gender, marital status, educational status, residence (urban/rural) and occupation of participants, living status, site of living, if had chronic disease or not, using of medications, history of fall, his/her information about risk factors of fall, causes of fall and fall prevention, as well as questions were introduced to assess the knowledge of participants towards the interventions for fall prevention, and beliefs of participants about importance of health education to minimize the risk of fall and it is sequel. Statistical analysis: Microsoft Excel 2016 was used for data entry and statistical package for social science version 20 (SPSS version 20) was used for statistical analysis. Chi-square test (Fischer exact test when Chi-square test was not applicable) was used to confirm significance. P-value ≤ 0.05 was considered significant.

RESULTS:

According to socio-demographic characteristics, a total of 403 elderly clients were included in this study with the mean age of the participants was (68.5±5.4 SD) years, about two third of studied sample fall to age group of (60-69) years old (62.5%), nearly two-thirds of the participants were women (66.5%), (40.4%) of the study population was with college certificate, (41.4%) was retired and the women were mainly involved in household work (41.7%), (73.2%) was married, (73.7%) percent of the study population lived with their families (table 1), according to certain studied parameters and some knowledge information towards falls in elderly, about (95%) of participants had chronic diseases, (94%) has been taking medications, (73.2%) had history of fall attacks even trivial one during the last year, and (39.3%) had ≥ 5 attacks in the previous year, Also the findings showed that (52.6%) of participants had information about risk and seriousness of fall in elderly, about two thirds of participants (60.3%) had information about cause of fall in elderly and (30.8%) had information about fall prevention in elderly, (39.9%) believed that the aging process is the main cause of fall in elderly, while (34.5%) believed that the chronic disease is the main cause of fall in elderly (table 2).The finding of this study demonstrated a significant association (P = 0.01) between chronic disease status and history of fall attack even trivial one during the last year, where the finding revealed that (98.6%) of participant who were reported history of fall they had chronic disease, table (3).

The finding of this study demonstrated a significant association (P = 0.01) between using medication and history of fall attack even trivial one during the last year, where the finding revealed that (97.3%) of participant who were reported history of falls they had used medications, table (4).The study showed that the family and relatives represented the first source of information about fall prevention among participants (37.7%) followed by social media (32.1%), medical staff (18.9%), paramedical staff (5.7%) and friends (5.7%) as seen in table (5).The finding Regarding the knowledge of participants towards the intervention to prevent fall revealed that (25.8%) of them believed that health education is the best option to prevent fall among elderly, (21.8%) believed that safety assessment and improvement inside and outside home is the best intervention to prevent fall among elderly, (17.9%) believed that strength and exercise program is the best intervention, (14.9%) believed that frequent medical follow-up , (11.9%) believed that either use of assistive aids and device or family support and just (8.9%) believed that the review of medication is the best step to prevent fall among elderly, while (56.3%) have no knowledge about how to prevent fall, table (6).

Table (1): Socio-demographic characteristic of studied group

Variables		No.	%
Age category	60-69	252	62.5
	70-79	131	32.5
	≥80	20	5.0
Mean age	(68.5±5.4 SD) years		
Total		403	100
Gender	Male	135	33.5
	Female	268	66.5
Education	Illiterate	40	9.9
	Primary	124	30.8
	Secondary	76	18.9
	College	163	40.4
Occupation	governmental employed	31	7.7
	Non-governmental employed	24	6.0
	Un-employed	13	3.2
	Retired	167	41.4
	Housewife	168	41.7
Marital status	Single	24	6.0
	Married	295	73.2
	Divorced/ separated	8	2.0
	Widow	76	18.9
living status	Alone	29	7.2
	With wife/ husband	67	16.6
	With family	297	73.7
	With relative	4	1.0
	Hospice	4	1.0
	Others	2	0.5

Table (2): Frequency and percentage of certain studied parameters and some knowledge information towards falls in elderly.

Variables	Answer	No.	%
Chronic disease	Yes	383	95.0
Medication	Yes	379	94.0
Fall attack previously even trivial one during the last year	Yes	295	73.2
Frequency of attacks	<5 times	179	60.7
	≥5 times	116	39.3
Information about risk and seriousness of fall in elderly	Yes	212	52.6
Information about cause of fall in elderly	Yes	243	60.3
Causes	Chronic disease	84	34.5
	Aging	97	39.9
	Medications	53	21.9
	Others	9	3.7
Having information about fall prevention in elderly	Yes	124	30.8

Table (3): Association between chronic disease and history of previous attack of fall

Variables		Chronic disease		Total	P-value
		Yes	No		
Fall attack previously even trivial one during the last year	Yes	291(98.6%)	4(1.4%)	295(100%)	0.01
	No	92(85.2%)	16(14.8%)	108(100%)	

Table (4): Association between used medication and history of previous attack of falls

Variables		Medication		Total	P-value
		Yes	No		
Fall attack previously even trivial one during the last year	Yes	287(97.3%)	8(2.7%)	295(100%)	0.01
	No	92(85.2%)	16(14.8%)	108(100%)	

Table (5): Distribution of studied sample according to the source of information about prevention of fall

Source of information	No.	%
Family or relatives	80	37.7
Social media and internet	68	32.1
Medical staff	40	18.9
Paramedical staff	12	5.7
Friends	12	5.7
Total	212	100

Table (6): Distribution of studied group according to their knowledge towards the intervention to prevent fall in elderly

According to your information what is the intervention to prevent fall in elderly?	Yes		NO	
	No.	%	No.	%
Frequent medical follow-up	60	14.9	343	85.1
Review and management of medication	36	8.9	367	91.1
Safety assessment and improvement inside and outside the home	88	21.8	315	78.2
Use assistive aids and device	48	11.9	355	88.1
Strength and exercise programs	72	17.9	331	82.1
Family support	48	11.9	355	88.1
Fall prevention health education	104	25.8	299	74.2
Don't know	227	56.3	176	43.7

DISCUSSION:

Aging and falling are two cases observed together in many parts of the world. In addition to health problems of elderly people, falls have the potential to cause many problems, even death.[1]

The total study sample was 403 elderly aged ≥ 60 years with mean age (68.5±5.4 SD) years (table 1). A similar result in a study conducted by Al Senany, et al in Saudi Arabia at 2015[11] revealed that the mean age was (67.9±7.71SD) years. In contrast the mean age was about (74.1±6.8SD) years in a study of Cevizci, et al in Turkey at 2015[1], and (75.7 ±6.4SD) years in a study by Wu TY, et al in Taiwan at 2010[12], and it was (73.5± 8.4SD) years in a study of Fhon, et al in Portuguese at 2011[13], this variation in mean age may be due to population difference, life style, quality of life and different factors effect on elderly people.

This study revealed that (95%) of participants had chronic disease (table 2),there was significant association (P = 0.01) reported between the frequency of falls and the presence of chronic illness (table 3).

A similar association was demonstrated in many studies, as in a study by Al Senany S, et al in Saudi Arabia at 2015[11] showed that the chronic diseases had significant association with falls rate, with the majority of participants had visual problem and bone and joint pain, nearly one half had diabetes mellitus, one third had hypertension, two third had coronary heart disease and nearly half had hearing problem. Also a study by Kamel MH, et al in Egypt, Suez at 2013[9] show high association between frequency of falls and chronic diseases. A study by Yu PL, et al in china at 2009[14] showed that there is a statistical significant of association between the incidence of falls with diabetesmellitus, posturalhypotension, hypertension, cerebralinfarction, cataract, osteoarthritis, dementia and depression. Taylor, et al in Australia at 2014[15] showed that Factors such as slow reactions, balance problems, and reduced capability to move were related to a high incidence of falls. Another study conducted by Sibley, et al in Canada at 2009[16] revealed that (62.0%) had chronic disease 50.2% had Hypertension, 22.6% had Heart disease, 17.2% had Diabetes, 27.8% had Visual impairment and 43.4% had Arthritis and falls risk was significantly higher in individuals with chronic disease relative to those with none.

This study revealed that (94%) currently on medications, there was significant association (P = 0.01) was reported between the frequency of fall with the use of medications (table 5), this may be explained by interactions resulting from polypharmacy as well as medications affecting alertness and coordination. Other studies demonstrated similar association, a study by Kamel, et al in Egypt, suez at 2013[9] demonstrated that there was a significant relation between falls among elderly and medications use as most (78.5%) of studied elders use medications, of them (51.2%) had a history of falls. Another study by Zia, et al in Malaysia at 2014[17] determined that taking multiple medications was considered a risk factor for falls through the adverse effects of drug-drug or drug-disease interactions and taking four or more drugs is associated with an increased incidence of falls, recurrent falls and injurious falls.

Another study conducted by Freeland, et al in USA at 2012[18] revealed that the addition of medications is associated with a significant increase in risk of falls in elderly patients regardless of drug class, and the patients experiencing a 14% increase in fall risk with the addition of each medication beyond a 4-medication regimes.

This study revealed that (73.2%) had history of fall attacks even trivial one during the last year, and (39.3%) had ≥ 5 attacks in the previous year (table 2). In a comparison a study by Al Senany, et al in Saudi Arabia at 2015[11] found that (51%) of participants had fallen once and (49%) had fallen more than once in the past 12 months. another study by Kamel, et al in Egypt, suez at 2013[9] demonstrate that the incidence of falls during the past 12 months among the study population is (60.3%), one third of falls (36%) occurred outdoors, (24%) occurred on stairs and (17.5%) occurred in bathrooms.

In contrast a study by Cevizci, et al in Turkey at 2013[1] showed that the incidence of falls was (32.1%) among elderly in the last six months period. In longitudinal community cohort study by Kwan, et al in China at 2011 [19] show that the incidence of falls and recurrent falls in elderly people older than 65 years was (7.06%) and (19.27%), respectively.

A study conducted by Wu, et alin Taiwan at 2010[12] found that the rate of falls in the previous year was (21%). A study conducted in Malaysia by Tan, et al [20],found that the annual prevalence of falls in the elderly population in older than 60 years was (47%), with (57%) attending for recurrent falls, they stated that the annual prevalence of falls in older than 60 years was (27%), with (27%) having recurrent falls.

Another study conducted by Sibley KM, et al in Canada at 2009[16] revealed that the overall proportion of individuals who reported falling in the previous year was (19.8%) among the fallers (63.3%) fell once in the previous year, while (36.7%) fell more than once. The low incidence of fall in western countries may be explained partly on the basis of good awareness of their elderly people regarding risk factors of fall, good implementation of health education programs,

presence of health insurance as well as better environment of living.

This study reported that family or relatives represented the first source of information about fall prevention among elderly followed by social media and internet (37.7%) and (32.1%) respectively, while the medical staff and paramedical staff contributes to (18.9%) and (5.7%) respectively (table 5).

This finding express the vital role of family and in preventing falls among elderly in our society, which may contribute to overall low knowledge about risk factors, causes and prevention procedures in geriatric population in our society and there is a need for creating new channels for education depending on health messages through medical stuff in primary health care centers and geriatric clinics. The author Bunn, et al in UK at 2008[21] showed that older adults preferred receiving fall prevention information from a healthcare provider as their primary source of health-related information, similar findings were reported in this work.

The finding regarding the knowledge towards intervention to prevent falls revealed that (56.3%) of overall studied group had no information about how to prevent falls among elderly, which may be due to that most of them depend on family (table 6), social media and internet in their information which reflect poor information of these sources.

CONCLUSION:

This study revealed that the participants had low level of knowledge In spite of positive beliefs about fall prevention in elderly but these beliefs were not enforced by good information and practice to prevent fall which may explain the exposure of majority of elderly to fall.

REFERENCES:

1. Cevizci S, Uluocak Ş, Aslan C, et al. prevalence of falls and associated risk factors among aged population: community based cross-sectional study from turkey. Central European journal of public health. 2015; 23(3):233-239.
2. World Health Organization. Definition of an older or elderly person, Proposed working definition of an older person in Africa for the MDS Project. Health statistics and health information systems. 2017.
3. Singh S, Bajorek B. Defining 'elderly' in clinical practice guidelines for pharmacotherapy. Pharm Practice. 2014; 12(4):489.
4. Iraqi ministry of planning/ central statistical organization (CSO). Annual report.2015.
5. Thilo FJS, Hürlimann B, Hahn S, et al. Involvement of older people in the development of fall detection systems: a scoping review. BMC geriatrics. 2016:16(1):42.
6. Kim MH, Jeon HW and Chon MY. Study on the Knowledge and Attitudes of falls and Awareness of fall risk factors among Nursing Students. Indian Journal of Science and Technology.2015: 8(S1): 74-80.
7. Xia QH, Jiang Y, Niu CJ, et al. Effectiveness of a community-based multifaceted fall-prevention intervention in active and independent older Chinese adults. Injury Prevention. 2009:15(4):248-251.
8. Hughes K, van Beurden E, Eakin EG, et al. Older persons' perception of risk of falling: implications for fall-prevention campaigns. American Journal of Public Health. 2008; 98(2):351-357.
9. Kamel MH, Abdulmajeed AA, Ismail Sel-S. Risk factors of falls among elderly living in urban Suez--Egypt. Pan African medical journal. 2013; 14(1):26.
10. Gillespie LD,Robertson MC, Gillespie WJ, et al. Interventions for preventing falls in older people living in the community (Review). Cochrane Database of Systematic Review. 2012: 9.
11. Al Senany S, Al Saif A. Assessment of physical health status and quality of life among Saudi older adults. Journal of physical therapy science. 2015: 27(6): 1691–1695.
12. Wu TY, Chie WC, Yang RS, et al. Factors associated with falls among community-dwelling older people in Taiwan. Ann Acad Med Singapore. 2013; 42(7):320-7.
13. Fhon JR, Rosset I, Freitas CP, et al. Prevalence of falls among frail elderly adults. Rev SaudePublica. 2013:47(2):266-73.

14. Yu PL, Qin ZH, et al. Study on the relationship between chronic diseases and falls in the elderly. Chinese Journal of Epidemiology ، 2009; 30(11):1156-9.

15. Taylor ME, Delbaere K, Lord SR, et al. Neuropsychological, physical, and functional mobility measures associated with falls in cognitively impaired older adults. J Gerontol A BiolSci Med Sci. 2014; 69(8):987-95.

16. Sibley KM, Voth J, Munce SE, et al. Chronic disease and falls in community-dwelling Canadians over 65 years old: a population-based study exploring associations with number and pattern of chronic conditions. BMC Geriatrics. 2014:14(1):22.

17. Zia A, Kamaruzzaman SB, et al. Polypharmacy and falls in older people: Balancing evidence-based medicine against falls risk. Postgrad Med. 2015; 127(3):330-7.

18. Freeland KN, Thompson AN, et al. Medication use and associated risk of falling in a geriatric outpatient population. Annals of pharmacotherapy. 2012; 46(9):1188-92.

19. Kwan MM, Close JC, Wong AK, et al. Falls incidence, risk factors, and consequences in Chinese older people: a systematic review. J Am Geriatr Soc. 2011:59(3):536-543.

20. Tan MP, Kamaruzzaman SB, Zakaria MI, Chin AV, Poi PJ.
Ten year mortality in older patients attending the emergency department after a fall. Geriatrics & gerontology international. 2016; 16(1):111-117.

21. Bunn F, Dickinson A, Barnett-Page E, et al. A systematic review of older people's perceptions of facilitators and barriers to participation in falls-prevention interventions. Ageing and Society. 2008; 28(4): 449-472