

Evaluation of the Elderly's Environmental Practices Concerning Fall prevention at Governmental Elderly Homes in Baghdad City

تقويم الممارسات البيئية للمسنين بشأن منع السقوط في دور رعاية المسنين الحكومية في مدينة بغداد

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المستخلص:

الهدف: تقويم الممارسات البيئية للمسنين لمنع السقوط في دور رعاية المسنين الحكومية في مدينة بغداد .

المنهجية: اجريت دراسة شبه تجريبية في دور رعاية المسنين الحكومية في مدينة بغداد وللمدة خلال الفترة من 1 حزيران/ يونيو 2014 إلى 30 نوفمبر/ تشرين الثاني 2014. اختيرت عينة غير احتمالية، عينة غرضية حيث تشكلت من (40) مسن من النساء والرجال دار المسنين للأعمار (60) سنة فما فوق، المقيمين في دور المسنين الحكومية " الصليخ ودار المسنين في مدينة الصدر " وقد تم جمع البيانات عن طريق الاستبيان كأداة لجمع البيانات لغرض الدراسة مكونة من (23) فقرة وتقنية المقابلة كوسيلة لجمع البيانات، تم تحليل البيانات باستعمال التكرارات، النسبة المئوية، الاكتفاء الذاتي النسبي، والمتوسط الحسابي، القطع من نقطة.

النتائج: اشارت النتائج ان المشاركين والمشاركات حصلوا على فوائد من خلال المشاركة لمنع السقوط في دور المسنين الحكومية مع تغيير جوهري في ممارساتهم.

التوصيات: أوصت الدراسة بإمكانية تنفيذ الممارسات لجميع المسنين في دور المسنين، لتعزيز وعيهم تجاه تأثير العوامل البيئية .

Abstract:

Objective :To evaluate elderly's environmental practices concerning fall prevention at governmental elderly care homes in Baghdad city.

Methodology: A quazi- Experimental study was carried out in governmental elderly care homes at Baghdad city, during the period 1st, June 2014 to 30th November, 2014 , selected a purposive " Non – probability " sample of (40) elderly men and women aged (60) years old and over who were resident in governmental elderly care homes " Al Ceelakh and Al Sader elderly care homes", the data was collected through the use of constructed questionnaire that consist of (23) items, and interview technique was used to collect the data. Analysis of the data was done through the use of frequencies, percentages, relative sufficiency, mean of score and cut of point .

Results: Results of finding of data analysis related to the study participants had benefits from the implementation of fall prevention upon elderly in elderly care homes and modification to their practices related environment risk factors.

Recommendations: Emphasize on applying the fall prevention program in all elderly care homes, and their awareness toward the effect of risk factors and elderly falls.

Key word: Elderly, Fall Prevention, Elderly Homes, Practices, Environmental Factors

Introduction:

Environmental risk factors encapsulate the interplay of individuals' physical conditions and the surrounding environment, including home hazards and hazardous features in public environment.

These factors are not the cause of falls – rather than the interaction that occur between other factors and their exposure to environmental ones. Home hazards including narrow steps, stairs slippery surfaces, loose rugs and insufficient lightening. Poor building design, slippery floor, cracked or uneven sidewalks, and poor lightening present in the public places are such hazards to injurious falls ⁽¹⁾.

A promising technologic innovation for preventing fall-related injuries have been developed recently a safety floor. Under laboratory conditions, the material of floor provides a firm walking surface and if such a fall occurs, it aid in reducing the impact force by using a special energy-absorbing flooring material. Multi-factorial interventions studies that explain the evidence came from the developed world, and multi-factorial falls risk assessment and intervention is a way to achieve a better effectiveness in prevention programs ⁽²⁾.

Community intervention: A lot of elderly adult's live in the community and many fall prevention programs in developed countries target these people.

Care home intervention: Falls are definitely more common one of those adult's in residential care homes, environmental risk factors for instance surfaces of the particular slippery, grounds, insufficient light, wobbly carpets and rugs, unstable furniture's, and a number of obstacles on flooring surfaces story's may well pose further risk connected with falling and injury ⁽³⁾.

Most falls occur on surfaces within mostly used rooms such as bedrooms, living rooms and kitchens, in comparative, few falls occur in the bathrooms, on stairs or

from ladders and stools. While a proportion of falls involve a hazard such as a loose rug or a slippery floor and surfaces, many do not involve obvious environmental hazards. The remaining falls occur in public places and other people's homes, falls can be the leading cause of unintentional death in persons aged (65) years old and over. Nearly (50-60%) of all falls among elderly adults occur at home. The modifiable risk factors which are associated with falls, as well as a single and multi-factorial falls prevention programs ^(4,8).

The protective factors of falls in elderly people are related to an environmental modification. One example of the environmental modifications is the home modification. It prevents the elderly people from hidden fall hazards during their daily activities at home ⁽⁵⁾.

Environmental hazards that are associated with falls include crowded rooms, clutter in the room or doorway, electrical cords on the floor raised thresholds at entrance to the patient's room, slippery floors, carpets, and poor lighting toilets need to be of appropriate height and should have arms or grab bars. Showers should be given on shower chairs ⁽⁶⁾.

Ground and floor surfaces along accessible routes and in accessible rooms and spaces including floors, walks, ramps, stairs, and curb ramps, shall be stable, firm, slip-resistant. The following outlines some guidelines in evaluating the degree of hazard of level walking surfaces ⁽⁷⁾.

For building up the necessary capacity for effective fall prevention policy and practice, the education is an essential strategy. to be more effective education it must be a part of a larger strategy for falls prevention that reflects the current evidence, adult learning principles and integration of learning to practice ⁽⁸⁾.

Methodology:

A quazi - Experimental study was carried out in governmental elderly care homes in Baghdad city men and women resident in Al Ceelakh and Al Sader elderly care homes aged (60) years old and over during the period 1st, June, 2014 to November 30st, 2014. A purposive " Non – probability " sample of (40) elderly, the data was collected through the use of constructed questionnaire that consist of (23) items, The demographic data includes elderly characteristic, such as age, gender, previous occupation, marital status level of education, and residential area, socioeconomic status, environmental factors.

Bathroom, it consist (7) items, bedroom, it consist (5) items, steps and stairs, it consist (11) items, these questions are rated according to the Liker's scale; always (3), sometimes (2), never (1), to make the instrument more valid, it was presented to a panel of (15) experts. The sample of pilot study was consisted of (10) elderly who residential in it, were selected randomly, and this preliminary study was conducted for the period of 2nd April to 11th May 2014 .Analyzed through the application of the description data analysis approach (frequencies, percentages, relative sufficiency, mean of score and cut of point.

Results:**Table (1): Distribution of Elderly's Demographic Characteristics**

List	Demographic characteristics	F	%	
1.	Age Groups	60 – 64	6	15
		65 - 69	13	32.5
		70 - 74	16	40
		75 - 79	3	7.5
		≥ 80	2	5
	Total	40	100.0	
2.	Gender	Male	19	47.5
		Female	21	52.5
	Total	40	100.0	
3.	Occupation	Unemployed	18	45
		G. Employed	1	2.5
		Free Job	7	17.5
		Retired	14	35
	Total	40	100.0	
4.	Education Levels	Illiterate	9	22.5
		Read & write	8	20
		Primary school	4	10
		Intermediate school	4	10
		Secondary school	5	12.5
		Institute	6	15
	College	4	10	
Total	40	100.0		
5.	Marital Status	Single	11	27.5
		Married	6	15
		Separate	2	5
		Divorced	9	22.5
		Widow	12	30
	Total	40	100.0	
6.	Crowding Index	Less than 2	20	50
		Less than 5	20	50
		≥ 5	0	0
	Total	40	100.0	
7.	Existence of a bank account	I have	12	30
		I don't have	28	70
	Total	40	100.0	
8.	Type of the family	Extended	4	10
		Nuclear	36	90
	Total	40	100.0	
9.	Monthly Income	Sufficient	13	32.5
		Barely sufficient	11	27.5
		Insufficient	16	40
	Total	40	100.0	

F: Frequency, %: percent

Results of this table present that the majority of the age group has mid age (70 – 74) years old, and they are accounted 16(40%). Relative to gender, the majority of the sample report at the gender ranged, female group and they are accounted 21(52.5%). Occupation, of the studied sample had unemployed, and they are accounted 18(45%), the majority of the sample

reported at low levels of education, illiterate and they are accounted 9 (22.5%), marital status, majority of groups were reported at the single and widow they are accounted 23 (57.5%). Crowding index, the majority of the sample reported at less than (5) persons in each room, and they are accounted 40 (100%), type of the family, classified nuclear and they are accounted 28(70%), monthly income having insufficient, and they are accounted 16 (40%).

Table (2): Descriptive Statistics of Environmental Factor (Bath Room)

MS= Mean of Scores, Low than (66.66), Moderate (66.66-77.77), high (77.78-100.0), RS:

List	Items of (Bath Room)	Never	Sometime	Always	MS	RS	Grade
1.	Take a look at your bathroom from every side	39	1	0	1.02	34.0	Low
2.	If the bathtub or shower floor slippery, place the rubber mat Anti-slip mat or wooden floor on the bathtub or shower	40	0	0	1	33.3	Low
3.	Need some help when you want to go to the toilet and then return once again to the outdoor bathroom	34	5	1	1.18	39.3	Moderate
4.	Put a Knob (handle) within the basin beside the toile	39	0	1	1.05	35.0	Low
5.	It's preferred for the old person to not close the door of the bathroom with key during use	19	1	20	2.02	67.3	Moderate
6.	Urea leakage during sneezing or cough	15	23	2	1.67	55.7	Moderate
7.	Wearing rubber insole to prevent slipping and falling in the bathroom	6	2	32	2.65	88.3	High

Relative Sufficiency

The results of this table present that items (1,2 and 4) are low significant, items (3,5 and 6) are moderate significant, and items (7) is highly significant means have awareness related environment factors (bathroom).

Table (3): Descriptive Statistics of Environmental Factor (Bed Room)

List	Items of (Bed Room)	Never	Sometimes	Always	MS	RS%	Grade
1.	Arrange the clothes in closet so they will be easily approach.	0	1	39	2.98	99.3	H.S
2.	Put a light source on both sides of the bed, in order to easily find out a light when you wake up midnight.	28	11	1	1.33	44.3	L.S
3.	If the road from your bed to the bathroom is dark, place a light to see your way clearly at night.	6	33	1	1.87	62.3	M.S
4.	Waking up at midnight to go to the bathroom will affect your sleep.	13	20	7	1.85	61.7	M.S
5.	It's preferred to wear an alarm bell tool which providing you with assistance in a case if you fell down and you cannot getting up.	40	0	0	1	33.3	L.S

MS: Mean of Score, RS: Relative Sufficiency

Results of this table demonstrated that items (2 and 5) low significant, items (3and4) are moderate significant and item (1) is highly significant mean have awareness related bedroom factor.

Table (4): Descriptive Statistics of Environmental Factor (Stairs and Steps)

List.	Items of (Stairs and Steps)	Never	Sometime	Always	MS	RS%	Grade
1.	Place an electric light in the upper side (top of the stairs) and the lower (bottom) to light up the stairs.	20	0	20	2	66.7	Moderate
2.	If a carpet of the degrees of the stair torn or not fixed, make sure that the carpet linking all stair's degrees tightly or remove it.	40	0	0	1	33.3	Low
3.	Stair's degrees should be linked with rubber to prevent slipping while slipping while ascending or descending on stairs.	40	0	0	1	33.3	Low
4.	If the degree of the stair was broken or not straight ask to fix it up.	20	0	20	2	66.7	Moderate
5.	Stair's handles must be easy to grasp and near any degree.	19	0	21	2.05	68.3	Moderate
6.	It is better that the handles of the stair should be metallic and safety also from both sides of the stair.	20	0	20	2	66.7	Moderate
7.	If the lamp of the outer stair was burned, ask a friend or one of the family members to change it.	40	0	0	1	33.3	Low
8.	Ensure to change the broken stair's handle with new one.	20	0	20	2	66.7	Moderate
9.	A circular quarry of the stairs is preferred to suit the week force applied by elderly hands, also to ensure they are correctly grasped by other people.	20	0	20	2	66.7	Moderate
10.	Height of the grades within the normal less than (20cm) or more, which make them difficult to get on and off.	20	0	20	2	66.7	Moderate
11.	Using lift for easy Hop-on and off?	40	0	0	1	33.3	Low

MS= Mean of scores, Low than (66.66), Moderate (66.66-77.77), High (77.78-100.0), RS: Relative Sufficiency

Results of this table showed that the items (2,3,7 and 11) are low significant items (1,4,5,8,9 and 10) are moderate significant means elderly have some practice to save themselves from environment risk factor (stairs and steps).

Discussion:

The older persons often face difficulties in Adapting to change and organizational technology in work than younger people, particularly in the area of using the technical information, which can write well. Scanning of the elderly care homes in Iraq has been reported that the number of illiterate (711) of female and (401) of male respectively, while elderly who can read and write are (72) of female and (73) of male, The number of elderly who are a campaigning higher diploma, bachelor degrees and highest account are

(53) women and (42) men respectively⁽⁹⁾. The older adults of sex- specific in Iran in 2003 incidence rates per 100.000 elderly in a year of fall-related hip fracture among aged in this study from (60-69) years old, (70-79) years old, and over 80years old, are(38.0%), (135.8%), and (501.9 %) (per 100.000 elderly) in a year between males respectively, and (67.3%), (214.7%), and (564.6%) (per 100.000 elderly) in a year between females respectively, additionally the odds ratio of hip fractures occurrence for diverse risk factors in elderly persons and over 50 years old based on multivariate logistic regression analysis were (0.78%) for male gender (vs. female), (1.07%) for urban residence (vs. rural), (0.61%) for married (vs. single or widowed), (1.70%) for falling at home (vs. other places), (1.14%) for indoor falling (vs. outdoor), (2.67%) for standing up or less height of fall (vs. over standing), (1.71%) for walking during fall (vs. other activities), (1.73%) for falling on stairs (vs. none), and also (0.47%) for falling from ladder, (vs. none)⁽³⁾.

Other study supported that (27) elderly falls were identified from the checking of the registers of (5412) elderly visits, aged (60) years old and over to the health care center through two years and nine -month period, 1st /January/ 2004 to 30 /September/ 2006. Among these (27) elderly, range of the age

selection was (61-82) years old. With a mean of age (71.3%) years old, SD = 6.1, median = 70 years⁽¹⁰⁾.

Environmental risk factors or causes refer largely to environmental phenomena {e.i., rugs, floor surfaces, pathway obstacles, potholes}. Intrinsic factors or causes on the other hand related to age-associated physiological changes, disease or medications. Within the Jamaican environment, combinations of extrinsic and intrinsic factors contribute to the occurrence of falls. Through the analysis of statistical data environmental factors with hip fractures most of which were due to falls and most of which happened in elderly adult, about (137) elderly fell, approximately (16%) fell from a bed or a chair, stool, while about (8%) tripped over objects such as boards, garden hose, slippers, loose carpet, and electrical wires. About (58%) of cases, the location, activity associated with the fall was not stated. However, about (14%) were associated with slips in the bathroom⁽¹¹⁾.

About (50%) independent elderly men and women, involving falls occur of inside their homes and immediate home surroundings. Most falls arise on the level surfaces within very popular rooms such as the bedroom, living- place and kitchen. Comparatively few falls occur inside the bathroom, on steps or from ladders as well as chairs. While a proportion of falls involve a hazard for instance a loose rug or even a slippery floor, many do not involve obvious environmental hazards. The remaining falls occur in public areas and other elderly homes⁽⁴⁾.

From personal point of view, about the private care homes significant because there are stairs available and the elderly living in the upstairs, the elderly steps were contrasted in color "Black in color" to be well noticed. As for Al Sader care home not significant because there is no stairs as in Al Sader care home because it is an

old building and it was an "English military barracks" since 1927, while in Al-Ceelakh care home it is a new building but the upstairs are inadequate for living because of the rain collapse from the roof so they canceled if the elderly didn't use it.

The issue of falls in public places is a vital one for public authorities. Over 10 000 claims for compensation for injuries sustained as a direct result of tripping over broken, uneven, or loose paving stones are made against local authorities in England and Wales annually. Despite this, the issue of environmental risk factors in public places has been given little attention in the literature. Environmental factors may have a greater role to play in outdoor falls than in indoor falls. The environmental factors (stairs or tripping and slipping hazards) were associated with 61%, of falls that occurred away from home and 33% of those that occurred at home ⁽⁴⁾.

Injuries sustained while ascending stairs are generally less severe than those sustained while are descending. In ascent, the forward momentum of a fall is arrested by the stair structure itself, while in descent there is potentially a much greater distance to fall. The number of injuries sustained after a fall while descending stairs grossly outweighs those while in ascent. (92%) of injuries were incurred during stair descent, and a similar proportion of injuries experienced in stair descent (78% for males and 92% for females). Research has shown that pedestrians view only the first three and last three steps, negotiating the remainder of the stairway without looking. This means the design of the top three and bottom three steps is very important. Moreover, 70% of all stair accidents occur on the top three and bottom three steps ⁽¹²⁾.

Recommendations:

1. The study recommended that fall prevention environmental practice at

governmental elderly care homes to increasing physical activity and their awareness toward the effect of risk factors and elderly falls.

2. We always have a gap in the lack of access to the ideal situation was changing as a result of the application of the fall prevention program requires to continue to apply the program through the extension of the period application suggestion of program in order to close the hole of the error.

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