

## KNOWLEDGE, ATTITUDES AND PRACTICES REGARDING ELDERLY FALL PREVENTION AMONG PHYSICIANS WORKING IN AGE FRIENDLY PHC CENTERS IN AL-HILA CITY

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### ABSTRACT

**Introduction:** A fall is when a person suddenly goes down onto the ground or towards the ground without intending to or by accidents. Falls and injuries related to falls constitute an important public health concern. Each year, one in three community-dwelling older adults (65 years or older) sustains a fall. Generally, one out of four elderly complain from fall at least once in the year. Falls in the elderly age group in developing countries are increasing, some studies showing their etiology and prevention had been published. In the middle eastern countries, little is known about the prevalence and features of falls. Knowledge, attitude, and practices (KAPs) of primary health care physicians in age friendly centers important for translating and disseminating effective fall prevention programs. **Subject and Methods:** This study was a descriptive cross-sectional study convenient sample of 140 of primary health care physicians carried out at the age friendly primary health care centers in Hila city during the period of first of November 2023 to first of February 2024. The questionnaire which was pre-tested with some modification made prior to its use and information was collected from each eligible respondent through direct interview under the supervision of the researcher. The data collection instrument was a structured questionnaire consist of four parts: 1- physician's baseline characteristics 2- knowledge's questions 3- Attitudes questions 4- Practices questions. **Results:** Overall knowledge was: fair 63.99%, poor 36.01% \ Overall attitude was satisfactory 70.08%, unsatisfactory 29.2% \ overall practice was satisfactory 63.56% unsatisfactory 36.44%. **Conclusion:** in our study, we found different levels of knowledge of the physicians toward the screening and prevention of falls among the elderly, with the greatest proportion at the fair level so further studies and more professional educational programs are required and local recommendations and an approved screening scale are needed.

**KEYWORDS:** Fall, primary health care Physicians, elderly, prevention knowledge.

### INTRODUCTION

A fall is when a person suddenly goes down onto the ground or towards the ground without intending to or by accidents<sup>[1]</sup>. Falls and injuries related to falls constitute an important public health concern. Each year, one in three community-dwelling older adults (65 years or older) sustains a fall.<sup>[1]</sup> About 20% to 30% of falls cause serious injury, so the care is costly.<sup>[1]</sup> Elderly patients that experienced fractures of the spine or lower limbs as a direct result of the falls will often require other people to assist in performing their daily activities. Indirectly this can lead to poor self-esteem and social withdrawal arising from a sense of hopelessness. Furthermore, more serious injuries such as head and brain parenchymal injuries also can be a result of having a fall. Elderly with

these injuries tend to have a prolonged hospitalization and are prone to develop other complications such as pneumonia, deep vein thrombosis and even pulmonary embolism which can even lead to death. The overall population burden will increase as the aging population grows and costs will rise spontaneously. Falls are among the leading health indicators in healthy people 2020.<sup>[2]</sup> and several effective fall prevention practices have been documented for elderly at risk, including individualized fall risk assessment and multifactorial interventions.<sup>[2]</sup> Generally, one out of four elderly complain from fall at least once in the year.<sup>[1]</sup> Falls in the elderly age group in developing countries are increasing, some studies showing their etiology and prevention had been published.<sup>[3]</sup> In the middle eastern countries, little is

known about the prevalence and features of falls.<sup>[3]</sup> knowledge, attitudes, and practices (KAPs) (of primary health care physicians in age friendly centers important for translating and disseminating effective fall prevention programs. In this study our goal to obtain information about physician knowledge, attitude, and practices who are caring for elderly at height risk for falling in order to help establish a foundation for fall prevention actions in Iraq. The objectives of the current study were to 1-assess service providers' knowledge, attitudes, and provision of practice-related services for physician's fall prevention and 2-The long-term objective was to use the findings from the KAPs project to develop and enhance local programs, services,, and educational materials and increase older adult access to programs and build partnerships at the community level.

**Subjects and Methods**

This study was a descriptive cross-sectional study convenient sample of 041of primary health care physicians carried out at the age friendly primary health care centers in Hila city during the period of first of November 2023 to first of February 2024. **Ethical**

**clearance** was obtained from Ethical Committee in Ministry of health, Arab board and administration from each primary health care center obtained. Verbal consent obtained from each respondent after explaining the study objectives. Information obtained from individual participants kept secure and confidential. **The questionnaire** which was pre-tested with some modification made prior to its use and information was collected from each eligible respondent through direct interview under the supervision of the researcher. The data collection instrument was a structured questionnaire consist of four part.<sup>[4,5]</sup>

**QUESTIONNAIRE**

**A-physician's baseline characteristics**

- 1-Site of gob,**
- 2- Gender: Male female**
- 3- Age**
- 4 -Job level:** Consultant Senior Diploma Practitioner, Resident, Board.
- 5-Years of experience:** Less than 2years,2-5 years,6-10 years, More than 10 years.
- 6 -Training in elderly course for fall prevention:** yes, no.

**B- Knowledge's questions including the following questions and the answer for their either yes ,no or I don't know**

<b>Knowledge questions</b>	<b>yes</b>	<b>no</b>	<b>I don't know</b>
Q1-To screen the riskof falls among elderlypersons we have to ask all elderly patients if they have fallen in the last 6 months?	True answer		
Q2-Is it possible for any elderly person to fall?	True answer		
Q3-DM, HTN, and other comorbidities will increase the riskof fall among elderly patients?	True answer		
Q4-Visual, hearing, gait, balance abnormality and cognitive assessments should be part of the multifactorial risk assessment of falls in the elderly?	True answer		
Q5-Orthostatic hypotension is one ofthe important risk factors?	True answer		
Q6-The fall of an elderly person is an event?	True answer		
Q7-Is there a way to prevent the fall ofelderly people?	True answer		
Q8- When an elderlyperson falls, they psychologically feel more capable of handling another fall?		True answer	
Q9- If sidewalks look slippery, don't walk inthe grass for more solid footing?		True answer	
Q10- should always		True answer	

Use a walker or cane?			
Q11-elderly should wearing hip protectors or hip pads for added protection ?	True answer		
Q12-in door no need to use assistive devices to help avoid strain or injury?		True answer	

**C-Attitudes questions including the following questions and the answer for their either Agree, disagree or I don't know**

Attitudes questions	agree	disagree	I don't know
Q1-Falls are prevalent among the Iraqi elderly?	True answer		
Q2-Falls among the elderly are a major problem?	True answer		
Q3-The fall is a natural event in old age?		True answer	
Q4-The primary care Physician plays an important role in the screening and prevention of falls among the elderly	True answer		
Q5-Providing advice regarding the prevention of elderly falls only when the patient requests it		True answer	
Q6- Should advice every caregivers should be concerned about the fall of the elderly	True answer		
Q7-every caregiver of elderly must identify the risks and prevent accidents by falls	True answer		
Q8-If the elderly fall frequently, how do you feel about it?	Not too worried	Very concerned (True answer)	I don't know

**D-Practices questions including the following questions and the answer for their either yes or no:**

Practices questions	Yes	No
Q1-If always following a guideline for screening and prevention of elderly falls?	True answer	
Q2-If routinely asking Elderly patients for history of falls?	True answer	
Q3-If examining an elderly person for fall assessment?	True answer	
Q4-If advising elderly patient to exercise?	True answer	
Q5- if yes what types of exercise for fall prevention ?	<b>True answer</b> Single Limb Stance Back Leg Raises Side Leg Raise Toe Lifts	
Q6-In the daily care of the elderly, do you usually prevent fall accidents in PHC?	True answer	
Q7-If prescribing Prophylactic vitamin D for elderly patients	True answer	
Q8-If yes, The recommended daily dose of prophylactic vit.d in elderly is .....	<b>True answer</b> 800 to 1000 IU/day	

**Statistical analysis:** Statistical package for social sciences software (SPSS, version 24) was used to analyze the data. Data were analyzed through the measurement of frequencies, percentage and chi-Square, the test used to determine the statistically significant relation of physicians knowledge, attitude and practice

to their demographic characteristics (p value of <0.05).

**Scoring system:** Scoring for Knowledge, Attitude and Practice items, a correct response was scored (1) and the incorrect (zero). For each area, the scores of the items

were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score. The Knowledge was considered poor if the percent score was less than 50 %, fair knowledge if the percent score was 51% to 75% and good knowledge if the percent score was more than 75%. Attitude and Practice were considered satisfactory if

the percent score was 50% or more and unsatisfactory if less than 50% .

## RESULTS

Questionnaires were distributed, of which 140 were completed and returned. The analysis was based on these replies.

**Table 1: Distribution of the physicians by baseline characteristics.**

Physician's characteristics	No.(n=140)	Percentage (%)
<b>Gender</b>		
Male	10	7.3%
Female	130	92.7%
<b>Years of experience</b>		
Less than 2	3	2.1%
2-5 years	32	22.9%
6-10 years	45	32.1%
More than 10 years	60	42.9%
<b>Fall prevention training</b>		
Yes	53	37.9%
No	87	62.1%
<b>Level of job</b>		
Consultant	1	0.7%
Senior	20	14.3%
Diploma	56	40%
Practitioner	34	24.3%
Resident	22	15.7%
Board	7	5%
Total	140	100%

Table 1 the baseline characteristics of physicians. The majority of physicians (92.7%) were female. About fall prevention training course only 37.9% of physicians

were have training. The majority of physicians with experience years more than 10 years 42.9% .and majority of physicians (40%) were diploma.

**Table 2: Distribution of the participants' responses to knowledge items.**

Knowledge Questions	True responses	Percentage(%)	False responses	Percentage(%)
Q1	96	68.6%	44	31.4%
Q2	122	87.1%	18	12.9%
Q3	116	82.9%	24	17.1%
Q4	126	90%	14	10%
Q5	113	80.7%	27	19.3%
Q6	111	79.3%	29	20.7%
Q7	104	74.3%	36	25.7%
Q8	32	22.9%	108	77.1%
Q9	53	33.9%	87	62.1%
Q10	69	49.3%	71	50.7%
Q11	75	53.6%	65	46.4%
Q12	75	53.6%	65	46.4%
Q13	78	55.7%	62	44.3%

Table 2: Showed distribution of the physician's responses to knowledge items, the highest percent of true response (90%) (good knowledge) were for Q4 and the lowest percent of true response were for Q8 (22.9%).

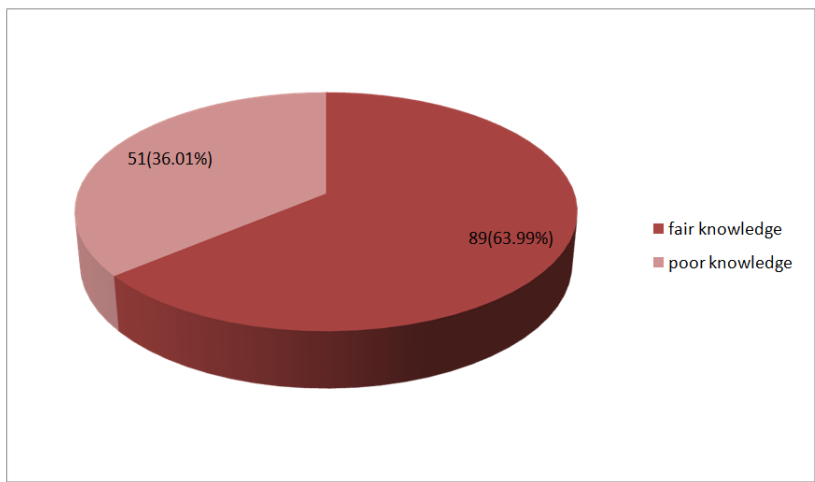


Figure 1: Over all knowledge scoring.

In figure 1 showed percentage of overall knowledge of physicians, 63.99% considered fair knowledge and 36.01% considered poor knowledge.

Table 3: Distribution of the participants’ responses to attitude items.

Attitude questions	Positive response	Percentage (%)	Negative response	Percentage (%)
Q1	111	79.3%	29	20.7%
Q2	102	72.9%	38	27.1%
Q3	57	40.7%	83	59.3%
Q4	114	81.4%	26	18.6%
Q5	61	43.6%	79	56.4%
Q6	106	75.7%	34	24.3%
Q7	122	87.1%	18	12.9%
Q8	112	80%	28	20%

Table 3 showed distribution of the physician’s responses to attitude items, the highest percent of positive response (87.1%) (satisfactory attitude) were for Q7 and the lowest percent of positive response (40.7%) (unsatisfactory attitude) were for Q3.

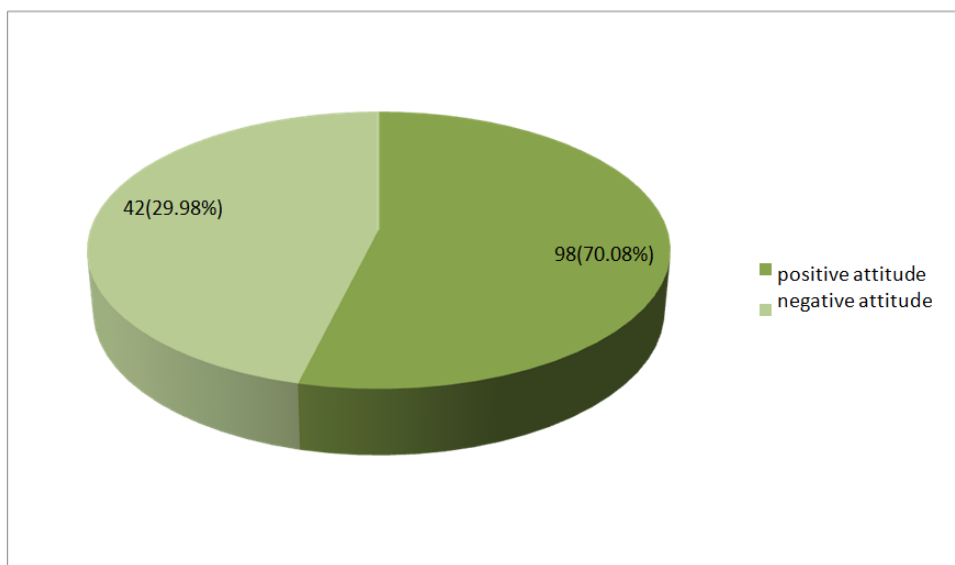


Figure 2 overall attitude score.

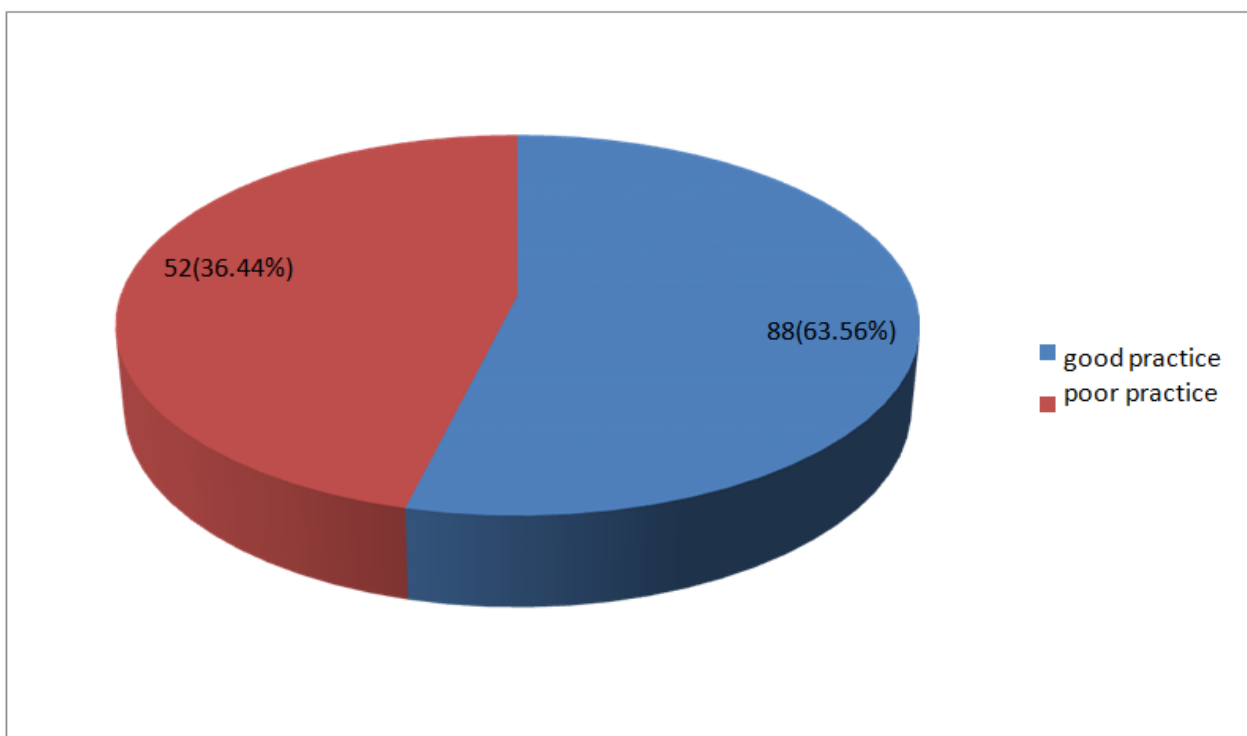
In figure 2 showed percentage of overall attitudes of physicians, 70.08% positive attitude and 29.98% negative attitude.

**Table 4: Distribution of the participants' responses towards practices items.**

Practice questions	Good response	Percentage (%)	Poor response	Percentage (%)
Q1	105	75%	35	25%
Q2	101	72.1%	39	27.9%
Q3	103	73.6%	37	26.4%
Q4	114	81.4%	26	18.6%
Q5	34	24.3%	106	75.7%
Q6	114	81.4%	26	18.6%
Q7	113	80.7%	27	19.3%
Q8	28	20%	112	80%

Table 4: Showed distribution of the physician's responses to practice items, the highest percent of good response (81.4%) (satisfactory practice) were for Q4 and

Q6, the lowest percent of good response (20%) (unsatisfactory practice) were for Q8.



**Figure 3: Overall practice scoring.**

In figure 3 showed percentage of overall practices good (63.56%) and poor (36.44%) of physicians.

**Table 5: Association of overall knowledge attitudes and practices with job level of physicians.**

Job level	Overall knowledge		p. value	Overall attitude		P value	Overall Practice		P value
	Good%	Poor%		Good%	Poor%		Good%	Poor%	
Consultant	84%	26%	0.3	62.5%	37.5%	0.5	75%	25%	0.03
Senior	59.5%	40.5%		76.25%	23.75%		65.1%	34.9%	
Diploma	62.48%	33.52%		72%	28%		52%	48%	
Practitioner	60.81%	39.19%		66.55%	33.45%		61.4%	38.6%	
Resident	55.23%	44.77%		58.02%	41.98%		65.3%	34.7%	
Board	63.73%	36.27%		78.57%	21.43%		64.27%	35.73%	
Total	100%			100%			100%		

Table 5: there was a significant difference in association of overall practice with job level of physicians (p.value 0.03) and there was no significant difference in about association of overall knowledge and attitude with job

level of physicians.

**Table 6: Association of overall knowledge attitudes and practices with years of experience of physicians.**

Years of experience	Overall knowledge		p. value	Overall attitude		P value	Overall Practice		P value
	Good%	Poor%		Good%	Poor%		Good%	Poor%	
Less than 2years	63.38%	36.62%	0.07	73.3%	26.5%	0.2	64.63%	35.37%	0.3
2-5 years	57.66%	42.34%		64.07%	35.93%		64.63%	35.37%	
6-10 years	59.13%	40.87%		67.13%	32.87%		62.76%	37.24%	
More than 10 years	64.45%	35.55%		87.5%	12.5%		65.45%	35.55%	
Total	100%			100%			100%		

Table 6 there was no significant difference in about association of overall knowledge, attitude and practice with years of experience of physicians.

**Table 7: Association of overall knowledge attitude and practice with training course in fall prevention.**

Variables	Overall knowledge		P value	Overall attitude		P value	Overall practice		P value
	Good	poor		Good	poor		Good	Poor	
With training	67.92%	32.08%	0.06	70.28%	29.72%	0.50	64.62%	35.38%	0.73
Total	100%			100%			100%		
Without training	59.31%	40.69%		67.92%	32.08%		62.53%	37.47%	
Total	100%			100%			100%		

Table 7 there was no significant difference in about association of overall knowledge, attitude and practice with training course in fall prevention of physicians.

## DISCUSSION

Each year, millions of older people—those 65 and older—fall. In fact, more than one out of four older people falls each year) study in United States)<sup>[6]</sup> but less than half tell their doctor about fall.<sup>[7]</sup> There are several evidence-based falls prevention interventions available to decrease fall risk by tackling the risk factors<sup>[8]</sup> In this study, **about the knowledge assessment** we can find that the knowledge of PHC physicians at Al Hilla city was divided as : fair 63.99%, poor 36.01% as showed in **(figure 1)**. The reasons for this level of knowledge of the physicians due to the answers the Q8 and Q9 as showed in **table 1**:(Q8- When an elderly person falls, they psychologically feel more capable of handling another fall? Q9- If sidewalks look slippery, don't walk in the grass for more solid footing?) only 22.9% and 33.9% are true answering respectively, this needs to be addressed in educational programs on falls prevention approaches. In spite of there is a lack of studies of falls among the elderly in Iraq and their risks of complications, most of the physicians truly answered the questions regarding knowledge of them about complications and risk factors, this the high knowledge may come from the long years of experience or from frequent lectures to raise awareness about falls among the elderly by the Department of Prevention and Control of Non-Communicable Diseases. This study similar to [Saad S. Alshahrani, 2019.] study in Al Saudia <sup>[5]</sup> in which the overall knowledge of PHC physicians was good, 27.9%; intermediate, 39.5%; low, 31.4%, and 1.2%, very low, and in similar study [Asiri F, etal, 2018] in Al Saudia.<sup>[9]</sup> among family physicians was 45%. As showed in **tables 5,6,7** overall knowledge according to baseline characteristics of the physicians, the knowledge was higher in consultant physician, in physicians with

years of experience and those with training course about falls prevention among elderly (84%, 64.65%, 67.92%) and there was no significant difference. **Attitude assessment:** as showed in **table 3** :in all questions (except Q3 and Q5) about assessment of attitude the response satisfactory (above 70%) and it considered very good attitudes while regarding the Q3 and Q5(Q3-The fall is a natural event in old age? 40.7% and. Q5 - Providing advice regarding the prevention of elderly falls only when the patient requests it? 43.6%), considered unsatisfactory attitudes so this needs to be addressed in educational programs on falls prevention approaches about these two items, in similar [Saad S. Alshahrani, 2019] study in al Saudi<sup>[5]</sup> were 54.7%, 45.3% respectively for Q3 and Q5. While overall attitude (**figure 2**) was 70.08% as good, so considered as overall attitude satisfactory. This reflects the continuous awareness of correct behaviors towards the elderly by doctors, in addition to the ongoing awareness and training courses by the Department of Prevention and Control of Non-communicable Diseases. As showed in **tables 5,6,7** overall attitude according to baseline characteristics of the physicians, the good attitudes was higher in board physicians, in physicians with years of experience of more 10 years and those with training course about falls prevention among elderly (78.57%, 87.5%, 70.28%) and there was no significant difference in association with years of experience with training course or the job level **In the practice assessment**, as showed in **table 4** only 24.3% (unsatisfactory) know the correct type of the exercise that prevent the fall and 20% (unsatisfactory) only know the correct prophylactic dose of vit.D that needed by elderly to prevent the fall while in [Mahdaviyazad H, Keshtkar V, Emami MJ; 2018] a study in Iran among physicians about osteoporosis<sup>[10]</sup>, the physicians have good practice about the prophylactic dose of Vit.D.(73.2%) (satisfactory), so we should determine the barriers resulting in that low rate in our study. While the other items about practices were very

good and satisfactory and were above 70% of the physicians with good practices about following: the guidelines, asking about the history of falls examining for fall assessment, advising the elderly to do fall prevention exercise, in preventing fall in PHC and prescribing the prophylactic dose of vit.D. While overall practice (**figure 3**) good practice(63.56%) and poor practice(36.44%) of physicians, which is similar to [Janice A. Mark DNP; etal; 2020] study in the United States about primary care providers (PCPs) practices about fall in elderly was lower than our study percent of practices<sup>[11]</sup> the possible explanation for the higher percent could be differences in definition of what —countedl as a fall risk factor assessment or intervention As showed in **tables 5,6,7**, overall practice according to baseline characteristics of the physicians, the good practice was higher in consultant physician in physicians with years of experience of more 10 years and those with training course about falls prevention among elderly (75%,65.45%, 64.62%) and there was no significant difference in association with years of experience or with training course but there was a significant difference in association with level of job (p. value 0.03) this different may belong to the varies according to the number of years of study, the type of training from one center to another, or the number of hours of special lectures for the elderly group and all the natural changes, diseases and complications they have.

#### CONCLUSIONS AND RECOMMENDATIONS

In our study, we found different percent of good and poor knowledge of the physicians toward the screening and prevention of falls among the elderly, with the greatest proportion at the fair level also shows that the physicians are not aware enough about the nature of falls in elderly and about advice to elderly to prevent falls, and were not practice with type of exercise to prevent fall and prophylactic daily dose of vitD, so further studies and more professional educational programs are required and local recommendations and an approved screening scale are needed, as well as could improve by developing strategies for the primary care setting that aim to enhance systematic screening of high fall risk and provision of falls prevention among frail older people, and further research is required about fall prevention, after that falls prevention can be applied more successfully in the PHC, which helps to reduce falls among elderly. So lead to improve quality of life of older people and a reduction in health care costs.

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