

Original Article

The Effects of Education on Nurses' Ability to Recognize Elder Abuse Induced by Family Members

Fatemeh Ghaffari, Atefeh Alipour¹, Zahra Fotokian

Nursing Care Research Center, Health Research Institute, Babol University of Medical Sciences, ¹Student Research Committee, Health Research Institute, Babol University of Medical Sciences, Babol, Iran

ORCID:

Fatemeh Ghaffari:
0000-0003-1940-1579
Atefeh Alipour:
0000-0002-2108-8625
Zahra Fotokian:
0000-0002-9274-7413

ABSTRACT

Background: Nurses' lack of knowledge about domestic elder abuse and their limited ability to recognize it can result in negative consequences. Education has the potential to improve nurses' ability to recognize elder abuse. Yet, there is no conclusive result about its effectiveness. **Objectives:** The main objective of the present study was to assess the effects of education on nurses' ability to recognize elder abuse. **Methods:** This randomized controlled trial was conducted in two public hospitals in Ramsar and Tonekabon, Iran. Participants were 120 nurses who were randomly recruited and allocated to an intervention ($n = 60$) and a control ($n = 60$) group. The study intervention was an educational program implemented in two successive 2-h sessions in 1 day. Data were collected using a demographic questionnaire and The Nurses' Recognition of Elder Abuse by Family Caregiver Questionnaire. The possible total score of the latter questionnaire was 67–335. The data were analyzed using the Chi-square, the Fisher's exact, and the paired- and the independent-samples t -tests as well as the one-way and the repeated-measures analyses of variance. **Results:** The mean score of elder abuse recognition ability significantly increased in the intervention group ($P < 0.001$), while it did not significantly change in the control group ($P = 0.85$). Participants had a good ability to recognize physical elder abuse and limited ability to recognize sexual abuse. **Conclusion:** In-service education about elder abuse for nurses not only improves their elder abuse recognition ability but also can help them take appropriate measures for its management.

KEYWORDS: Caregivers, Education, Elder abuse, Family, Nurse, Recognition

INTRODUCTION

Elder abuse by family members, also known as domestic elder abuse, is a serious health-care challenge throughout the world. Its prevalence varies from 33.4% to 88.7% in different communities.^[1-3] A systematic review found that one-fourth of elderly people are at risk for elder abuse.^[2] Another systematic review has reported that the overall prevalence of elder abuse was 48.3% in Iran and the highest and the lowest rates were related to the care neglect, and rejection dimensions with the prevalence of 38.4% and 11%, respectively.^[4] Elder abuse can cause different physical and psychological complications such as depression, anxiety,^[5] skeletal pain, high blood pressure, low quality of life,^[6] frequent hospitalizations,^[5,7] and greater risk of death.^[8]

Despite its numerous complications, many cases of domestic elder abuse are ignored and underreported. The main reasons for elder abuse ignorance and underreporting include its intentional concealment by abused elderly people, negative attitudes toward its assessment and reporting, and health-care providers' inability to recognize it.^[9-12] Health-care providers' knowledge is a key factor contributing to the recognition and management of elder abuse, reduction of its costs, and improvement of elderly people's quality of life.^[12] However, studies reported that health-care

Address for correspondence: Dr. Zahra Fotokian, Nursing Care Research Center, Health Research Institute, Babol University of Medical Sciences, Babol, Iran.
E-mail: zfotokian@yahoo.com

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providers receive limited if any, university and in-service abuse-related education,^[12,13] have limited knowledge about it, and hence, have limited ability to recognize it. A study on 31 nursing schools in the United Kingdom reported that only 68% of them provided education about elder abuse.^[14] The formal nursing curriculum and in-service education programs in Iran also do not cover elder abuse.

Previous studies into the effects of education on nurses' ability to recognize elder abuse reported inconsistent results. For instance, a study reported that education positively affected nurses' knowledge about elder abuse, their ignorance about it, and their reactions to it.^[15] Another study also found the effectiveness of an e-learning module in significantly improving health-care providers' knowledge about elder abuse and their perceived efficacy in its management.^[16,17] Contrarily, two studies found that education had no significant effects on health-care providers' ability to recognize elder abuse.^[18,19] We are not aware of any studies that used training for nurses on their ability to recognize elder abuse in Iran.

Objectives

The main objective of the present study was to assess the effects of education on nurses' ability to recognize elder abuse.

METHODS

Design, setting, and participants

This randomized controlled trial was conducted between 2016 and 2017, in Imam Sajjad hospital, Ramsar, Iran, and Shahid Rajaei hospital, Tonekabon, Iran. There were more than 400 active beds, and 479 nurses in these two hospitals and most clients in them were elderly people.

Sample size was calculated based on the findings of a pilot study on eight nurses in which their overall elder abuse ability score was increased from 205.25 ± 43.22 to 229.30 ± 36.41 . Then, with a μ_1 of 205.25, a μ_2 of 229.30, a σ of 43.22, and a σ of 36.41, an α of 0.01, and a β of 0.2, the output of the sample size calculation formula $n = (Z_{1-\alpha/2} + Z_{1-\beta})^2 (\delta_1^2 + \delta_2^2) / (\mu_1 - \mu_2)^2$ showed that 56 nurses were needed for each group. However, we recruited 60 subjects in each group. Accordingly, 120 eligible nurses were randomly recruited to the study through simple random sampling. For sampling, a list of all eligible nurses in the study setting was created and then, a table of random numbers was used to recruit study participants using the list. Then, the selected ones were listed again and finally, those with odd and even numbers were allocated to a control and an intervention

group, respectively. Figure 1 shows the sampling procedure.

Nurses were included in the study if they held an academic degree in nursing, had a hospital work experience of 1 year or more, had the experience of care delivery to elderly people in clinical settings, and had not received formal or in-service education about elder abuse. Exclusion criteria were any absence from the sessions of the study intervention and voluntary withdrawal from the study.

Data collection instruments

Two instruments were used for data collection, including a demographic questionnaire and the Nurses' Recognition of Elder Abuse by Family Caregiver Questionnaire. The demographic questionnaire included items on participants' gender, age, work experience, years passed from graduation, affiliated hospital ward, employment status, and experience of living with an elderly person. This questionnaire also contained items on participants' experiences of visiting a victim of elder abuse in hospital, willingness to report elder abuse or neglect, familiarity with elder abuse, and sources for acquiring information about elder abuse and its risk factors.

The Nurses' Recognition of Elder Abuse by Family Caregiver Questionnaire was developed and psychometrically evaluated by Alipour *et al.*^[20] It includes 67 items in three subscales, namely "abuse-related symptoms" (38 items), "elderly-related risk factors" (21 items), and "family-related risk factors" (eight items). The Likert-type scoring scale of this questionnaire has five points, ranging from "Strongly agree" (scored 5) to "Strongly disagree" (scored 1).

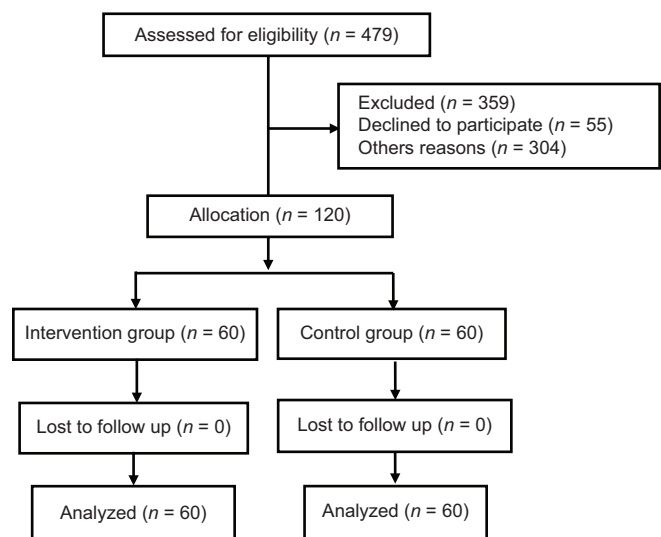


Figure 1: The flow diagram of the study

Thus, the possible total scores of the three subscales of the questionnaire are, respectively, 38–190, 21–105, and 8–40. The possible total score of the questionnaire is 67–335 which is interpreted as the following: 1–83: limited elder abuse recognition ability; 84–167: moderate elder abuse recognition ability; 168–251: good elder abuse recognition ability; and 252–335: excellent elder abuse recognition ability. The developers of the questionnaire reported that its Cronbach's alpha was 0.85 and its test–retest correlation was statistically significant.^[20] The average time for completing this questionnaire is 45 min.

Intervention

The intervention of the study was an educational program on elder abuse held in two successive 2-h sessions in 1 day [Table 1]. The first session was on elder abuse and its symptoms and the second session was on elder abuse risk factors. Educational materials were provided through lecture, PowerPoint presentation, and booklets. The group-based intervention process was held as an educational class by one of the researchers in a hospital located in Mazandaran Province, Iran. Participants in the control group did not receive any education about elder abuse. Participants in the intervention group completed the Nurses' Recognition of Elder Abuse by Family Caregiver Questionnaire at three time-points, namely before, 1 month, and 3 month after the intervention. Their counterparts in the control group completed the questionnaire before and 1 month after the intervention. The study intervention was implemented by the second author.

Ethical considerations

The study protocol was approved by the Ethics Committee of Babol University of Medical Sciences, Babol, Iran (code: MUBABOL. REC.1395.34). Moreover, the study was registered in the Iranian Registry of Clinical Trials (code: IRCT20160814029349N3). At the beginning of the study, participants were ensured that their data would be kept confidential and their participation in and withdrawal from the study would be voluntary. Informed consent was obtained from all participants. After data collection, educational materials were also provided to participants in the control group through booklets.

Data analysis

The normality of the data was tested using the Kolmogorov–Smirnov test. Numeric data with normal distribution were analyzed through the paired-and the independent-sample *t*-tests, the one-way analysis of variance (followed by the Tukey's post hoc test), and the repeated-measure analysis of variance. Data with nonnormal distribution were analyzed using the Chi-square, the Mann–Whitney U-test, and the Fisher's exact tests. Values of $P < 0.05$ were considered statistically significant.

RESULTS

In overall, 120 nurses completed the study. Table 2 shows their characteristics. Around 21.7% of participants had the experience of facing with at least one case of elder abuse and 55.8% of them believed that elder abuse reporting is the responsibility of social workers. As Tables 2 and 3 show, no statistically significant difference was found between the control and the intervention groups regarding their gender, age, work experience, living with an old people, and abuse-related characteristics, although there were differences between the two groups regarding their employment status, years passed from graduation, and working units.

At baseline, the total mean score of participants' ability to recognize elder abuse was 220.5 ± 43.6 in the intervention group and 224.9 ± 36.4 in the control group. One month after the intervention, these values were 255.96 ± 26.55 and 224.85 ± 35.11 , respectively. In other words, the mean score of nurses' elder abuse recognition ability increased by 35.88 points in the intervention group but did not significantly change in the control group. The paired-sample *t*-test showed that the increase in the intervention group was statistically significant ($P = 0.001$), while the decrease in the control group was not statistically significant ($P = 0.85$). The greatest increase in the mean score of elder abuse recognition components was related to the physical component. These results denote that the study intervention was effective in significantly increasing nurses' ability to recognize elder abuse [$P = 0.001$; Table 4].

The results of the repeated-measure analysis of variance illustrated a significant increase in the intervention group

Table 1: The elder abuse educational program

Session	Content	Length (h)	Instructor	Teaching methods
1	Introducing the members Elder abuse definition, symptoms, and risk factors	2	The second author	PowerPoint presentation, educational booklets, lecture
2	Introducing a tool Elder abuse recognition Discussions and conclusion	2	The second author	PowerPoint presentation, educational booklets, lecture

Table 2: Participants' demographic characteristics

Characteristics	Group		P
	Intervention, n (%)	Control, n (%)	
Gender			
Female	56 (93.3)	56 (93.3)	0.99 ^a
Male	4 (6.7)	4 (6.7)	
Age (years)			
20-40	50 (83.3)	55 (91.7)	0.16 ^a
41-65	10 (16.7)	5 (8.3)	
Employment status			
Contractual	40 (66.7)	29 (48.4)	0.042 ^a
Formal	20 (33.3)	31 (51.6)	
Years passed from graduation			
<10	24 (40)	38 (63.3)	0.025 ^b
11-30	36 (60)	22 (36.7)	
Work experience			
<10	28 (46.7)	41 (68.3)	0.78 ^b
11-30	32 (53.3)	19 (31.7)	
Affiliated hospital ward			
Emergency room	15 (25)	11 (18.3)	0.018 ^a
Medical ward	13 (21.7)	16 (26.7)	
Intensive care	17 (28.3)	19 (31.7)	
Operating room	6 (10)	14 (23.3)	
Others	9 (15)	0	
Living with an elderly person			
Yes	13 (21.7)	14 (23.3)	0.82 ^a
No	47 (78.3)	46 (76.7)	

^aThe results of Chi-square test, ^bThe results of Mann-Whitney U-test

in the mean scores of all three main subscales of elder abuse recognition ability. Although there were significant differences between the pretest and the first posttest mean scores of elder abuse recognition ability and its subscales ($P < 0.05$), Table 5, the differences between the pretest and the second posttest mean scores were not statistically significant data not shown. These findings denote the insignificant long-term effects of the study intervention.

The one-way analysis of variance illustrated that the mean scores of ability to recognize elder abuse were not significantly different among nurses in different subgroups of age, work experience, history of living with an elderly person, affiliated hospital ward, years passed from graduation, and the experience of communicating ($P > 0.05$).

DISCUSSION

Results showed that education was effective in significantly improving the nurses' ability to recognize elder abuse. This is in line with the findings of several earlier studies.^[1,15,16] However, a study reported that education had no significant effects on elder abuse recognition ability among nurses and concluded that elder abuse recognition

Table 3: Participants' abuse-related characteristics

Characteristics	Group		P
	Intervention, n (%)	Control, n (%)	
Experience of facing with cases of domestic elder abuse			
Yes	11 (18.3)	15 (25)	0.37 ^a
No	49 (81.7)	45 (75)	
Willingness to report elder abuse			
Yes	32 (53.3)	40 (66.7)	0.13 ^a
No	28 (46.7)	20 (33.3)	
Adequate knowledge about elder abuse			
Yes	36 (60)	36 (60)	0.99 ^a
No	24 (40)	24 (40)	
Considering elder abuse as a common problem			
Yes	34 (56.7)	34 (56.7)	0.99 ^a
No	26 (43.3)	26 (43.3)	
Source of information acquisition about elder abuse			
Radio and TV	12 (20)	17 (28.3)	0.78 ^a
Internet	13 (21.7)	9 (15)	
Magazines and newspapers	8 (13.3)	9 (15)	
Nursing books	8 (13.3)	7 (11.7)	
Friends and relatives	19 (31.7)	18 (30)	
Viewpoint on the person liable for elder abuse reporting			
Physicians	1 (1.7)	3 (5)	0.74 ^b
Nurses	1 (1.7)	1 (1.7)	
Social workers	36 (60)	31 (51.7)	
Physicians and nurses	22 (36.6)	25 (41.6)	

^aThe results of the Chi-square test, ^bThe results of the Fisher's exact test

ability is more dependent on nurses' experience than their knowledge.^[18] This contradiction is probably due to the differences between the studies regarding the type of education and participants' attitudes and knowledge about elder abuse and its reporting. As nurses' ability to recognize elder abuse can be affected by their cultural beliefs and sources of information, university and in-service education can be used to improve their knowledge and attitudes.

Findings revealed that the highest and the lowest mean scores of nurses' ability to recognize elder abuse were related to physical abuse and sexual abuse, respectively. A former study also reported the same finding,^[21] while another study reported that the highest mean scores were related to the financial and the sexual components.^[22] These findings may be because physical symptoms of elder abuse are more easily recognizable than the symptoms of sexual abuse. Moreover, elderly people may avoid reporting the symptoms of sexual abuse due to their concerns over their honor, their dependence on family caregivers in fulfilling their daily

Table 4: Between- and within-group comparisons regarding the mean score of nurses' elder abuse recognition ability

Elder abuse recognition ability subscales/Groups		Time		<i>P</i> ^a	Pretest-posttest mean difference
		Before	First posttest		
Elder abuse symptoms					
Physical abuse					
	Intervention	34.3 ± 9.35	43.5 ± 5.05	0.001	9.28 ± 4.36
	Control	36.6 ± 8.2	36.68 ± 7.7	0.65	0.89 ± 1.71
	<i>P</i> ^b	0.15	< 0.001		0.001
Mental abuse					
	Intervention	22.8 ± 5.83	26.5 ± 3.89	0.001	4.68 ± 3.85
	Control	24.8 ± 5.4	24.76 ± 5.1	0.49	-0.21 ± 0.33
	<i>P</i> ^b	0.054	0.037		0.037
Financial abuse					
	Intervention	16.68 ± 4.1	19.2 ± 3.04	0.001	3.56 ± 1.57
	Control	16.68 ± 4.4	16.68 ± 4.47	0.56	0.25 ± 0.81
	<i>P</i> ^b	0.999	0.0004		0.001
Sexual abuse					
	Intervention	13.6 ± 6.26	18.93 ± 4	0.001	5.52 ± 2.03
	Control	14.8 ± 4.7	14.9 ± 4.47	0.51	1.46 ± 0.02
	<i>P</i> ^b	0.237	< 0.001		0.001
Negligence					
	Intervention	31.65 ± 7.6	36.6 ± 5.59	0.001	5.24 ± 2.49
	Control	32.6 ± 7.06	32.68 ± 6.8	0.82	0.14 ± 1.2
	<i>P</i> ^b	0.479	0.0008		0.001
Elder abuse symptoms, total					
	Intervention	119.1 ± 27.99	144.78 ± 16.7	0.001	25.84 ± 5.62
	Control	125.81 ± 22.5	125.8 ± 21.6	0.78	0.15 ± 1.12
	<i>P</i> ^b	0.150	< 0.001		0.001
Potential risk factors					
Elderly-related					
	Intervention	72.5 ± 12.9	79.8 ± 8.09	0.001	7.56 ± 4.04
	Control	71.4 ± 12.7	71.4 ± 12.2	0.71	0.1 ± 1.7
	<i>P</i> ^b	0.638	< 0.001		0.001
Family-related					
	Intervention	28.88 ± 6.4	31.3 ± 5.67	0.001	3.08 ± 1.52
	Control	27.58 ± 5.2	27.58 ± 5.2	0.72	0.39 ± 1.41
	<i>P</i> ^b	0.224	0.0003		0.001
Elder abuse potential risk factors, total					
	Intervention	101.1 ± 17.9	111.1 ± 12.01	0.001	10.84 ± 5.62
	Control	99.08 ± 17.5	98.9 ± 16.7	0.61	0.15 ± 1.62
	<i>P</i> ^b	0.533	< 0.001		0.001
Total					
Control	Intervention	220.5 ± 43.6	255.9 ± 26.5	0.001	35.88 ± 17.64
	224.9 ± 36.4	224.85 ± 35.1	0.85	0.28 ± 3.53	
	<i>P</i> ^b	0.549	< 0.001		0.001

^aThe results of the paired-sample *t*-test; ^bThe results of the independent-sample *t*-test

needs, and their fear over loneliness. Thus, nurses need to be empowered to accurately assess, recognize, and manage cases of sexual abuse.

We found that the effects of education on nurses' elder abuse recognition ability disappeared after 3 months. This finding may be because study participants received abuse-related education for the first time in the present

study and only in two sessions held in 1 day. Moreover, there was no manager-imposed obligation for learning elder abuse recognition skills. This finding highlights the importance of long-term educational interventions for improving nurses' elder abuse recognition ability.

Another finding of the study was the insignificant relationships of nurses' elder abuse recognition ability

Table 5: Within-group comparisons regarding the mean score of nurses' elder abuse recognition ability in the intervention group^a

The level of recognition of elder abuse subscales	Preintervention	Postintervention	3 months after intervention	F (P) ^b
Physical abuse	34.3 ± 9.35	43.5 ± 5.05	33.8 ± 8.34	29.48 (<0.001)
Sexual abuse	13.66 ± 6.26	18.93 ± 4.0	12.65 ± 5.01	25.89 (<0.001)
Mental abuse	19.35 ± 5.01	22.66 ± 3.43	18.96 ± 4.75	14.59 (<0.001)
Financial abuse	20.05 ± 4.68	23.08 ± 3.53	19.36 ± 5.05	14.69 (<0.001)
Neglect	31.68 ± 7.6	36.61 ± 5.59	32.08 ± 8.48	9.5 (<0.001)
Elder abuse symptoms (total)	119.1 ± 27.99	144.78 ± 16.7	116.86 ± 27.24	26.66 (<0.001)
Elderly-related potential risk factors	64.91 ± 12.07	79.88 ± 8.09	72.18 ± 15.93	24.8 (<0.001)
Family-related potential risk factors	36.61 ± 7.82	31.3 ± 5.67	27.08 ± 6.11	32.55 (<0.001)
Elder abuse potential risk factors (total)	101.5 ± 18.05	111.18 ± 12.01	99.26 ± 21.06	9.05 (<0.001)
Total	220.5 ± 43.75	255.98 ± 26.55	216.13 ± 45.62	21.02 (<0.001)

^aData presented as mean ± SD, ^bRepeated measure ANOVA. SD: Standard deviation, ANOVA: Analysis of variance

with their demographic and professional characteristics. Contrarily, previous studies reported that elder abuse recognition ability was significantly correlated with gender,^[23] age,^[23,24] and work experience,^[22] and hence that female, younger, and less experienced health-care providers had greater elder abuse recognition ability. This contradiction may be due to the integration of elder abuse topic in the academic curriculums in some countries in recent years, resulting in better abuse-related knowledge among younger health-care providers. However, there is still no university education for elder abuse in Iran.

According to the participants, positive family history of elder abuse and drug or alcohol dependency were among the most important potential risk factors for elder abuse. Several earlier studies also reported the same finding,^[8,25,26] whereas other studies reported that the most important risk factors for elder abuse were family caregivers' financial dependence,^[27] elderly person's reduced cognitive and physical abilities,^[7,26,27] family caregivers' old age,^[8] social isolation, low literacy level, and financial problems.^[6]

Most of our participants tended to report elder abuse though they believed that elder abuse reporting was not among their responsibilities. In line with this finding, 80.1% of nurses in a former study believed that elder abuse is a private issue and its reporting is not among their responsibilities.^[21] Similarly, a study showed that nurses were reluctant to report elder abuse.^[10] Another study reported that while Swedish nurses expected other healthcare providers to report elder abuse, Japanese nurses believed that all health-care providers are responsible for elder abuse reporting.^[27] The present study was conducted in small cities where some nurses were the friends or the relatives of some abused elderly people or their abusers. Thus, participants might have been reluctant to report cases of elder abuse due to

their embarrassment over abuse reporting and their fear over its social or legal consequences. Previous studies also attributed nurses' reluctance to report elder abuse to their fear over its legal consequences,^[10] unfamiliarity with their legal, ethical, and professional responsibilities, lack of knowledge about elder abuse reporting protocols,^[20] embarrassment over elder abuse reporting,^[28,29] and lack of efficient elder abuse reporting systems.^[16] Contrarily to our findings, most of the nurses in a former study had reported elder abuse.^[29] This contradiction is due to the fact that nurses in that study had received education about elder abuse and its reporting.

Study findings showed no significant relationship between nurses' elder abuse recognition ability and their elder abuse reporting willingness. This finding contradicts the findings of a former study which reported that nurses' appropriate awareness of elder abuse and their attitudes toward elder abuse were associated with greater likelihood of elder abuse reporting.^[11] This contradiction may be due to the lack of elder abuse reporting and management protocols in hospitals in Iran.

We also found that friends and family members were our participants' most primary sources of information acquisition about elder abuse. This finding denotes that the formal educational system failed to adequately address elder abuse. A former study also reported that 39.1% of participants received abuse-related information from the media, 22.8% from in-service training programs, 20.4% from newspapers and magazines, and 6.3% from friends and family members.^[29] Another study also showed that only 24% of health-care providers had received formal education about elder abuse.^[28] Not only nurses but also other health-care providers in Iran do not receive formal education about elder abuse, and hence, they acquire their necessary information from informal sources.

The biggest limitation of the study was that it was conducted in a small geographical area. Participants' mental and psychological conditions might also have affected their responses to the items of the elder abuse recognition questionnaire. Moreover, there were significant differences between the study groups regarding participants' affiliated hospital ward and the years passed from their graduation. Participants were selected from two hospitals which were almost similar to each other in terms of wards, nurses' characteristics, bed number, and the affiliated university. Data collection was performed through a self-report questionnaire and hence, the data might have been affected by recall bias. The limited duration of intervention and the possibility of data exchange between the study groups are among the other limitations.

CONCLUSION

This study concludes that education significantly improves nurses' ability to recognize domestic elder abuse. Health-care managers and policymakers can improve nurses' elder abuse recognition ability through implementing in-service continuing education programs, improving their attitudes toward elder abuse reporting, integrating elder abuse into nursing academic curriculum, and developing protocols and systems for reporting and managing elder abuse. Further studies in both public and private hospitals are needed to assess the effects of more detailed educations on elder abuse recognition ability among nurses and other health-care providers. Evaluating the effects of education for formal and informal caregivers on their elder abuse recognition ability can be another area for investigation. As the findings of the present study revealed nurses' limited ability to recognize sexual abuse, interventions are needed to increase their knowledge about sexual elder abuse.

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Conflicts of interest

There are no conflicts of interest.

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