

Impact of anger management training on controlling perceived violence and aggression of nurses in emergency departments

Raheleh Kalbali¹, Leila Jouybari², Firoozeh Derakhshanpour³, Mohammad Ali Vakili⁴, Akram Sanagoo²

¹Nursing Research Center, School of Nursing and Midwifery, Golestan University of Medical Sciences, ²Nursing Research Center, Golestan University of Medical Sciences, ³Golestan Psychiatry Research Center, Golestan University of Medical Sciences, ⁴Department of Health and Social Medicine, School of Medicine, Golestan University of Medical Sciences, Gorgan, Iran

Abstract

Context: The evidence suggests that the communication skills of the emergency department personnel are not optimal, and the employees are not prepared to deal with the violent behaviors of patients and their relatives.

Aims: This study aimed to determine the effect of anger management training on controlling the perceived violence and aggression of nurses in emergency departments.

Setting and Design: This quasi-experimental study was conducted on 112 nurses in emergency departments of educational healthcare centers of Gorgan, Iran, in 2017.

Materials and Methods: Nurses were randomly divided into test and control group. In the test group, training of anger management skills was carried out in person, followed by 2-month virtual training, including short messages related to the skill of anger management delivered via Telegram. No specific measure was obtained in the control group. The subjects filled out an anger management skill questionnaire before and after the intervention.

Statistical Analysis: Data were analyzed using paired *t*-test, Wilcoxon test, and Mann–Whitney U-test with $P < 0.05$.

Results: The mean ages of the subjects in the test and control groups were 30.25 ± 3.02 and 28.58 ± 4.16 years, respectively. The comparison of exposure level to verbal violence in the control group was low in the beginning of the study, which had a significant increase at the end of the investigation ($P = 0.001$). There was a significant difference between the level of exposure to physical violence in the test group before and after the intervention ($P = 0.007$), whereas no change was observed in the control group ($P = 0.91$). Only in the test group, there was a reduction in the level of exposure to sexual anger, and the difference was statistically significant ($P = 0.006$).

Conclusion: According to the results of the present study, running workshops and following the trainings via the internet reduced the score of exposure to physical and sexual aggression in nurses.

Keywords: Anger management training, critical care, emergency, Iran, nurse

Address for correspondence: Dr. Leila Jouybari, Nursing Research Center, Golestan University of Medical Sciences, Gorgan, Iran.
E-mail: jouybari@goums.ac.ir

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INTRODUCTION

Violence and aggression are considered as major and international problems in the health community, and the long-term consequences of this problem can have significant impacts on the occupations, such as nursing.^[1] The aggressive actions include physical attacks or threats of assault at work, physical and verbal threats, and attacks on individuals.^[2] The World Health Organization divides violence into four categories, including physical (e.g., punching, kicking), verbal (e.g., insulting and humiliating), racial (threatening due to race or language) and sexual.^[3-5] Violence and aggression are among worrying issues for everyone and in every environment.^[6]

The work environment is a complex context and includes social, cultural, economic, political, and organizational dimensions that affect the health and safety of the employees. Psychosocial stress in the workplace is a management issue, which can turn the work environment into an insecure and hostile place, negatively affecting the quality of patient care.^[7] On the other hand, the emergency department is a workroom that provides 24-h services and the personnel are in direct contact with patients and their companions. Therefore, this department can easily be turned into an environment for violent behaviors.^[6,8] Expectations from the health-care centers remain high, which along with a shortage of staff and the inability to meet all the needs of patients and the family lead to violence and threats against the healthcare staff.^[9-13]

The results of studies in Taiwan, Australia, Portugal, and Iran indicated that the nurses were exposed to violence and abusive remarks in the work environments.^[6,14-16] The aggressive behaviors of patients in the emergency department can lead to unfavorable reactions of nurses toward patients, endangering the therapeutic relationship, safety, and comfort of patients.^[17-19] Furthermore, this could result in increased incidents, higher financial costs for patients, labor shortage, increased absence of nurses, reduced occupational efficiency, and performance of the staff and nurses, distancing from patients, expanded patient complaints, and job burnout.^[7,20,21]

The control of aggression and violence requires the preparation of nurses in the emergency department.^[22] One of the related factors to the incidence of violence against emergency personnel and nurses is insufficient anger management and communication skills.^[23] It is important to implement training programs to prevent violence and aggression to bring about the necessary skills in this regard.^[22] A training program is a process that helps people acquire up-to-date knowledge, change their attitudes, adapt

to changing behavior, or create functional skills.^[24] Effective communication skill is one of the most effective anger management skills in dealing with the violence of patients and their companions.^[25] According to the literature, it was demonstrated that the implementation of the curriculum on anger management had a positive effect on the knowledge, attitude, and practice of emergency nurses.^[26] If nurses lack the necessary training to manage violent events, patients and companions feel unsafe and behave aggressive with any excuses.^[27] Despite the high rates of violence against nurses in different places, including Australia with 93%,^[28] Taiwan with 62%,^[15] and Iran namely in cities, such as Babol with 72%^[29] and Tehran with 69%,^[30] no educational program has been considered by hospital managers to resolve this issue. With this background in mind, this study aimed to determine the effect of anger management training on controlling the perceived violence and aggression of nurses in emergency departments of hospitals.

MATERIALS AND METHODS

Research design and participants

The present study was conducted on 112 nurses in emergency departments of educational healthcare centers of Gorgan, Iran, in 2017. This quasi-experimental study included a pretest-posttest design and two groups. The Nurses working in emergency departments (two wards) were selected by the census method from two teaching hospitals, namely Shahid Sayad Shirazi and 5th Azar hospitals. Afterwards, the nurses of one of the centers (5th Azar Hospital) were assigned to the test group, whereas the nurses of the other center (Shahid Sayad Shirazi) were allocated to the control group based on the random number table.

In other words, at first 112 nurses were enrolled in this study via the census method, followed by the selection of 56 nurses for each group ($n = 112$) based on the random number table. In addition, the sample size was estimated according to the results of a study by Shirzaei *et al.*,^[31] with the following equation and 80% of the test power. Considering 25% sample loss, a total of 112 nurses were entered into the study (it was remarkable that no sample loss or lack of cooperation by nurses occurred in the study).

$$n_1 = n_2 = \frac{2 \left(Z_{1-\frac{\alpha}{2}} + Z_{1-\beta} \right)^2 S^2}{(\mu_1 - \mu_2)^2}$$

The inclusion criteria were a BSc degree in nursing, no occurrence of recent stressful incidents (i.e., death of a close relative or separation) over the last 6 months, the lack of diagnosis of any known physical chronic diseases, lack of known mental disorders, lack of consumption

of neuropsychiatric drugs, no addiction to drugs, and possession of a cellphone or computer (in order to have access to the educational Telegram/WhatsApp group designed for the intervention). The exclusion criteria were the occurrence of extremely stressful events and severe mental and physical problem during the study (i.e., death of relatives, separation, and hospitalization), change in the place of service during the research and lack of willingness to cooperate with the present study.

Research tools

The data were collected using the questionnaire on violence and aggression designed by Deans in 2004.^[26] This questionnaire consists of three sections, including (1) The behaviors in the workplace while dealing with aggression and violence in contact with patients or their companions in the emergency department (9 items), (responses: never, less than once a year, once a year, once a month, once a week), (2) the understanding of exposure to aggressive and violent patients in the emergency department (8 items), (responses: never, partly, highly, extremely highly), and (3) the attitude toward safety and accountability and security of the environment of the emergency department in dealing with aggressive and violent behaviors of the patients or their companions (16 items) (responses: totally agree, agree, disagree, totally disagree).

The questionnaires were provided for two individuals fluent in Farsi and English by Hoshyarikhah *et al.* (2015), which were back translated into English after being translated into Farsi. In addition, content validity of the questionnaire was approved based on the opinions of ten faculty members of the university and two experts in the field of psychology and aggression. Furthermore, reliability of the questionnaire was estimate at the Cronbach's alpha of 0.78, 0.76, 0.87, and 0.80 using test–retest reliability.^[32]

First, the questionnaire was filled out by all the participants before the intervention. Afterwards, a 4-h educational workshop was held for the test group. The educational content was evaluated and confirmed by psychologists, supervisors, and advisors and presented by the training team, including the researcher, a psychologist, and supervisor of the thesis (all with a background of attending such courses with valid certificates) in the conference hall of the 5th Azar Hospital. The methods used for training in the workshop were lectures, questions and answers, group discussion, role-play, and scenario presentation.^[33-35]

During the intervention sessions, the participants were trained the following subjects: The definition of violence and aggressive behaviors, communication, verbal and

nonverbal skills for anger management, violence and its underlying factors, and appropriate behaviors. In addition to running educational workshops, nurses in the test group attended a 2-month follow-up, which included reminding the workshop topics through sending messages on the internet, particularly Telegram.

Every 3 days, a training note (textual, visual, or audio) was provided in the form of short sentences of the workshop contents supervised by the research team and shared in days and hours to coordinate with the members of the test group on the Telegram channel. Nurses were obliged to instantly send a message to the author to confirm reading the content in Telegram to ensure that they read the content. After 2 months, all the participants of the test and control groups completed the questionnaires one more time.

Ethical considerations

The present study was approved by the regional ethics committee of medical studies of the (Code: IR.goums.ac.REC.95.62). A written informed consent was obtained from the participants prior to the investigation, and they were assured of the confidentiality regarding their personal information. Moreover, the participants were allowed to withdraw from the study at any time.

Data analysis

The data analysis was performed in SPSS software (version 16- SPSS 16.0 Student Version for Windows Inc. SPSS©2009) using Mann–Whitney U-test, Wilcoxon test, Chi-square test, and Fisher's exact test. In addition, $P = 0.05$ was considered statistically significant.

RESULTS

In terms of gender, 76.8% of the participants in the test group and 60.7% of the subjects in the control groups were female. In addition, the mean and standard deviation of age were 3.25 ± 3.02 and 28.58 ± 4.16 , respectively, which indicated a lack of homogeneity between the study groups. However, the two groups were homogeneous in terms of confounding variables (e.g., age, marital status, position, place of residence, and violence perpetrators against nurses) that demonstrated a random distribution of the variables in both groups [Table 1].

The most experienced violence over the last year was approximately one–three times in the test group and four–six times in the control group. Moreover, the highest type of violence in both groups was verbal violence [Table 2].

According to the results of Wilcoxon test, there was no significant difference in the level of exposure to verbal

Table 1: Demographic characteristics of nurses in emergency departments in the interventional and control groups

Variable	Test group, n (%)	Control group, n (%)	Test	P
Marital status				
Single	25 (44.6)	27 (48.2)	Fisher's exact test	0.73
Married	31 (55.4)	29 (51.8)		
Gender				
Female	43 (76.8)	34 (60.7)	χ^2	0.67
Male	13 (23.26)	22 (39.3)		
Place of residence				
City	53 (94.6)	56 (100)	χ^2	0.12
Village	3 (5.4)	0 (0)		
Level of education				
BSc	54 (96.4)	55 (98.2)	Fisher's exact test	0.5
MSc	2 (3.6)	1 (1.8)		
Age				
20-25	6 (10.7)	15 (26.8)	χ^2	0.03
26-35	32 (57.1)	32 (57.1)		
>35	18 (32.1)	9 (16.1)		
Position				
Shift manager	9 (16.1)	6 (10.7)	χ^2	0.39
Head nurse	3 (5.4)	1 (1.8)		
Nurse	44 (78.6)	49 (87.5)		
Perpetrators of violence				
Patient	12 (21.4)	14 (25)	χ^2	0.61
Family members	40 (71.4)	30 (53.6)		
Patient's friends	4 (7.1)	12 (21.4)		

Table 2: Experience of violence by nurses in emergency departments in the interventional and control groups

Variable	Test group, n (%)	Control group, n (%)
Experience of violence over the last year (times)		
1-3	21 (37.5)	15 (26.8)
4-6	11 (19.6)	31 (55.4)
7-12	10 (17.9)	10 (17.9)
>12	14 (25)	0
Recent experience of violence		
0-3 months	31 (55.4)	2 (3.6)
4-6 months	10 (17.9)	16 (28.6)
7-11 months	12 (21.4)	26 (46.4)
1-5 years	3 (5.4)	12 (21.4)
Type of violence		
Verbal	41 (73.2)	36 (64.2)
Physical	15 (26.8)	20 (35.8)

violence before and after the intervention ($P = 0.1$). Meanwhile, comparing the level of exposure to verbal violence in the beginning of the study was lower in the control group, which significantly increased at the end of the study ($P = 0.001$). In addition, there was a significant difference in the level of exposure to physical violence in the test group before and after the intervention ($P = 0.007$); nonetheless, no change was observed in the control group ($P = 0.91$). In the test group, the level of exposure to sexual violence significantly decreased after the intervention ($P = 0.006$). On the other hand, no reduction was observed in the level of exposure to sexual violence in the control group at the end of the study ($P = 0.89$) [Table 3].

DISCUSSION

According to the results of the present study, the training program of anger management had a positive impact on the reduction of perceived aggression and physical and sexual violence of the nurses in emergency departments, which is in line with results of similar studies.^[36-39] In a study performed by Gillespie *et al.*, the violent actions against the participants by patients and their companions in the emergency department were monthly recorded (for 18 months) in a comprehensive program for decreasing physical violence and threat. According to the results, there was a reduction in the violence level after the intervention; however, this difference was not significant.^[40]

In another study conducted by Deans, a 1-day educational workshop on the awareness, skill and attitude of the nurses to manage violence in workplace had a positive effect on the abilities of nurses in controlling aggressive behaviors, and could reduce these behaviors up to 50%.^[26] In 2010, Eslamian *et al.* concluded that while the implementation of an educational intervention decreased the frequency distribution of mental violence against nurses, no significant difference was observed between the two studied groups regarding the physical violence.^[33] It could be inferred that the training of anger management skills is effective in controlling violence and aggression and can decrease the frequency and severity of the incidents caused by anger outbursts.^[41]

Based on the results of the present study, the cases in both test and control groups experienced more verbal violence. Similarly, Gates *et al.* (2011) reported that most of violence observed in the emergency department was verbal violence.^[42] In another study carried out by Rafati Rahimzadeh *et al.*, that evaluated the nurses' ability to deal with verbal and physical violence, 72% of the subjects were exposed to violence during their working hours. In this regard, there was a higher rate of verbal violence, compared to physical violence.^[29]

In the studies performed by Kamchuchat *et al.* and Tang *et al.*, there was a higher level of verbal violence, compared to physical violence.^[43,44] In addition, while the mean and standard deviation of verbal violence in the test group was not significant after the intervention, it was significant in the control group. It might be due to the difference in types of patients hospitalized in two emergency departments of the hospitals, since in the emergency department of Sayad Shirazi Hospital (control group), most patients were senior adults with internal and chronic diseases, mainly dissatisfied and concerned about their treatment process (with a history of hospitalization).

Table 3: Mean and standard deviation of exposure to violence in nurses in emergency department in the interventional and control groups before and after the intervention

Type of exposure	Test			Control		
	Mean±SD		P Wilcoxon	Mean±SD		P Wilcoxon
	Before	After		Before	After	
Verbal	10.2±51.95	9.2±89.58	0.1	6.1±78.92	8.1±35.55	0.001
Physical	3.1±92.99	3.0±25.9	0.007	3.1±23.36	3.0±12.5	0.91
Sexual	4.2±46.49	3.0±55.9	0.006	3.0±32.7	3.0±32.6	0.89

SD: Standard deviation

These individuals were accompanied by their family members and their lack of satisfaction with the treatment would mentally affect their companions, which laid the foundation for aggressive behaviors. On the other hand, most patients in the emergency department of 5th Azar Hospital suffered from trauma and young patients hospitalized by 115 personnel (ambulance) had no history of hospitalization. It is notable that Heidari Gorji *et al.* reported that violence by individuals above 40 years was higher, compared to other age groups.^[45]

Moreover, Dumont *et al.* found a significant relationship between the high age and violence level against nurses indicating that older individuals demonstrated more aggressive behaviors toward nurses.^[46] It seems that in addition to individual training, serious environmental, managerial, and structural reforms are needed in order to reduce aggression and violence in the workplace.

Besides educating novice nurses, training communication skills, and controlling violence, violence in workplace of nurses can be prevented by providing a safe working environment, supporting staff, proper use of inhibition and isolation rooms for invasive patients, counseling for a victim nurse, having adequate workforce to prevent violence, presence of a coherent process for follow-up, and reporting after a violent incidence.^[47]

One of the major limitations of the present study was subject selection from the restricted sections and only the emergency department, which restricted the generalizability of the results. The lack of using more valid clinical assessment methods (e.g., interview) was another limitation of this study. It is suggested that future studies should be conducted to compare the effects of training anger management skill in all nurses of various hospital wards and departments.

CONCLUSION

Eventually, it could be stated that running educational workshops and following trainings through the internet reduced the score of exposure to physical and sexual

violence. Since most violent actions against nurses in the emergency department emerge from patients' companions, employing strategies to decrease the presence of companions in the emergency department might affect the reduction of these incidents.

Based on the findings of present study and the evidence, it was suggested that mere increase of individual capabilities could not lead to a significant change in anger management; in contrast, environmental, organizational, and managerial corrections are required at ward and hospital level. Therefore, it is suggested that in addition to holding educational workshops in hospitals, the authorities should consider employing proper preventive strategies, accurately taking management measures and suitable protective measures, and providing general education to minimize workplace violence in this field.

Conflicts of interest

There are no conflicts of interest.

Author Contribution

All authors contributed to this research.

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