



Original Article

The effect of anger management program on perceived stress of healthcare professionals: a quasi-experimental study

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ARTICLE INFO

Received 18 March 2021

Accepted 23 May 2021

Available online at:
<http://npt.tums.ac.ir>

Key words:

aggression;
violence;
nurses;
physician;
ICU;
Jordan

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ABSTRACT

Background & Aim: Healthcare professionals working in Intensive Care Units and Emergency Rooms are at higher risk of violence from patients and their families compared to healthcare professionals working in other units. Healthcare professionals skilled in anger management may de-escalate the situation and stop violence from happening in the first place. This study aims to determine the effect of an aggression management program on perceived stress levels of physicians and nurses working in Intensive Care Units and Emergency Rooms.

Methods & Materials: A quasi-experimental design with 158 physicians and 172 nurses recruited from nine hospitals in the three major cities in Jordan was used to assess perceived stress levels with the Arabic Version of Perceived Stress Scale (10-Items). Participants answered the questionnaires twice, before and after attending an aggression management program.

Results: Results showed that female healthcare professionals had significantly higher stress levels than males ($M=27.33\pm 4.11$, $M=24.20\pm 3.13$; $t(328)=2.11$, $p<0.001$). Furthermore, healthcare professionals working in Emergency Rooms reported significantly higher stress levels than those working in Intensive Care Units ($M=27.93\pm 4.10$, $M=24.94\pm 3.03$; $t(328)=2.04$, $p<0.001$). Additionally, nurses reported significantly higher stress levels compared to physicians ($M=28.17\pm 3.92$, $M=25.20\pm 3.13$; $t(328)=2.09$, $p<0.001$). There was a strong significant positive relationship between increased stress levels and the number of violent attacks ($r=0.73$, $p<0.001$). Most importantly, perceived stress decreased significantly from the pre-intervention level (28.94 ± 3.21) to the post-intervention level (24.20 ± 3.01) ($t(229)=2.03$, $p<0.001$).

Conclusion: Policymakers may need to consider offering aggression management programs for all healthcare professionals, especially those working in the Emergency Room. This program should decrease their perceived stress levels reflecting improved patient care, outcomes, and satisfaction.

Introduction

Healthcare professionals (HCPs) have some of the most stressful professions possible (1). Previous studies reported several major causes of stress among HCPs, including (but not limited to) the following: excessive work overload; long working hours; role ambiguity; sleep deprivation; dealing with death and dying patients; exposure to infectious diseases; and

exposure to different types of workplace violence (2, 3). The National Institute for Occupational Safety and Health (NIOSH) defined workplace violence as “violent acts including verbal or physical assaults and threats of assaults directed toward persons at work or on duty” (4). Experiencing workplace violence is a common experience among HCPs. According to the World

Please cite this article as: Masa'deh R, Masadeh O.M, Momani A, Jarrah S, Al Shabatat S.H, Alshawabkeh Gh.A, et al. The effect of anger management program on perceived stress of healthcare professionals: A quasi-experimental study. *Nursing Practice Today*. 2021; 8(4):303-312



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Health Organization (WHO), HCPs experience various types of workplace violence, including physical and verbal workplace violence perpetrated by patients and their families (5).

Workplace violence prevalence ranges between 8-38% worldwide, and a higher percentage of HCPs are exposed to workplace violence (5). Underreporting of such violence is also embedded in such statistics, as reporting workplace violence is voluntary in healthcare settings; one study found that only 30% of HCPs reported incidences of workplace violence they had experienced (6). One reason for the underreporting of workplace violence is the belief of some HCPs that violence is expected and normal when dealing with patients and their families (6). Moreover, the ineffective legal measures in related legislation often fail to prevent any violent attacks toward HCPs (7).

HCPs such as nurses and physicians working in Emergency Rooms (ERs) are at greater risk of experiencing workplace violence while caring for patients in emergency situations (5, 6). This workplace violence was found to affect the levels of perceived stress of HCPs working in such departments. One study conducted in Jordan examined perceived stress among nurses working in various departments and showed that nurses working in ERs and Intensive Care Units (ICUs) had elevated stress levels caused by the aggressive behavior of patients and/or their families (3). This highlights the need to set rules and reactivate legislation concerning workplace violence. Moreover, there is a need to train HCPs on managing/dealing with aggressive individuals in their workplaces.

Several studies in the Arab world showed that HCPs routinely face workplace violence. A study in Saudi Arabia, 738 HCPs (physicians, nurses, dentists, pharmacists, laboratory technicians, radiologists, social workers, and psychologists) found that 57.7% had experienced workplace violence at least once, mostly comprising verbal violence and slaps (8). Furthermore, in ERs, one study

from Egypt showed that 60% of HCPs (mostly nurses and physicians) working in ER in one hospital had experienced workplace violence during the past year, including verbal violence (58%) and physical violence (16%) (9). Moreover, another study conducted in Bahrain including 100 HCPs working in ER showed that 78% of them experienced verbal violence, 11% experienced physical violence, and 3% experienced sexual violence (10).

High rates of workplace violence in ERs are also reported in other non-Arab countries. For example, in Italy, among 323 HCPs working in ER, 78% had experienced work-related violence during the past five years, and over 54% of them had experienced violence more than once (11). Violence in the ER is generally perceived to be related to the nature of the department and unexpected diagnoses and prognoses triggering violent behavior among patients and their families; the endemic, systemic threat of violence increases stress levels among HCPs working in such contexts.

Workplace violence against HCPs is common in ICUs in addition to ERs. One study conducted in India among physicians working in ICU found that of 118 participants, 72% reported that they experienced workplace violence and that verbal violence was the most common type. This experience of violence resulted in these physicians changing their place or pattern of work. Moreover, 98% of the participants thought that violence management should be incorporated into their education at medical school (12). Similarly, a mixed-methods study involving 200 ICU nurses investigating occupational violence found that 99.5% of nurses had experienced violence from the patients and 67.5% from patients' families or friends. Nurses reported that they faced verbal violence more frequently than physical violence (13).

It seems that violent behavior from patients and their families toward health care professionals is common globally, and ER and ICU are units where most HCPs reported exposure to violence, which was

of any aggressive behavior or violence from patients or their relatives.

The Arabic Version of Perceived Stress Scale 10-Items Questionnaire (APSS10)

The perceived stress of HCPs in different situations was measured using the APSS10 questionnaire. The APSS10 uses a five-point Likert rating scale, ranging from 0-4 (i.e., from never to very often, respectively). The total scores of APSS10 range from 0-40, with higher scores representing higher levels of perceived stress. The score ranges of stress levels were as follows: 0-13 indicating low; 14-26 moderate; and 27-40 high perceived stress (19). Previous studies demonstrated the reliability of APSS10, with Cronbach's α ranging between 0.7-0.9 (20). In the current study, the Cronbach α reliability of APSS10 was 0.89, representing excellent reliability.

Aggression management training program

The aggression management training program used in this study was based on the "LOWLINE" method, described by Mike Lowry, Graham Lingard, and Martin Neal in 2016 (21). This method includes both verbal and non-verbal communication techniques that can help de-escalate aggressive behavior toward HCPs. All participating HCPs were taught how to manage aggression using the LOWLINE method, which stands for the following components described below: Listen; Offer; Wait; Look; Incline; Nod; and Express.

Active listening can help in preventing anger eruption. Participating HCPs were taught how to observe the non-verbal signs of anger and listen to paralinguistic communication features such as tone, inflection, and volume, to identify warning signs about angry reactions. Second, participating HCPs were trained how to pick the early signs of anger in order to prevent an escalation by offering choices, alternatives, and solutions when possible. Furthermore, participating HCPs were

taught to communicate in a way that assured patients that their feelings were being taken seriously. Third, participating HCPs were taught why it is important to wait and not to fill the void with words when communicating with service users. Fourth, participating HCPs were trained to look at the patient, maintain eye contact without staring, smiling when appropriate, or maintaining a neutral expression. All of these were found to be helpful in de-escalating anger behavior. Fifth, participating HCPs were instructed how to incline the head to present a non-threatening posture. Sixth, participating HCPs were also instructed on how to use nodding to show continued attention. Lastly, participating HCPs were trained how to express a desire to understand or empathize. All these techniques can help in managing anger toward HCPs in the clinical setting.

The research team discussed the training program's content delivered in this study with three specialists in aggression management. These discussions around the content and the methods of delivering the program continued until an agreement was reached. One of the research team, the most specialist in aggression management and a professor in mental health and communication strategies, taught the LOWLINE method provided to physicians and nurses working in ICU and ER. Physicians and nurses attended a 21-hour-training program over six days.

The first two days concerned communication skills using both verbal and non-verbal techniques, and the importance of respecting personal space was explained in detail. On days three and four of the training, detailed information about applying active listening skills, understanding, offering solutions/ alternatives, and empathy were delivered. On day five, other techniques and strategies to de-escalate aggression were discussed, such as avoiding provocation, being concise, and repeating oneself when delivering information to service users. Day six was a revision session, with practice exercises of de-escalating techniques with patients in the

form of role-playing. There were eight classes, with 35-45 participants per class. There was a schedule of 21 hours for each class, and participants chose classes at their convenience, which fit in with their professional schedules and enabled them to complete the training.

Ethical consideration

Ethical approvals were obtained from the Applied Science Private University Institutional Review Board and the Jordanian Ministry of Health to collect data from all governmental hospitals. Participants' rights, such as voluntary participation, privacy, confidentiality, and the right of withdrawal at any time without giving a reason, were guaranteed and explained to all participating physicians and nurses. Informed consent was signed by participants who agreed to participate in the study. Participants were also informed that collected data was securely stored (i.e., in locked cabinets and password-protected computers), accessible only to the research team.

Data collection procedure

A non-random convenience sampling technique was used to determine potential participants. After gaining the required ethical approvals, potential participants received an envelope including an invitation letter, the participant information sheet, and the questionnaires. In addition, the researchers' contact details were provided on the participant information sheet for those who wanted to participate or who sought more clarification about the study. After signing the informed consent, participants then filled out the socio-demographic data and APSS10 forms in paper format. They returned them to the researcher, and the first-round analysis was done at this point. Then, the program was delivered over six days in a two-week period. There was an agreement on the time and the date of the course, so participants could commit to attending at their convenience.

Subsequently, participants were given three months before the second phase of the data collection process started. Those who attended the training program filled in the APSS10 questionnaire for the second phase of the data collection process. Three months was assumed to be sufficient for HCPs to see the program's effects in their practice.

Data analysis process

Data were analyzed using the SPSS version 25 (22). All numbers in the results section were rounded up to the closest two decimal points. Alpha was set as 0.05; therefore, any p-value below 0.05 was considered significant. Descriptive statistics were used to describe the socio-demographic data. Pearson r product-moment correlation coefficient was used to investigate the relationship between perceived stress levels and the number of violent attacks. An independent t-test was used to check the difference in the perceived stress according to some socio-demographic variables. Moreover, a paired samples t-test was conducted to check any differences in stress levels before and after the training course. In all required cases, the assumptions of normal distribution and homogeneity of variance for the main variables were checked before conducting any of the t-tests, and there was no violation of any of the assumptions.

Results

As presented in table 1, 191 nurses and 178 physicians were invited to participate in this study, of whom 172 nurses and 158 physicians attended the training course and completed the questionnaires (a response rate of approximately 89%). Most participants were married, and most of them held bachelor's degrees in medicine or nursing. The majority of the participants reported exposure to previous aggression from patients or their relatives. The mean age of participants was approximately 33 years, with an average of five years of experience in ICU or ER.

management courses for all physicians and nurses working in ERs and ICUs (and possibly in other departments). Such training programs can help them effectively de-escalate, manage, and control service users showing aggressive behaviors. This training may help promote good mental health among physicians and nurses, thus increasing job satisfaction and reducing burnout, absenteeism, and turnover, ultimately leading to improved quality of care provided to patients, improved patient satisfaction and outcomes, and a better working environment.

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