# Violence Against Frontline Emergency Nurses During Pandemic of COVID-19 in Guilan: A Cross-Sectional Study

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# Abstract

Background

Violence in the workplace is one of the most important risk factors worldwide. Nurses are always exposed to all kinds of violence due to their presence and activity in medical centers and direct contact with patients and their companions, as well as exposure to various stressors. The aim of this study was to determine the violence against nurses working in Razi educational and medical center in Rasht, Guilan.

Methods

The present study was an analytical cross-sectional study that was performed on 112 nurses working in Razi educational and medical centers in Rasht by convenience sampling method. The instrument used includes a questionnaire to assess workplace violence in medical settings, which has been used in several Iranian studies and has been psychometric assessed by Najafı et al, In Iran. After collecting the data and entering into the SPSS software version 22, they will be evaluated through descriptive and inferential statistical tests (Chi-square, independent t-test and Fisher's exact test). The level of significance was considered as $P<0.05$.

Results

The findings of this study showed that 11.1% of nurses experienced physical violence and 55.7% of them experienced verbal violence. Verbal violence is often caused by the patient's companions and physical violence is often caused by the patient, and in the majority of cases, those who did not report the violence attributed it to the uselessness of the report. In addition, the findings showed that there is a statistically significant relationship between education level and verbal violence ($p = 0.02$) and between work status ($p = 0.02$) and marital status ($p = 0.02$) with physical violence.

Conclusion

The results of the study show that during the pandemic of COVID-19, verbal and physical violence for nurses occurred in several occasions, which requires the authorities to take effective measures to reduce the incidence of violence in hospitals.


# Background

Violence in the workplace is recognized as one of the most important occupational hazards to health care systems worldwide (1-3). Violence in the workplace refers to the occurrence of angry behavior and physical or verbal aggression by others(4). The World Health Organization (WHO) defines violence as doing of any form of physical, sexual, verbal, racial, or occupational violence or intimidation in the workplace that may result in actual or potential harm to one's health(5). According to the statistics of the WHO, about 8% to 38% of the personnel working in the hospitals are exposed to violence, especially physical ones(5). There are different types of violence in the workplace, which are divided into four

categories: verbal, physical, cultural-racial and sexual violence(6). Although violence occurs in all workplaces, health care workers are more prone to violence(4). It has been found that 65% of older nurses are exposed to all kinds of violence compared to other medical staff. Studies have also shown that between 60% and 90% of nurse's experience verbal or physical violence during their working period(7). The main reason for the prevalence of violence against nurses is thought to be their close contact with patients, their companions and the responsibility of caring for patients in situations where there is a threat to their patient's health(8). In addition, it has been found that many nurses have been repeatedly abused by their co-workers and superiors during their time at the hospital. Findings of a systematic study showed that despite the cultural differences of countries, nurses' response to violence includes fear, anger, anxiety, symptoms of PTSD, self-blame, guilt and shame. These psychological symptoms can persist for months or years and change nurses' mental health, social life, and perceptions of their profession(9). In addition, violence can be a deterrent to nursing care of patients and lead to leaving the job(10-13). Given the fact that COVID-19 pandemic disease has already been declared as pandemic worldwide (14) and facing this critical situation for nurses and medical staff who are at the frontline of treatment, diagnosis and care of patients with COVID-19 is very stressful and can lead to a variety of problems and mental disorders(15). In addition, this disease leads to a lot of stress and anxiety for medical staff, patients and their families and nurses along with doctors who are in charge of patient's health and have the most contact with the patients and their families (16-18). Increasing number of definite cases of COVID-19, overwork, lack of medical and protective equipment, lack of access to special drugs and media coverage of this disease all lead to psychological burden and high stress for medical staff, including nurses(15). Also, based on the studies conducted so far, no research has been conducted in this area, so in the present study, the level of violence against nurses in the epidemic of COVID-19 and its related factors will be investigated.

# Methods

*Participants and study design*

The present study is a cross-sectional analytical study that was performed on 112 nurses working in the emergency departments of Razi Hospital in Rasht, which is one of the referral centers for patients infected with COVID-19 in Rasht by convenience sampling method in August, 2020. Inclusion criteria were: having at least one year of work experience, having bachelor's degree, direct contact with patients infected with COVID-19. Exclusion criteria were: nurses suffering from mental illnesses such as depression, incomplete completion of the questionnaire or nurses' unwillingness to participate. We tried to select samples using rigorous criteria to avoid confounding results and avoided bias.

*Data collection*

In order to assess violence against nurses by patients, their families and supervisors and colleagues, a questionnaire of violence against nurses was used. This questionnaire is a modified questionnaire of the World Health Organization in the field of workplace violence in health environments, which has been

psychometric assessed by Najafi et al, in Iran(19). This questionnaire has three parts: The first part includes 18 questions to survey the demographic characteristics of nurses, and questions about nurses' views on factors predisposing to violence, the most important reasons for not reporting violence and the most important reason for happening violence. The second part includes 18 questions about the prevalence of various types of violence (verbal, physical, cultural-racial and sexual) by the by patients, their families and supervisors and colleagues at work. Each item was point with as "every week", "every month", every 2-3 months and “Never” and perpetrators of violence are also categorized as “patients” and “patient’s family”, “Colleagues” and “matron and supervisor.” The third part was about the response and actions of nurses to violence in the workplace (the answer is yes or no). Completion of this questionnaire was not time consuming and the average time for completing this questionnaire was 15 minutes.

*Statistical analysis*

After collecting data and entering into SPSS software version 22, the normality of the data was measured using Kolmogorov-Smirnov tests and descriptive statistical tests (mean and standard deviation) as well as inferential statistical tests (such as Chi-square and independent T test and Fisher's exact test) were evaluated. The significance level of the tests was considered less than 0.05.

# Results

Out of 120 distributed questionnaires, eight nurses were not completed it and as a result, 112 nurses were included in the study. The results show that the majority of the nurses were women (94%) with a mean age of 33.11 ± 5.22 years and married (78%). Employment status of most of them (65%) was a governmental employment, with an average work experience of 4.55 ± 5.26 years. The majority of them had a bachelor's degree in nursing (97%) and served as a nurse with shift rotation (96%), most of them were full-time (91%) and in direct contact with the patient (98.5%). Verbal violence was the most common type of violence against nurses during the last 6 months, which was 62.5% and in most nurses was applied by patients (55%). The frequency of physical violence was 17.8% and mostly occurred by the patient (67%). No sexual or racial (cultural) violence was reported (Table 1).

The highest frequency of violence was physical and occurred in the night shift (38.2%) and verbal violence in the evening shift (44%). In most cases, gender was the cause of both types of violence (verbal violence (88%) and physical violence (77%)) was male. Also, verbal violence is mostly committed by the patient's families (80.3%) (Table 2).

The most response of the nurse was to invite the attacker to calm down (62.5%). According to nurse’s response, the uselessness of reporting is the most common reason for not reporting cases of violence in their hospital (Table 3).

The results of independent T test showed that there was no statistically significant relationship between nurse age and work experience in the emergency department with the frequency of verbal violence as well

as physical violence. While the result of Chi-square test showed that there is a significant relationship between education level and the frequency of verbal violence (P = 0.02).

Based on the simple and multiple linear regression analysis, nurses with low experience were 1.01 times more likely to underwent violence (OR=1.01; CI: 0.66-1.44) (Table 4, 5).

# Discussion

The findings of the present study show the high level of violence against nurses in Razi educational and medical centers in Rasht. Regarding physical violence, studies conducted in East Azerbaijan also showed a high level of violence (20) and Shoghi in his study on violence in nurses working in 20 hospitals in Tehran, showed that 19.1% of nurses have been subjected to physical violence at least once in the last six months (21) and this figure was 19.7% in the Argon study in Turkey(22). Shields et al, reported a 34% incidence of physical violence in their study in Canada(23). However, Nachreiner et al., In their study in the US state of Minnesota, estimated this rate at 13.2% per year and reported the level of physical violence in different countries during the year as follows: Thailand 10.5%, South Africa 9%, Bulgaria 7.5%, Brazil 6.4%, Lebanon 5.8% and Portugal 3%(24), all of which show high levels of physical violence among nurses in all parts of the world. Violence against nurses can occur for various reasons such as direct and more contact of nurses with patients and their companions, lack of facilities and hard work shifts. In many cases, due to the nurse being at the forefront of care, patients and the patient's families consider her as the main cause of possible deficiencies and resort to violence. Regarding the shift in which violence occurred, the present findings showed that the exposure to physical violence was higher in the night shift. In a study in Canada, Shields et al, reported that the most prevalent time for happening physical violence was in the evening shift (40.2%) followed by night shift (38.7%)(23). Behar-Estryn et al, also found a significant relationship between night shift and violence(25). The higher level of violence during night shifts can be due to lack of security forces or lack of manpower, including doctors and nurses, or even equipment. The perpetrator of physical violence in the present study was the patient in most cases and the gender of the perpetrator of physical violence was also male in most cases. In a study by Farrel et al, reported the highest level of physical violence by patients in Australia, too(26). In another study in the emergency department of a hospital in Tehran, Hassani states that in most cases, physical violence was reported by the patient and the patient’s family and the most common cause of violence were men(27). Many studies have shown that the expression of violence in men is higher than women, in addition to the high stress and anxiety that patients and their families experience at the time of hospitalization which can result in violence, some injuries such as head injuries, severe limb disease, glucose deficiency and incurable diseases can also act as a cause of violence(28).

Regarding verbal violence, the present study shows that the majority of the research participants have been subjected to verbal violence during their service. In his study in the emergency department of six hospitals in Ankara, Talas reported the occurrence of verbal violence in Turkish nurses in 79.6% of cases(29). However, the level of verbal violence in the study of Zamanzadeh, which was conducted in East Azerbaijan hospitals, was 72.1%(20). In the present study on shifts in which verbal violence

occurred, the results showed that in most cases, exposure to verbal violence was reported in the evening shift. In Salimi's research, the occurrence of verbal violence has been mostly reported in evening and night shifts(30). In this study, the cause of verbal violence in most cases was the patient's family and then the patient himself. In his study in Ankara, Talas reported the level of verbal violence by the patient's family are 98.8% and for patients are 64.2%(29). It seems that occurrence of violence in less crowded shifts such as evening and night shifts can be associated with the lack of nurses in the hospital. Regarding the frequency of reported and unreported cases of physical and verbal violence and its cause, the findings show that the majority of participants acknowledged that they reported high level of violence, while Shoghi in his study reported the rate of reporting violence only 35.9%(21). In another study, Ergun states that the rate of non-reporting violence is 62.9%(22). Kitaneh in his study in Palestine reported a rate of non-reporting violence 56.3%(31). The results of the present study show that most of the participants believed that reporting cases of violence is useless and some consider its occurrence to be unimportant. They do not consider it as part of their profession, which may be due to nurses' lack of familiarity with their individual, social and professional rights. They believe that violence by the patient and their families or colleagues is a part of their job, and that nurses' experience of inappropriate action by managers to whom violence has been reported or even their indifference causes the abused nurse to avoid reporting it. In this study, some participants were ashamed to report that these findings were similar to the results of the study of Ergun et al, In this regard, Kitaneh also states that nurses were ashamed of reporting violence and they are worried about their future careers and some of them did not consider the occurrence of violence as important and they do not report it(31). However, Zamanzadeh states in his study that non-reporting of violence and consequently lack of information in this field is one of the main problems in implementing programs to reduce cases of violence. Also, the lack of instructions for reporting cases of violence or the complexity and time consuming process of reporting can be another factor in the lack of reporting the violence. However, failure to report cases of violence prevents appropriate action to be taken against it(20). It seems that all these factors can be effective in not reporting the occurrence of violence, but it is possible that the lack of accuracy and proper follow-up of the authorities can play a significant role in this case. In examining the relationship between verbal and physical violence with individual and social variables, Chi-square test showed a significant relationship between nurse education level and verbal violence. In Mohamed's study, a significant relationship was observed between violence and education level, too(32). In another study, these two variables had a statistically significant relationship(33). Perhaps raising the level of education by increasing public awareness and culture has been able to affect the incidence of violence.

### Limitations

In the present study, sampling was performed only from one central hospital for COVID-19 in Guilan province and it may not be possible to generalize to all nurses in Guilan province or Iran. Therefore, further research in this field is recommended.

## Conclusions

The results of this study show that there is a significant amount of physical and verbal violence in nurses working in educational and medical centers in Rasht. Establishing a process for reporting of violence and providing organizational support to affected nurses can help increase reporting of the violence. In addition, in order to reduce and prevent violence in the workplace, some policies such as increasing human resources and reducing the workload of nurses, training novice nurses to have communication skills and control violence, providing a safe work environment, Employee support, providing isolation and containment rooms for aggressive patients, counseling and reporting violence against the victim nurse, the existence of a coherent process to follow up and report cases of violence after the occurrence and psychological care used the victim nurse.

# Abbreviations

COVID-19: Coronavirus Disease 2019

WHO: World Health Organization

PTSD: Post-traumatic stress disorder

# Declarations

### Ethics approval and consent to participate

This research was approved by the ethics committee of Guilan University of Medical Sciences (ethics code: IR.GUMS.REC.1399.024). All participants were informed about the objectives of the research and the confidentiality of the study. Also, they have been assured that their information would be used for study purposes only and written informed consent was received from all participants before completing the questionnaires.

### Consent to publish

Not applicable.

### Availability of data and materials

The datasets used and analyzed during the current study are available from corresponding author on reasonable request.

### Competing interests

The author(s) declared no potential conflicts of interest with respect to the research, Authorship and/or publication of this article.

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### Authors' contributions

All of authors initially developed the manuscript with contributions. A.Gh directed the project; and L.P, A.E, S.P, F.H contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript. All authors provided comments and approved the final version.

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# Tables

**Table 1: Frequency of physical and verbal violence**

| N (%) | Violence | |
|---|---|---|
| **20 (17.8%)** | Yes | Physical violence |
| **92 (82.2%)** | No | |
| **70 (62.5%)** | Yes | Verbal violence |
| **40 (37.5%)** | No | |

Table 2: Frequency of person doing verbal violence against nurses

| Person doing verbal violence | N (%) |
|---|---|
| Patient | 50 (44.6%) |
| Patient's family | 90 (80.3%) |
| Physician | 7 (6.2%) |
| Head nurse | 5 (4.4%) |
| Nurse's colleagues | 6 (5.3%) |
| Other colleagues | 6 (5.3%) |
| Matron | 3 (2.6%) |

Table 3: Distribution of reasons for not reporting cases of violence

| Frequency<br><br>Reasons for not reporting violence | N (%) |
|---|---|
| Not important | 42 (37.5%) |
| Shy | 12 (10.7%) |
| Fear of bad consequences | 8 (7.1%) |
| Blame themselves | 5 (4.4%) |
| Uselessness of the report | 92 (82.1%) |

Table 4: Analysis of multivariate regression: relationship between independent variables and physical violence among nurses

| Variables | Non adjusted (Simple) | | | | Adjusted (Multiple) | | | |
|---|---|---|---|---|---|---|---|---|
| | B | β | CI %95 | P | B | β | CI %95 | P |
| **Age** | 8.09 | 0.56 | 1.17 (0.75-1.85) | 0.55 | 3.06 | 0.44 | 0.67 (0.22-2.2) | 0.66 |
| **Marital Status** (married compared to single) | 9.01 | 0.45 | 0.77 (0.55-1.1) | 0.12 | 7.09 | 0.31 | 1.02 (0.6-2.01) | 0.71 |
| **Years of experience** | 7.99 | 0.87 | 1.01 (0.66-1.44) | 0.08 | 8.89 | 0.63 | 2.1 (0.45-0.77) | 0.04 |
| Employment status **(**Governmental employment Versus none- governmental employment) | 9.98 | 0.54 | 0.71 (0.44-1.8) | 0.51 | 9.97 | 0.66 | 0.71 (0.44-1.57) | 0.31 |
| **Educational degree** (Bachelor compare to master) | 1.78 | 0.65 | 0.61 (0.44-1.11) | 0.64 | -6.09 | 0.56 | 0.64 (0.44-2.08) | 0.59 |
| **Personal health condition** (No COVID-19 infection compare to Suspected with COVID-19 Confirmed with COVID-19) | -1.69 | 0.44 | 0.71 (0.31-2.11) | 0.001 | -1.89 | 0.57 | 1.87 (1.03-2.055) | 0.64 |

β, standardized regression coefficients as beta; B, unstandardized regression coefficients; CI, confidence intervals; *Statistically significant at $p < 0.05$.

**Table 5: Analysis of multivariate regression: relationship between independent variables and verbal violence among nurses**

| Variables | Non adjusted (Simple) | | | | Adjusted (Multiple) | | | |
|---|---|---|---|---|---|---|---|---|
| | B | β | CI %95 | P | B | β | CI %95 | P |
| **Age** | 9.11 | 0.55 | 2.02 (0.67-1.78) | 0.67 | 2.89 | 0.63 | 0.49 (0.69-2.9) | 0.78 |
| **Marital Status** (married compared to single) | 1.08 | 0.44 | 1.07 (0.45-1.6) | 0.76 | 6.98 | 0.44 | 3.56 (0.9-2.49) | 0.76 |
| **Years of experience** | 8.99 | 0.78 | 1.6 (0.65-1.45) | 0.78 | 7.45 | 0.68 | 4.6 (0.56-0.78) | 0.67 |
| Employment status **(**Governmental employment Versus none- governmental employment) | 8.79 | 0.66 | 0.49 (0.34-1.7) | 0.59 | 9.77 | 0.69 | 0.44 (0.12-1.89) | 0.53 |
| **Educational degree** (Bachelor compare to master) | 1.77 | 0.64 | 0.78 (0.58-1.8) | 0.08 | -6.89 | 0.55 | 0.88 (0.34-2.12) | 0.04 |
| **Personal health condition** (No COVID-19 infection compare to Suspected with COVID-19 Confirmed with COVID-19) | -1.80 | 0.45 | 0.89 (0.55-2.67) | 0.97 | -1.68 | 0.53 | 1.69 (1.13-2.08) | 0.67 |

β, standardized regression coefficients as beta; B, unstandardized regression coefficients; CI, confidence intervals; *Statistically significant at $p < 0.05$.

# Supplementary Files

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