

that it is probably considered to be the most serious stress factor at work (5, 6).

Bullying has been of great concern to researchers due to the personal, social, and economic problems that arise from it. This behavior takes place in all work environments, regardless of the size of the business or organization, including healthcare workplaces. Therefore, it is only natural that it will strongly influence healthcare providers, especially nurses, mostly due to their work, leading to serious adverse effects on adequate patient healthcare (7). The most important impact of bullying in healthcare settings is that medical errors may occur as a preventable adverse effect of medical care, forming a possible threat to 'patients' safety (2).

Verbal abuse in the workplace is an ever-increasing problem for nurses and healthcare organizations. Experiences of verbal abuse significantly affect nurses mental and physical health (8, 9). In healthcare environments, it has been found that when working relationships involve such acts of abuse, emotional and physical health problems may arise and have further significant consequences on 'employees' mental well-being (2, 10, 11).

Among EU countries, Greece and Spain are in joint fifth-highest position when it comes to workplace bullying and harassment in the workplace. The highest rates have been observed in Austria and Italy. However, the Greek Ministry of Health has not implemented any governmental measures to counter bullying in the health system (7).

Among the most common causes of bullying in Greek hospitals are delays in medical and nursing care, hospital smoking bans, violation of visiting hours, and disagreements/poor communication among staff (12). Another possible reason for the emergence of bullying in Greece is that Greek hospitals have no policy regarding the violent behavior of staff (13). As a result, nurses develop defense mechanisms that may inadvertently lead to impersonal relationships with patients. These

relationships can rapidly turn into negative attitudes towards patients and can lead to various harmful consequences, such as medical errors, low-quality healthcare, and patient dissatisfaction (7).

The present study aimed to investigate the verbal abuse of nurses in a general tertiary hospital in Crete. The secondary objectives were to study the frequency of incidents of verbal abuse and identify the type and the main perpetrators of these incidents. The physical and psychological consequences of verbal abuse on nurses were also studied and possible factors related to the frequency and the severity of verbal abuse.

Methods

Study design, sample, and participants

A cross-sectional study was designed and implemented at 151 nurses. The study population consisted of nursing staff who were high school or university graduates with at least five 'years' experience in nursing. The sampling framework and field of the study consisted of thirteen clinics out of twenty-seven chosen by stratified random sample design; the departments participating in the study represent the whole spectrum of medical and nursing care offered by a university hospital in southern Greece. The sample of departments participating in the study was selected as follows. The hospital is divided into four sections: the laboratory and diagnostic departments section, which are ruled out by definition because they do not provide patient care. This leaves three sections: internal medicine, surgery, and pediatrics. Each of these consists of various departments: for example, internal medicine has 11 clinics, surgery has 9, and pediatrics has 5.

Furthermore, the special departments (ICUs, Surgery, and Psychiatric Clinic). Half of these were selected randomly, giving us 13 departments as set out in the hospital organizational chart. The departments in question are Cardiovascular Surgery, Pathology, Cardiology, General Surgery,

Pulmonology, Neurosurgery, Obstetrics and Gynecology, Pediatrics, Pediatric Surgery, Medical Oncology, Orthopedics, Emergency Department and ICU.

Data collection

The researchers personally collected the data in the nursing departments of the University General Hospital of Heraklion, Crete. The survey was conducted from March 2018 to June 2018. Following the briefing and verbal consent of the directors for the study implementation, nurses were informed about the purpose of the study and assured of the anonymity of participants.

Research tools

The main tool utilized for this study was the Verbal Abuse Scale (G-AVQ Version 0/2015) structured questionnaire in Greek. It consists of six subscales divided into five modules, with answers scored on a five-point Likert scale. Module 1 records the frequency (1a) and the severity (1b) of various cases of verbal abuse. Frequency is scored on a scale of 1 = *never* to 5 = *daily*. Severity (how stressful the incident is) is scored from 1 = *not at all* to 5 = *extremely stressful*. Module 2 describes the cognitive assessment/reaction towards the verbal abuse incident. Module 3 describes how the victim copes with the verbal abuse incident. Module 4 describes the severity of the effects of the incident. Finally, Module 5 describes the 'victim's emotions and their intensity following verbal abuse (14). An average score for the corresponding questions was calculated for each of the above six subscales of the Verbal Abuse Scale (VAS). 'Cronbach's alpha was also calculated for each subscale: 1a. Frequency of verbal abuse (0.842), 1b. The severity of verbal abuse type (0.860), 2. Cognitive assessment of verbal abuse (0.765), 3. Coping with verbal abuse (0.807), 4. The severity of effects of verbal abuse (0.915), and 5. Strength of feeling due to verbal abuse (0.913) (Table 2).

Ethical considerations

Ethical approval was obtained from the Research and Bioethics Committee (IRB; University General Hospital of Heraklion Crete/UOC-3254/ March 8, 2016. The participants in the study were informed about the study objectives, expected outcomes, and associated benefits and risks. Written consent was received from the participants before they answered the questionnaire. The authors also obtained permission to use the hospital facilities before data collection.

Statistical analysis

Data were analyzed using SPSS software (IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY: IBM Corp). Distributions of the basic characteristics of the 151 nurses were estimated. The 95% confidence intervals (95% CIs) were also estimated for specific characteristics (e.g., a perpetrator of verbal abuse) comparing their distributions. The VAS subscale scores (Frequency and Severity) distribution were tested for their symmetry using Blom's method (QQ plot). As the Frequency and Severity of verbal abuse subscales were found with normal distribution, multiple linear regression analysis was applied for the 143 nurses who experienced abuse with their characteristics and to Cognitive Assessment, Coping, the severity of effects, and Strength of feeling to verbal abuse. The critical value was set at 0.05.

Results

A total of 151 nurses were enrolled in the study. 88.1% were women. The mean age of all was 41.7 (± 6.5), while the majority (43.7%) belonged to the 36-45 age range. 70.9% of the nurses were university graduates, 58.9% worked in the Surgery Department, and the mean length of employment was 16.1 years (± 7.5). In answer to the question "Have you experienced verbal abuse in your workplace", "94.7% (n=143) replied

positively (Table 1). Of these 143 nurses, 93.0% reported that the incident occurred in front of other people, while 24.5% said that

they believe nurses are subjected to verbal abuse daily.

Table 1. Descriptive characteristics of 151 nurses in the current study

Variables		N	%
Gender	Males	18	11.9
	Females	133	88.1
Age (Years)	28-35	32	21.2
	36-45	66	43.7
	46-53	53	35.1
Mean±SD		41.7±6.5	
Education	Tertiary	6	4.0
	Technical/Vocational	101	66.9
	Secondary	44	29.1
Profession	Registered nurse	107	70.9
	Nursing assistant	44	29.1
Department	Surgery	89	58.9
	Pathology, Emergency department	62	41.1
Years in profession		Mean±SD	
		16.1±7.5	
Have you experienced verbal abuse in your workplace?	Yes	143	94.7

The significantly highest percentage of nurses (77.6%) reported that the perpetrator of verbal abuse was a patient's relative compared to the other categories ($p < 0.05$). This is followed by patients themselves (50.3%), visitors (42.7%), and superiors/supervisors (22.4%). However, 30.1% reported that the incident was moderately stressful, 24.5% said it was severely stressful, while just 2.1% replied that the incident was not at all stressful.

Comparing subscales of the same type, such as 1a and 1b or 2-5 (which are scored in the same way), there is no significant differentiation between the mean values of Frequency and Severity of verbal abuse (2.18 vs. 2.17, $p > 0.05$), while among Cognitive Assessment, Coping, Severity of Effects, and Strength of Feeling, Coping had the significantly highest mean value, while Severity of Effects had the lowest (2.52 vs. 1.83, $p < 0.05$) (Table 2).

Table 2. Verbal Abuse Scale (VAS) subscale values for the 143 nurses in the present study

Subscale	Mean	95% CIs	Stand. Dev.	Median	Range
1a. Frequency of verbal abuse type	2.18	2.06, 2.29	0.72	2.25	1-5
1b. Severity of verbal abuse type	2.17	2.05, 2.29	0.76	2.17	1-5
2. Cognitive assessment of verbal abuse	2.25	2.15, 2.34	0.58	2.20	1-5
3. Coping with verbal abuse	2.52	2.41, 2.62	0.67	2.53	1-5
4. Severity of effects of verbal abuse	1.83	1.71, 1.95	0.73	1.69	1-5
5. Strength of feeling	2.17	2.06, 2.30	0.73	2.11	1-5

Scales: 1a. Frequency (1: 'never' to 5: 'daily'), 1b. Severity (1: 'not at all' to 5: 'extremely stressful'), 2 to 5 (1: 'not at all' to 5: 'very much').

Table 3 presents the multiple linear regression analysis of Frequency and Severity of verbal abuse in relation to

Cognitive Assessment, Coping, Severity of Effects, and Strength of feeling and the characteristics of the 143 nurses who have

experienced verbal abuse. Neither Frequency nor Severity of verbal abuse appears to be significantly correlated with the characteristics of the 143 nurses ($p>0.05$). However, the frequency of verbal abuse has a significant correlation with

higher Coping ($\beta=0.28$, $p=0.007$) and Strength of Feeling values ($\beta=0.29$, $p=0.010$). Similarly, the severity of verbal abuse type has a significant correlation with higher Strength of Feeling values ($\beta=0.30$, $p=0.014$).

Table 3. Multiple linear regression analysis of frequency and the severity of verbal abuse in relation to their characteristics and cognitive assessment, coping, the severity of effects, and strength of feeling due to verbal abuse

Parameters	1a. Frequency of verbal abuse type		1b. Severity of verbal abuse type	
	β	p-value	β	p-value
Gender (1: male, 2: female)	-0.14	0.385	-0.14	0.417
Age (years)	0.02	0.208	0.01	0.295
Education (1: Technical/vocational, 2: Tertiary, 3: Secondary)	-0.36	0.203	-0.19	0.529
Profession (1: RN, 2: nursing assistant)	0.33	0.295	0.24	0.483
Department (1: Surgery, 2: Pathology, Emergency Department)	0.10	0.375	0.14	0.232
Experience (years)	-0.17	0.264	-0.13	0.425
2. Cognitive Assessment of verbal abuse (scale mean score 1-5; 1: 'not at all' to 5: 'very much')	0.04	0.725	0.18	0.174
3. Coping with verbal abuse (scale mean score 1-5; 1: 'not at all' to 5: 'very much')	0.28	0.007	0.17	0.120
4. Severity of Effects of verbal abuse (scale mean score 1-5; 1: 'not at all' to 5: 'very much')	0.12	0.231	0.12	0.290
5. Strength of Feeling due to verbal abuse (scale mean score 1-5; 1: 'not at all' to 5: 'very much')	0.29	0.010	0.30	0.014
R² (adjusted)	0.329 (0.278)		0.305 (0.253)	

β or betas denote unstandardized regression coefficients.

Discussion

The present study aimed to investigate verbal abuse of working nurses and its consequences on both a physical and a psychological level. The study's basic findings were that the vast majority of participants had been subjected to verbal abuse more than once, while the main abusers were the relatives of the patients. Although the nurses seem to manage verbal abuse successfully, this fact is described as particularly stressful. Moreover, the frequency and the severity of verbal abuse and the severity of the consequences of

verbal abuse are correlated to the emotions that arise from it. Finally, neither Frequency nor Severity of verbal abuse appears to be significantly correlated with the characteristics of the 143 nurses. However, the frequency of verbal abuse type is significantly correlated with higher Coping and Strength of Feeling values. Similarly, the severity of verbal abuse type has a significant correlation with higher Strength of Feeling values.

In the present study, the vast majority of participants reported experiencing verbal

abuse. Similar results are reported by Fasanya and Dada (15), Teymourzadeh et al. (16), and Kitaneh and Hamdan (17). On the contrary, Esfahani and Shahbazi (18) and Rosenthal et al. (19) found that the majority of participating nurses had not suffered any kind of verbal abuse.

Most nurses believe that nursing staff is abused daily or more than once a week, while a very small percentage believe they have never been intimidated. The results of the present study are similar to the research of Esfahani and Shahbazi (18), Rosenthal et al. (19), and Cho et al. (20), in which almost half of the nurses reported experiencing verbal abuse and being exposed to violent verbal behaviors more than once a week. On the contrary, in the results published by Ganz et al. (21), no nurses reported being harassed daily.

The stress levels of our sample range from tolerable to severe. This finding is consistent with Vessey et al. (22) and Rosenthal et al. (19). Furthermore, there are many references in the literature that relate verbal abuse with various psychological consequences to the victim and deterioration of their general health, as reported by Karatza et al. (7), Aristidou et al. (23), Nielsen et al. (11), Kitaneh and Hamdan (17), Fujishiro et al. (24) and Rosenthal et al. (19).

The main perpetrators that emerged from the study were by far the 'patients' relatives. This conclusion agrees with the results of Kitaneh and Hamdan (17) and Cho et al. (20), where the main perpetrators are also reported to be the 'patients' relatives. However, in Abed et al. (25), patients emerge as the main abusers. Also, in the study by Koukia et al. (13), which took place in Greece, doctors and nurses were the main perpetrators, followed by the administrative staff.

Regarding the personal characteristics of the abused, it was found that gender is not significantly related to whether subjects will be intimidated or not. On the contrary, Pompeii et al. (26) and Ariza-Montes et al. (5) found that women more commonly

experienced verbal abuse. In the research of Abed et al. (25), women, and especially nurses, were more likely to experience violent incidents than men or medical staff, while women were 11 times more likely to experience verbal abuse than men. On the other hand, Zhao et al. (27) report that those intimidated is mostly men. Cho et al. (20) also found that male nurses experience verbal abuse more frequently than female nurses. There was a statistically significant correlation between gender and coping with verbal abuse, with women seeming to deal with these incidents more efficiently. Similar results were found in Koukia et al.'s (13) study, where nurses found ways to deal with incidents. Unlike the above, in Teymourzadeh et al. (16), almost half of the participants did not take any action or were unaware of any protection measures or actions that the hospital could take. Similar results have also been found in other studies (19, 20).

Regarding age and years of experience, it was found that age does not have a strong correlation with whether nurses experience verbal abuse or not, while more years of work experience act protectively so that nurses are less likely to be intimidated or faced with bullying behaviors. This is borne out by Zhao et al. (27), Pompeii et al. (26), Alameddine et al. (28), and Cho et al. (20), who conclude that the majority of victims are young nurses, usually under 34 years old. Regarding working years, those who have less than five 'years' working experience are more likely to be abused, which seems to be consistent with our findings that many years of experience act as a protective factor and therefore, a few years of experience do not (17, 27, 28). Finally, in the present study, the frequency of verbal abuse type has a significant correlation with higher Coping and Strength of Feeling values. Similarly, the severity of verbal abuse type has a significant correlation with higher Strength of Feeling values. The same correlation is found by Keller et al. (29) and Chang et al. (30).

Conclusion

Verbal abuse is a serious issue that is frequently encountered in the nursing profession. Especially in Greece, verbal abuse is underestimated: it has not been studied in detail, partly due to the difficulties involved, as it is affected by many factors. In the present study, the vast majority of participants reported experiencing verbal abuse. The main perpetrators that emerged from the study were by far the 'patients' relatives. Although the nurses seem to successfully manage verbal abuse, this fact is described as particularly stressful. Moreover, the frequency and severity of verbal abuse and the severity of the consequences of verbal abuse are correlated to the emotions that arise from it. These consequences are significant in all fields of work, personally, financially, and administratively, while errors and omissions may occur and subsequently affect the quality of patient healthcare.

There were some limitations in the context of data collection for this study. There were losses during data collection since some individuals refused to fill in the questionnaires for personal reasons. In Greece, no large-scale study has been carried out on verbal abuse experienced by healthcare professionals, or even separately on other types of abuse. The available studies are fragmentary, small-scale, and cannot easily be generalized to the entire population. We propose that all aspects of this serious problem, its causes, and consequences should form the object of investigation in the future, leading to the creation of protection and prevention policies for nurses to be supported and to deal with the incidents adequately.

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Conflicts of interest

All authors have no conflicts of interest to declare.

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