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Patient Aggressive Behavior Toward Healthcare Providers: Prevalence And Risk Factors

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Abstract

This study aimed to investigate the prevalence of patient aggressive behavior against healthcare providers in Bethlehem and Hebron health care centers. The study adopted the quantitative approach, using a questionnaire, which is appropriate to the exploratory nature of the research. To achieve this end, a 30-item scale was used to measure the patient aggressive behavior toward HealthCare Providers as perceived by HealthCare Providers, that was developed by the research team, based on Cheung *et al.* (2018) scale, taking into consideration the cultural appropriateness in the Palestinian society. A 5-point Likert scale (ranging from very often to never) was used to measure responses. Three hundred sixty-eight health care providers were stratifiedly selected, based on gender and Governorate. The sample size was calculated using the sampling web of http://www.surveysystem.com/sscalc.htm, with a margin error of 0.05. The collected data was statistically analyzed using the statistical package for social sciences (SPSS). The study has affirmed that there is a high prevalence of patient aggressive behavior toward HealthCare Providers at Bethlehem and Hebron health centers (M 3.85, SD 0.61). While the risk factors of patient aggressive behavior were as follows, pain experienced by patient, situations of physical and emotional distress of patient, and gender differences. Furthermore, findings showed that gender, work shift, and division do not show any significant differences, however, it was found that authority, qualification, profession, age, and professional experience were significant variables.

Keywords: Aggressive Behavior, Patients, HealthCare Providers, Palestine.

1. Introduction

The health sector is one of the most important service sectors, because of its importance in the lives of individuals and societies. As it is considered a destination for many patients from different social strata with the aim of recovering from the diseases they suffer from, and whose forms and dangers vary according to the nature and severity of the disease, as well as the patient's personality and ability to treat, the matter (Liu *et al.*, 2020).

The issue of workplace violence has been increasingly prominent in the healthcare industry in recent years. It is defined as any occurrence in which a person is mistreated, threatened, or physically assaulted while engaged in activities related to their line of work. Both physical assaults and verbal abuse are examples of this (Baig *et al.*, 2018).

Long wait times, crowded emergency rooms, noise levels, a lack of privacy and personal space, poorly understood healthcare systems and procedures by patients, unreasonably high client expectations, a lack of staff and resources, delays in administering analgesia, perceived or actual staff incompetence or callous attitudes are just a few of the risk factors that have been variously described and well documented over a number of years (Boafo *et al.*, 2016).

In a study of staff and patient opinions on the causes of patient aggressiveness Mento *et al.* (2020) concluded that, patients believed that poor communication and the environment were key precursors to violent behavior. The primary cause of aggressiveness, in contrast, was seen by nurses to be patients' mental problems. There is recognition, however that clients with and without mental health diagnoses may become more easily irritated, violent, and/or aggressive than they would normally be when experiencing the feelings of anxiety, fear, pain, and loss that are frequently connected to visits to healthcare services (Beattie *et al.*, 2018). Neurobiological and socio-environmental

elements are always interacting, as Baig *et al.* (2018) hypothesized. Therefore, studying aggressiveness and violence in the context of biosocial interaction is necessary in order to comprehend them.

Based on that, this study will try to investigate the prevalence of aggression occurred by patients against healthcare provider in the hospitals of Bethlehem and Hebron districts. In addition, to link the aggressive behavior with risk factors associated within the hospital and the treatment of healthcare providers at the hospital.

2. Background & Literature Review

Aggressive behavior can appear at any stage of life and is a symptom of many psychiatric diseases, including dementia in older individuals and attention-deficit hyperactivity disorder in children and adolescents. Less emphasis has been paid to understanding the etiology of aggressive behaviors across the full developmental range, despite the fact that a large portion of the aggressiveness research has concentrated on adolescents and adults (Merecz *et al.*, 2016).

The potential repercussions for both the aggressors and the victims are also described. The psychosocial literature has extensively investigated several aspects of aggressiveness, including adult aggression and violence, psychopathology, adult aggression and criminal behavior, and adolescent aggression and developmental theories.

The World Health Organization started publishing the World Report on Violence and Health in 2002 after the World Health Assembly highlighted workplace violence as a major public health issue in the late 1990s (Campbell *et al.*, 2015).

Violence is a topic that has been extensively studied, but research on workplace violence in the healthcare industry is still in its early stages. With the organization of the International Conference on Violence in the Health Sector and the WHO's recognition that workplace violence in the healthcare industry is a global concern in 2008, this issue started to garner more attention (Bizzarri *et al.,* 2020).

According to Connor *et al.* (2020), workplace violence is defined by the WHO as "incidents where personnel are mistreated, threatened, or assaulted in situations relevant to their employment... with an explicit or implicit danger to their safety, wellbeing, or health." Workplace violence is defined by the National Institute of Health and Safety as "violent acts, including physical attacks and threats of assault, directed against a person at work or on duty" (Hassan, 2021).

2.1 Types Of Aggressive Behaviors

There are three basic types of violence that fall under the general category of workplace violence in the healthcare industry: lateral violence (worker on worker violence), provider towards patient violence, and patient or client violence towards the provider (Goh *et al.,* 2020).

According to scholarly definitions, client violence is any incident in which a helping professional is harassed, threatened, or physically assaulted by a client while the professionals are working with the client, as well as any other violent act that the particular worker may deem to be appropriate. The worker's perceptions and the environment in which the violent incident occurred may also help to describe it (Danivas *et al.,* 2016).

Patient hostility is characterized as physical or verbal abuse. Expressions of malice, swearing, yelling, sexual propositions, and sexual gestures are all examples of verbal assault. Body contact, object contact, slapping, kicking, being punched, scratched, bit, having one's hair pulled, having an

object hurled at one's face, being spit at, being pushed, dragged, or squeezed are all considered forms of physical assault (Lickiewicz *et al.*, 2020).

According to research, up to 92% of healthcare professionals have faced abuse or violence by patients, including threats, assault, and sexual harassment. Health care employees are among a group of workers who are vulnerable to some of the highest rates of these violent episodes. The overwhelming body of evidence points to health care providers as having a higher chance of encountering client violence than any other helping profession an estimated 16 times higher risk than that of any other service profession (Liu *et al.*, 2012).

2.2 Factors Of Patient Aggressive Behavior

The main factors influence the patient aggressive behavior are as follows:

Medical presentation: A patient's changing health situation may make them more likely to act aggressively. Patients may display hostility due to their medical condition, such as dementia or agony after a traumatic accident (Caruso *et al.*, 2021).

Intensive care unit syndrome: Numerous writers have described a collection of psychotic symptoms and indications that affect individuals receiving intensive care. Intensive care unit psychosis, post-operative delirium, or intensive care unit syndrome are names for this illness (Ayhan *et al.*, 2021).

Impaired communication: Patient consent cannot be handled without effective communication, which is a professional and moral requirement. The four basic goals of communication between nurses and patients, as well as between nurses and family members, are to build trust, provide accurate information, identify needs, and maximize the use of resources (Caruso *et al.*, 2021).

Cultural diversity: The multicultural society is characterized by diversity in ability, age, ethnicity, gender, religion, and sexual orientation, both in the nursing profession and among patient populations (Caruso *et al.*, 2021).

Loss of independence: Feelings of depersonalization, anxiety, tension, and anger can emerge from any sickness episode that causes a loss of autonomy and the ability to influence events (Ayhan *et al.*, 2021).

2.3 Definitions Of Aggressive Behavior

Although connected, it's crucial to distinguish between various notions of aggressive behavior. Aggression is defined as any act intended to inflict another person harm, pain, or injury. Aggressive behavior is the observable manifestation of aggression. Although aggressive behavior and violence are frequently equated, it is vital to stress that they are not (Mroczek *et al.*, 2014). Violence is a type of physical assault, but aggressive behavior is a more general concept that encompasses all harmful behaviors, including verbal, psychological, and physical ones. As a result, aggressive behavior may not always involve violence (Partridge & Affleck, 2018).

This distinction is crucial because, while knowing aggressive behavior as a correlate or predictor of violence is instructive, aggressive behavior that doesn't include violence can still have unfavorable effects and is equally worthy of study. Due to the wide range of potential adverse public health outcomes, such as youth violence, increased use of medical resources (such as emergency departments, psychiatric and critical care), increased costs, and increased involvement in the criminal justice system, the study of aggressive behavior is crucial to the healthcare industry (Schablon *et al.*, 2018).

According to a World Health Organization research from 2002, 4400 people die each year as a result of violent acts, highlighting the need of understanding and preventing aggressive behavior for public health (Viottini *et al.*, 2020).

2.4 Aggressive Behavior And Nursing Profession

Currently, aggression is a widespread social issue. It includes intentional and purposeful aggression in addition to verbal abuse, outward antagonism, rejection, and physical harm. Aggression is seen as an intentional, open or symbolic action that attempts to cause injury, pain, or destruction, akin to interpersonal violence in terms of intent (Bizzarri *et al.*, 2020). Wong *et al.* (2019) proposed a distinction between instrumental and hostile aggression, highlighting the importance of intention and dissatisfaction in the behavior of aggressive persons. Instrumental aggressiveness is a reaction to an aggressor's displeasure and is connected to the accomplishment of certain aims.

There is an increase in aggressive behavior and violence against nurses globally. Aggressive behavior against nurses at work can lead to organizational issues as well as personal issues, such as a decline in physical and mental health. Nurses frequently fail to report hostile behavior by patients. Although underreporting can result in inadequate focus on measures to stop aggressive behavior (Hassan, 2021).

On the other hand, hostile aggressiveness is connected to the presence of negative emotions and the willingness to cause harm to another. Each party in the patient-medical professional connection has the potential to do wrong (Baig *et al.*, 2018). Aggression in healthcare settings was a concerning reality as early as the second half of the 20th century, especially in Europe, Australia, and North America. As a result, it was acknowledged as a significant public health issue. Unknown is the true scope of this phenomenon. In reality, it is safe to conclude that there is still a lack of awareness of these problems (Mroczek *et al.*, 2014).

Over 50% of health care professionals, including roughly 70-80% of paramedics, nurses, and doctors, experienced workplace aggressiveness, according to Merecz *et al.* (2016). The majority of aggressive behaviors in medical settings are brought on by a variety of circumstances related to the work environment, including interactions between patients and medical staff. Three factors make it challenging to comprehend the origins of healthcare aggression: first, healthcare professionals work within a variety of organizational structures and carry out a variety of tasks; second, they are exposed to aggression from a variety of sources, including patients, family members, and coworkers. Finally, it appears that aggression is linked to how doctors behave toward nurses and patients (Campbell *et al.*, 2015).

Aggressive actions in patients can be a symptom of physical and mental diseases, the outcome of fear, frustration, a sense of threat, or a response to interpersonal conflict. Nurses are four times as likely than other healthcare professionals to experience workplace violence, according to the Home Office Health and Safety (Wong *et al.*, 2019). While some definitions of workplace aggressiveness identify physical assault as a major issue, others emphasize intimidation, verbal abuse, and unlawful menace in addition to other forms of workplace aggression (threatening to kill a person at work or on duty) (Viottini *et al.*, 2020).

A person may be the target of aggressive gestures used at work that are intended to offend, bully, degrade, or blackmail them (Schablon *et al.*, 2018). Regulations on the protection of a public functionary may be implemented in unique situations where patients exhibit hostile actions toward medical personnel. Police assistance is another resource available to medical staff. The Main Medical Association and the Main Association of Nurses and Midwives have developed an Internet system for the monitoring of violence in healthcare institutions to enable the reporting and recoding of occurrences of workplace hostility (Campbell *et al.*, 2015).

2.5 Influence Of Aggressive Behavior On HealthCare Work

Despite the fact that aggressive behavior is a widespread issue, its effects and acceptability depend on the cultures, ethics, and values of healthcare professionals that are ingrained in their community and are mirrored in the healthcare environment. Aggressive behavior among healthcare workers has been linked to an increase in illness and/or absenteeism on an individual basis. Healthcare professionals were, in retrospect, primarily impacted by their demanding jobs. The organizational effects of aggressive behavior can also be seen in a toxic or hostile workplace, which is closely related to a decreased standard of care and risk to patients. It lowers the standard of healthcare organization, which reduces teamwork, obstructs communication, disturbs behavior, and raises the likelihood of medical errors (Al Omar *et al.*, 2019).

2.6 Influence Of Aggressive Behavior On Healthcare Providers' Well-being

A big global concern is patient hostility toward medical staff. Patients' violence is a common hazard for medical workers who treat people with mental illnesses. A variety of behaviors or acts that have the potential to physically or verbally hurt, hurt, or injure another person are considered to be aggressive, regardless of whether any real harm is done or if the goal is obvious. In these circumstances, patient aggressiveness is related to the health of the healthcare professionals. Anxiety, worry, guilt, trouble sleeping, burnout, poor self-rated health, or discontent with one's job have all been proven to be related to being the subject of patient aggression. Additionally, longitudinal research has demonstrated a bidirectional relationship between workplace aggression and workers' wellbeing; those who experience aggression are more likely to report occupational stress, and those who report occupational stress are more likely to experience workplace aggression (Pekurinen *et al.*, 2017).

Numerous empirical research has found evidence of nurse-patient hostility. Patients are more likely to assault staff members who work in mental health facilities. In psychiatry, for instance, the rate of physical aggression was the greatest (55%), according to a systematic review (Raveel & Schoenmakers, 2019). Aggression may be more common in patients, those with substance use disorders, and people with serious mental illnesses.

2.7 Impact Of Aggressive Behavior On Patient

However, the patient aggressive behavior affects negatively the healthcare providers, it also affects negatively the patients. Caruso *et al.* (2021) stated that patients who revealed aggressive behaviors against healthcare providers, can be affected by many consequences. Those consequences might be psychological or physical effects on the patient. Therefore, the quality of treatment might be reduced, due to the worrying by healthcare providers in providing the patient with treatment, worrying from another aggressive behavior that affect negatively the providers of the healthcare.

2.8 Impact Of Aggressive Behavior On Healthcare Status

The healthcare system consists of three main parts: patients, healthcare providers, and place (hospital). Since the aggressive behaviors revealed by patients who considered the most important element of the healthcare system, the overall system will be affected negatively. As many literatures stated that aggressive behaviors by patient have so many negative effects on healthcare providers (Nurses, doctors, administers, and other staff), those effects and consequences will affect negatively the overall healthcare system, by affecting the components of the system (Al-Omar *et al.*, 2019).

One of the most important problems confronting the healthcare industry is workplace violence. Violence against healthcare workers is becoming more commonplace everywhere. However, because violent crimes go unreported, it is challenging to determine the severity of the issue. In fact,

a lot of medical professionals' view violence, which is typically committed by patients and visitors (friends and relatives of patients), as a necessary part of their work. According to several research, violent behavior toward healthcare providers has detrimental effects on both the individuals involved and the larger healthcare system (Berlanda *et al.,* 2019).

2.9 Patients Aggressive Behavior In Palestine

According to a study conducted in Palestine, Jaradat *et al.* (2016) stated that in the workplace, aggressiveness of any type was reported by 27.1% of the healthcare professionals. Physical aggressiveness was recorded in 5% of cases, verbal aggression in 24.2% of cases, and bullying in 7.3% of cases. Patients and patients' family were the primary targets of physical and verbal abuse, whereas coworkers were the primary perpetrators of bullying. Bullying was more common among men than among women, according to reports. The prevalence of bullying, physical aggressiveness, and verbal hostility was higher among younger nurses. There was a stronger link between verbal aggression and psychological suffering. There was a link between bullying and decreased job satisfaction.

If we are to investigate the prevalence of patients' possibly aggressive behavior, a phrase with a wider definition would be helpful. To be inclusive of patients' potentially harmful episodes that may not be recognized as such by the nurses involved due to the patient's medical condition, we chose the term "aggressive behavior" instead of "violence" in our study.

3. Statement Of The Problem

After reviewing the literatures related to the topic of this study, it is obvious that most literatures have affirmed that the nurses and healthcare providers are the main bodies who are subject to patient aggressive behaviors (Mento *et al.,* 2020).

The consequences of the patient aggressive behavior might be dangerous among healthcare providers. In which the psychological aggressive behavior is the most important than physical aggressive behavior. Those both aggressive behaviors have several psychological consequences such as stress, depression, and anxiety from another future aggressive behavior. This can lead the healthcare provider toward mitigating the performance quality, and avoiding to contact with patients, due to the fear from the aggressive behavior that might hurt the healthcare provider, which affect negatively the quality of life among healthcare providers.

Therefore, the prevalence of patient aggressive behaviors against healthcare providers is important to be measured among hospitals, especially in Palestine. Because there is lack of studies conducted in Palestine in the subject of patients aggressive behaviors against health care providers. The significance of this recent study is the first, which dealt with this theme, to the authors knowledge, which in turn encourages other researchers to work on further research on this important issue.

Accordingly, the main problem of this study represents in answering the following main question:

"What is the prevalence of patient aggressive behavior toward HealthCare Providers at Bethlehem and Hebron Governorates from the perspectives of HealthCare Providers?"

4. Questions

This study seeks to answer the following questions:

4.1 What is the prevalence of patient aggressive behavior toward HealthCare Providers at Bethlehem and Hebron Governorates?

4.2 What are the factors contributing into the patient aggressive behavior toward HealthCare Providers at Bethlehem and Hebron Governorates?

4.3 Are there any differences in the prevalence of patient aggressive behavior toward HealthCare Providers at Bethlehem and Hebron Governorates from the perspectives of HealthCare Providers due to age, gender, professional experience, qualification, work shift, division, profession, and authority?

5. Objectives

The study seeks to achieve the following objectives:

5.1 To assess the prevalence of patient aggressive behavior toward HealthCare Providers at Bethlehem and Hebron Governorates.

5.2 To investigate the factors, contribute into the patient aggressive behavior toward HealthCare Providers at Bethlehem and Hebron Governorates.

5.3 To examine the differences in the prevalence of patient aggressive behavior toward HealthCare Providers at Bethlehem and Hebron Governorates from the perspectives of HealthCare Providers due to age, gender, professional experience, qualification, work shift, division, profession, and authority.

6. Significance

This study aims to assess the prevalence of patients aggressive behaviors toward healthcare providers at Bethlehem and Hebron Governorates. The patient aggressive behavior considered important to be treated appropriately due to the consequences that might affect the healthcare providers. Therefore, the significance of this study represents from the scientific aspect in its results and methodology used, which can be a reference for the future researchers who might be interested

in conducting researches related to the subject of this study, in order to build on its results, and being added value to the knowledge in the field of healthcare.

As well, this study highlights an important aspect represents in the prevalence of patients aggressive behaviors against healthcare providers. Which might be a reference for decision makers into the hospitals in Bethlehem and Hebron districts, in order to develop policies and procedures that might contribute into mitigating the patient aggressive behaviors, and provide protection for healthcare providers. In addition, this study presents results and recommendations that might be taken into consideration by management of hospitals and governmental bodies toward cooperation into handling with patient aggressive behaviors or visitors at hospitals towards developing the code of conducts for patients and healthcare providers to control the aggressive behaviors at the hospitals.

7. Hypotheses

Based on the study questions and objectives, the main hypotheses examined are:

7.1 There are no statistically significant differences at ($\alpha \leq 0.05$) in the prevalence of patient aggressive behavior toward HealthCare Providers at Bethlehem and Hebron Governorates according to gender.

7.2 There are no statistically significant differences at ($\alpha \leq 0.05$) in the prevalence of patient aggressive behavior toward HealthCare Providers at Bethlehem and Hebron Governorates according to qualification.

7.3 There are no statistically significant differences at ($\alpha \leq 0.05$) in the prevalence of patient aggressive behavior toward HealthCare Providers at Bethlehem and Hebron Governorates according to work shift.

7.4 There are no statistically significant differences at ($\alpha \leq 0.05$) in the prevalence of patient aggressive behavior toward HealthCare Providers at Bethlehem and Hebron Governorates according to division.

7.5 There are no statistically significant differences at ($\alpha \leq 0.05$) in the prevalence of patient aggressive behavior toward HealthCare Providers at Bethlehem and Hebron Governorates according to profession.

7.6 There are no statistically significant differences at ($\alpha \leq 0.05$) in the prevalence of patient aggressive behavior toward HealthCare Providers at Bethlehem and Hebron Governorates according to authority.

7.7 There is no statistically significant correlation at ($\alpha \leq 0.05$) between the age the prevalence of patient aggressive behavior toward HealthCare Providers at Bethlehem and Hebron Governorates.

7.8 There is no statistically significant correlation at ($\alpha \leq 0.05$) between the professional experience and the prevalence of patient aggressive behavior toward HealthCare Providers at Bethlehem and Hebron Governorates.

8. Definition Of Terms

8.1 Aggression: An action, incident or behavior where staff is abused, threatened, assaulted or harmed in circumstances related to their work, including commuting to and from work, and involving an explicit or implicit challenge to their safety, well-being or health (Schablon *et al.*, 2018).

8.2 Aggressive Behavior: Any act taken by patients intended to cause harm, pain or injury in healthcare providers, either physical aggressive behavior or verbal behavior (Zirpoli, 2008).

8.3 HealthCare Providers: Palestinian healthcare providers working in Governmental and Non-Governmental healthcare centers at Bethlehem and Hebron Governorates.

9. Limitations

The population of this study limited to the HealthCare Providers in the health care centers at Bethlehem and Hebron Governorates, during the time of this study, 2022.

10. Previous Studies

Patient Aggressive behavior against healthcare providers considered an important factor that negatively affect the health and life of healthcare provider, in addition to the effect on the healthcare processes into the hospitals.

A study for Välimäki *et al.* (2022) aimed to explore multiple viewpoints on patient aggression, its possible causes and outcomes, and development ideas for prevention and management. The study used qualitative design throughout focus group interviews. The sample size was 94 nurses and patients in 15 adult areas in two inpatient psychiatric settings in Hong Kong. The study revealed that harmonies between all groups were found on how patient aggression is perceived, and why it occurs. In addition to that patients and especially nurses described how patient aggression occurred with no clear reason or forewarning and how patients were physically controlled or restricted after aggressive events.

In another study, Ayhan *et al.* (2021) conducted a phenomenological study purposed to investigate the experiences of healthcare professionals, exposed to physical violence, related to aggressive patients at a psychiatry service. The study used the qualitative approach, in which the sample consisted of 21 healthcare professionals, by using the in-depth interviews the study has collected

the needed data. The study found that three themes are the main aggressive behavior aspects: the effects of warning signs of violence, clinical management of violence, and effects of violence.

In the same context, Caruso *et al.* (2021) conducted a peer-reviewed study to summarize literatures on aggressive chapters performed by adult patients admitted to general hospital units, especially psychiatry or emergency services. The study examined the main factors associated with aggressive behaviors in the hospital setting, with focus on the European experience. The study reached that a number of variables, including individual, historical, and contextual variables, are significant risk factors for aggression among hospitalized people. In addition, drug abuse can be considered a trans-dimensional variable, which deserves specific attention.

Regarding the prevalence of aggressive behavior in Healthcare, Li *et al.* (2020) aimed to quantify a one-year prevalence estimates of aggression by patients against healthcare providers. The study was conducted based on a systematic literature review, during the period from January 2000 to October 2018. The total number of studies reviewed was 65 studies. The study showed that healthcare professionals aggressively effected by patients or visitors was 19.33%. In addition, the heterogeneity shows high degree among the studies. Therefore, the study recommends that there must be a practical intervention to be implemented for protecting the healthcare providers.

On the other hand, Goh *et al.* (2020) conducted a study in order to explore whether experiential learning will improve empathy and confidence, among nursing and medical students when managing dangerous, aggressive, and violent patients. aggressive, and violent patients. The study depends on quasi-experimental approach, using pre and posttests toward examining the effectiveness of Empathetic CAre and REsponse (ECARE) model. The sample of the study consists of (50) medical and (249) nursing students at university. The results of this study showed that for both student populations, the empathy and confidence scores significantly improved after attending

ECARE. In addition, the study revealed a statistically significant adjusted mean difference between them.

In another context, Viottini *et al.* (2020) conducted a study aimed to reflect the incidents of aggressive behaviors against all healthcare providers to identify risk factors associated to aggressiveness among a variety of demographic and professional determinants of assaulted, and risk factors related to the circumstances surrounding these events. The study has comprehended 3 years 2015-2017 of incidents, depending on retrospective observational study on 10970 healthcare providers at the universities hospitals in Italy. The study had number of results in which the most important were that 364 providers experienced almost one aggression. In addition, the majority of the assaulted providers were female nurses. Moreover, the majority of aggressive behaviors happened among assisting and taking care of patients. As well, the most type of aggression was verbal aggression.

Additionally, the purpose of a systematic review conducted by Raveel & Schoensmakers (2019) was to find out if there is evidence on interventions to prevent aggression against doctors. The study depended on reviewing literatures published between 2000 and 2018, in PubMed, Embase, Turning Research into Practice (TRIP), Cochrane and Psych article, Google Scholar. Results revealed that one randomized controlled trial (RCT) provided moderate evidence that a violence prevention program was effective in decreasing risks of violence. In addition, major risk factors are long waiting times, discrepancy between patients' expectations and services, substance abuse by the patient and psychiatric conditions.

Furthermore, a cross sectional study conducted by Al-Omar *et al*. (2019) aimed to determine the extent of healthcare practitioners in Saudi Arabia worry about Workplace Aggression and whether it affects the quality of care and patient safety from their perception. An online survey was

distributed among all practitioners at a multi-regional healthcare facility. A previously validated tool was sourced from an integrative literature review by Houck and Colbert. Responses to 15 themes were rated on a 5-point Likert scale. The study revealed that the overall median score of worrying about Workplace aggression was 81.7. Moreover, participants were mainly worried about the effect of Workplace Aggression on their stress, work performance, and communication between staff members.

However, Niu *et al.* (2018) conducted a cross-sectional study that aimed to explore the prevalence of workplace violence, the reaction of victims, and workplace strategies adopted to prevent violence among acute psychiatric settings in northern Taiwan. The study consisted of 429 nurses. The study revealed that the rates of physical and psychological violence were 55.7% and 82.1%. In addition, most of the workplace violence rates caused by patients. The study recommended more security measures, patient protocols, and training of the healthcare providers to treat with patient aggressive behavior.

Regarding the nature of aggressive behavior, a study of Schablon *et al.* (2018) has conducted toward reflecting the frequency and nature of violence and the handling of aggressive behavior by facility management. The study was a cross-sectional study, included 81 healthcare facilities, within 1984 participants of healthcare centers employees. The study used the questionnaire toward gathering the needed information, which consists of demographic information, and the frequency of physical violence and verbal abuse, consequences of violence. The shows that 94.1% of the employees experienced verbal abuse, as well 69.8% experienced physical aggression. In addition, acts of aggression were most commonly encountered in hospitals and residential facilities for the disabled. In addition to one third of employees suffered from stress as a result of the incidents. The study

recommends the awareness raising is a good solution for this problem, and to encourage healthcare facilities management, to report the actual aggressive behaviors.

Although, Partridge & Affleck (2018) conducted a study aimed to evaluate the statistical utility of the Brøset Violence Checklist (BVC), when administered by a security officer in a hospital emergency department (ED). The BVC is a six item checklist that rates patients according to their risk of violence. The study used BVC assessment a main method of measuring the aggressive behavior of patients, in the public hospital in South East Queensland, Australia, during two months. The study shows 2064 patients assessed on the BVC and 35 patients committed an aggressive behavior.

However, an estimation and comparison of the prevalence of patient aggression and the associations between patient aggression and the wellbeing of nurses in psychiatric and non-psychiatric specialties (medical and surgical, and emergency medicine), has been conducted by Pekurinen *et al.* (2017). The study sample consisted of 5288 nurses (923 psychiatric nurses, 4070 medical and surgical nurses, 295 emergency nurses). The variables used to assess both the occurrence of patient aggression and the wellbeing of nurses (self-rated health, sleep disturbances, psychological distress and perceived work ability). Results showed that Psychiatric nurses reported all types of patient aggression more frequently than medical and surgical nurses, whereas nurses working in emergency settings reported physical violence and verbal aggression more frequently than psychiatric nurses.

In addition, Campbell *et al.* (2015) conducted a study to systematically reviewing the existing instruments designed to measure and report incidents of patient aggressiveness against health care providers. The review of the existing literatures and instruments has been conducted among the last 20 years, since 1994 to 2014. The results of the study showed that the problem of patient violence towards health care providers is acknowledged by national and international health care

organizations as a serious workplace issue and one that requires a standardized and comprehensive response. The review conducted, confirms that the data collection about patient aggressiveness towards health care providers is damaged by the lack of standardized measures of patient aggressiveness. The study recommended that there is a need for federal-level response to increase routine and valid data collection on the problem of patient aggressiveness. In addition, to more researches are needed in order to affirm and follow up with way of which patient initiated with aggressiveness, and how this affects the healthcare providers.

To sum up, after reviewing literatures related to the subject of the study, we can conclude that literatures focused on assessing the prevalence and types of patients aggressive behaviors against healthcare providers, in addition to the risk factors associated with patients aggressive behaviors. Moreover, literatures differed among the methodology used toward conducting the researches, some used interviews and content analysis, and the others used the questionnaire and scales toward assessing the prevalence of patients' aggressive behaviors against health care providers.

To create effective and efficient interventions to address this public affairs issue, as well as to start developing policies and effective and efficient procedures to increase reporting and prevent such occurrences, accurate information on the prevalence and factors contributing to patient violence and aggression is required. The selection of valid and trustworthy monitoring and reporting technologies for healthcare practitioners currently lacks a solid evidence base. As a result, the objective of this paper is to fill this vacuum in the literature by making a systematic evaluation of the incident reporting systems and measures that are currently in use.

In order to build methods for incident reporting of patient violent and aggressive behaviors toward healthcare providers and to develop future violence prevention programs and policies to improve healthcare workers' safety, it will give researchers and policy makers an evidence-based foundation.

While, the current study will use the descriptive analysis approach, by using the questionnaire as the main data collection from the healthcare providers in order to describe the prevalence of patients' aggressive behaviors. The questionnaire will consist of fields that are related to the patients' aggressive behaviors, within a scale of assessing the aggressive behaviors by patients against healthcare providers at hospitals in Bethlehem and Hebron districts. The current study will be an extension of these studies and its recommendations.

11. Methods And Design

11.1 Approach

The study uses a quantitative approach, using a questionnaire, which is appropriate to the exploratory nature of the research.

11.2 Population and Sampling

The target population consists of health care providers in Hebron and Bethlehem Governorates, in the West Bank during 2022, which includes 8968 persons; the population is comprised of 5403 males and 3565 females, as indicated in table no. 3.1 (Palestinian Central Bureau of Statistics, 2022).

Three hundred sixty-eight health care providers were stratifiedly selected, based on gender and Governorate. The sample population consists of health care providers working in Hebron and Bethlehem Governorates at the time of the survey. The sample size was calculated using the sampling web of http://www.surveysystem.com/sscalc.htm, sample size calculator, with a margin error of 0.05. The needed participations were selected randomly using the SPSS.

11.3 Instrumentation

The index of a 30-item scale was used to measure the patient aggressive behavior toward HealthCare Providers as perceived by HealthCare Providers, that was developed by the research team, based on Cheung *et al.* (2018) scale, taking into consideration the cultural appropriateness in the Palestinian society. A 5-point Likert scale (ranging from very often to never) was used to measure responses. The survey was conducted through face-to-face interviews in Hebron and Bethlehem Governorates, in the West Bank. The sampling survey instrument sought background information about participants' which included age, gender, professional experience, qualification, work shift, division, profession, and authority.

11.3.1 Instrument Validity

Validation of the instrument proceeded in two distinct phases. The initial phase involved a group of referees and expert arbitrators, who provided some comments on the tool. The second phase involved the implementation of a pilot study (N=20) to validate the survey using exploratory factor analysis. Factor loading for all items exceeded 0.60 (0.62 to 0.89), which means that those items are suitable in measuring every item of the patient aggressive behavior toward HealthCare Providers, as indicated in table no. 3.10.

11.3.2 Instrument Reliability

The reliability was tested using Cronbach's Alpha and Guttman Split-Half Coefficients to ascertain reliability and consistency of the survey. Cronbach's Alpha and Guttman Split-Half for the survey instrument was 0.95 and 0.93, respectively, indicating excellent reliability and consistency, as indicated in table no. 3.11.

11.4 Sample Socio-demographic Characteristics

The demographic breakdown of the participants was based on age, gender, professional experience, qualification, work shift, division, profession, and authority. In total, three hundred sixty-eight health care providers were conducted. Respondents were between 20 and 57 years of age (M 30.38, SD 7.04). Males represented 60.3% of the participants, while the remaining 39.7% were females; almost 94.3% of the participants were well-educated (Bachelor or above). Non-Governmental participants represented 56.5%, while the remaining 43.5% were governmental employees; the majority were nurses (78.0%); and their professional experience was between 1 and 36 years (M 6.26, SD 5.54). Nearly (41.8%) of the participants working in A shift, in difference divisions as follows, Medical (30.7%), ICU (20.9%), Surgical (19.6%), Emergency (13.9%), and Circulating (14.9%), as indicated in tables' no. 3.2-3.9.

11.5 Data Analysis

The questionnaire items were rated on a 1–5 Likert scale (1=Strongly Disagree to 5=Strongly Agee), the highest score indicates a high level of patient aggressive behavior toward HealthCare Providers. Descriptive statistics gauged prevalence of patient aggressive behavior among the sampled population using the following mean key (1-2.33=Low, 2.34-3.67=Moderate, 3.68-5=High).

Additionally, the following statistical techniques were measured: Regression, T test, One-way analysis of variance, Tukey test, Cronbach's Alpha, Guttman Split-Half Coefficient and Factor Analysis using SPSS.

12. Findings

12.1 Prevalence Of Patient Aggressive Behavior Toward HealthCare Providers

The mean score of patient aggressive behavior toward HealthCare Providers as reported by the sample of three hundred sixty-eight participants was high (M 3.85, SD 0.61). Almost of the participants (77%) scored a high level of patient aggressive behavior toward them, as indicated in table no. 4.1.

12.2 Risk Factors Of Patient Aggressive Behavior Toward HealthCare Providers

Furthermore, findings revealed the risk factors of patient aggressive behavior toward HealthCare Providers ranked in a descending order as follows, “Pain experienced by a patient” (M 4.02, SD 0.80); “Situations of physical and emotional distress of a patient” (M 4.01, SD 0.80). “Gender differences (a nurse and a patient are of the opposite sex)” (M 3.94, SD 1.05); “Equipment hazards in healthcare environment (furniture or objects that can be used as a “weapon”, e.g. Vases, paintings, thermos)” (M 3.92, SD 1.05), and “Loss experienced by a patient (e.g. Loss of positive future prospects, body image disturbance, body function changes)” (M 3.90, SD 0.90).

Furthermore, HealthCare Providers added the following risk factors of the patient aggressive behaviors toward them, that are, “Primary medical diagnosis of a patient” (M 3.89, SD 0.83); “Intervention/treatment possibly causing metabolic changes (e.g. Surgery, anesthesia)” (M 3.89, SD 0.97), “Aggression and violence as social learned behavior of a patient (i.e. The established way of solving problems)” (M 3.89, SD 0.91); “Fear, concerns or psychological strain experienced by a patient (e.g. The fear of diagnostic tests results, the fear of surgery; the need to participate in treatment decision-making)” (M 3.89, SD 0.87); and “Open access nurse stations (reception-type stations with a counter, designed as open-spaced and semi-private)” (M 3.88, SD 0.93), as indicated in table no. 4.2.

12.3 Differences In Prevalence Of Patient Aggressive Behavior Toward HealthCare Providers According To The Demographic Breakdown

Furthermore, the study explored the demographic breakdown over prevalence of patient aggressive behavior toward HealthCare Providers with the aim of identifying any differences. Findings showed that gender, work shift, and division do not show any significant differences, as indicated in tables' no. 4.3, 4.8-4.9, 4.10-4.11. However, it was found that authority, qualification, profession, age, and professional experience were significant variables, as indicated in tables' no. 4.4, 4.5-4.7, 4.12-4.15.

In relation to authority, the differences were in favor of the Non-Governmental participants (M 3.95, SD 0.52), compared to (M 3.72, SD 0.68) for the Governmental participants: T-test value was (-3.510, P=0.001), as indicated in table no. 4.4. As for qualification, the differences favored the well-educated participants (Master or above) (M 4.05, SD 0.60): F-value was (6.783, P=0.001), as indicated in tables no. 4.5-4.7.

In terms of profession, the differences favored the doctors (M 4.12, SD 0.57): F-value was (10.222, P=0.000), as indicated in tables no. 4.12-4.14.

Finally, findings indicated that there is a statistically significant positive correlation between the age and the prevalence of patient aggressive behavior toward HealthCare Providers, Beta-value was (0.602, P=0.000), however, a statistically significant inverse correlation was found between professional experience and the prevalence of patient aggressive behavior toward HealthCare Providers, Beta-value was (-0.477, P=0.000), as indicated in table no. 4.15.

13. Discussion And Recommendations

13.1 Discussion

The study revealed that patient aggressive behavior toward HealthCare Providers as reported by the sample of three hundred sixty-eight participants was high. This means that healthcare providers

facing high prevalence of patient aggressive behavior. This might be because of the high workload on the healthcare providers specially in the governmental hospitals, which agreed with the study of Ayhan *et al.* (2021). In addition, the quality of healthcare services in Palestine might be less than other countries, and the rate of patients for each healthcare provider is high, which means that the healthcare provider provides services for number of patients in the same time.

Furthermore, findings showed the indicators (Risk Factors) of patient aggressive behavior toward HealthCare Providers such as; pain experienced by a patient (M 4.02, SD 0.80), which might be a reason for patient aggressive behavior, in addition to situations of physical and emotional distress of a patient (M 4.01, SD 0.80). This can be related to that the patient come to hospital with pain and physical and emotional distress as result of his/her pain, and the patient might be afraid from the result of his/her health status, which might be a reason for patient aggressive behavior. Other indicators of patient aggressive behavior can be shown in gender differences (a nurse and a patient are of the opposite sex), because females might face harassment by patients, and males might face violence and incidents by patients. Those results are agreed with the study of Caruso *et al.* (2021); and the study of Schablon *et al.* (2018).

However, findings showed that gender, work shift, and division do not show any significant differences; the result of gender is agreed with the study of Schablon *et al.* (2018) and disagreed with the study of Viottini *et al.* (2020). Whereas, the study found that authority variable has significant differences in favor of the Non-Governmental participants. Thus, we can relate this result to the expensive healthcare services in non-governmental hospitals compared with governmental hospitals, and the non-governmental hospitals might not have sufficient security (guards) as the governmental hospitals, this agreed with the study of Niu *et al.* (2018), in addition in governmental

hospitals the healthcare provider must succeed the employment government exam, while in the non-government hospitals healthcare providers hired without doing that exam.

Moreover, qualification variable shows significant differences favored the well-educated participants (Master or above), this result agreed with the results of Välimäki *et al.* (2022) study. We can relate this result to that the healthcare providers who hold a master degree or above, are the in-front providers of services for patients. In addition, those providers might occupy administrative or medical positions, where high number of patients or their relatives deal with them for healthcare services. In term of profession, the differences favored for the doctors, and this is normal because doctors are the first healthcare providers who communicate with patients. It is worth to mention here that the rate of patients for doctors in Palestine is high. This result agreed with the study of Li *et al.* (2020).

In addition, findings indicated that there is a statistically significant positive correlation between the age and the prevalence of patient aggressive behavior toward HealthCare Providers, this might be because the old age healthcare providers feel boring from the profession, in addition to the high number of tasks that aged healthcare providers implement. However, the study shows a statistically significant inverse correlation between professional experience and the prevalence of patient aggressive behavior toward HealthCare Providers, which is normal as we notice, because experience relate to empathy, quality, and responsibility, which means that healthcare providers with long professional experience are able to absorb the nervous and aggression of patients more than healthcare providers who have less professional experience.

Finally, the study's results also revealed that gender, work shift, and division do not indicate any significant differences over the prevalence of patient aggressive behavior toward HealthCare Providers. This indicates that the prevalence of patient aggressive behavior toward HealthCare

Providers are not very much influenced by these variables and are more likely to be affected by factors other than gender, work shift, and division.

13.2 Recommendations

The results of the study showed that healthcare providers in Bethlehem and Hebron districts suffer from high prevalence of patients aggressive behavior, which would lead to decrease the quality of healthcare system, and may affect negatively the results of treatment. Thus, the study recommends the following:

1. Empowerment of the healthcare providers and employees at the healthcare sector, toward treating effectively with the patient aggressive behavior.
2. Conducting frequent workshops combine healthcare providers and patients, which aim to provide the effective communication skills and absorbing skills for any patient aggressive behavior.
3. Conducting code of ethics and laws for controlling the patient aggressive behavior against healthcare providers.
4. Enhancing the security and guarding tools in the hospitals.
5. Conducting frequent studies and assessments for the patient aggressive behavior in the Palestinian hospitals (governmental and non-governmental hospitals), in order to monitor the prevalence of aggressive behavior, and taking actions toward mitigating this phenomenon.

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15. Appendixes

Table no. (3.1). Distribution of the study population and sample by governorate and gender

Governorate	Gender	Population	Sample
Bethlehem	Males	1540	63
	Females	1385	57
Hebron	Males	3863	159
	Females	2180	89

Total	8968	368

Table no. (3.2). Sample distribution by gender

Gender	N	Percent %
Male	222	60.3
Female	146	39.7
Total	368	100

Table no. (3.3). Sample distribution by qualification

Qualification	*N*	*Percent %*
Diploma or below	*21*	*5.7*
Bachelor	*280*	*76.1*
Master or above	*67*	*18.2*
Total	*368*	*100*

Table no. (3.4). Sample distribution by work shift

Work shift	N	Percent %
A	154	41.8
B	129	35.1

C	85	23.1
Total	368	100

Table no. (3.5). Sample distribution by division

Division	N	Percent %
Circulating	55	14.9
Medical	113	30.7
Surgical	72	19.6
ICU	77	20.9
Emergency	51	13.9
Total	368	100

Table no. (3.6). Sample distribution by profession

Profession	N	Percent %
Doctor	70	19.0
Nurse	287	78.0
Administrative	11	3.0
Total	368	100

Table no. (3.7). Sample distribution by authority

Authority	N	Percent %
Governmental	160	43.5
Non-Governmental	208	56.5

Total	368	100

Table no. (3.8). Sample distribution by age

Variable	N	Min.	Max.	Mean	Std. Deviation
Age	368	20	57	30.38	7.04

Table no. (3.9). Sample distribution by professional experience

Variable	N	Min.	Max.	Mean	Std. Deviation
Professional experience	368	1	36	6.26	5.54

Table no. (3.10). Factor analysis of patient aggressive behavior scale toward HealthCare Providers

No.	Items	Extraction
1.	Gender differences (a nurse and a patient are of the opposite sex)	0.68
2.	Pain experienced by a patient	0.65
3.	Situations of physical and emotional distress of a patient	0.64
4.	Unmet patient needs (frustration)	0.67
5.	Intervention/treatment possibly causing metabolic changes (e.g. Surgery, anesthesia)	0.62
6.	Loss experienced by a patient (e.g. Loss of positive future prospects, body image disturbance, body function changes)	0.89
7.	Fear, concerns or psychological strain experienced by a patient (e.g. The fear of diagnostic tests results, the fear of surgery; the need to participate in treatment decision-making)	0.62
8.	Lack of privacy (physical environment, personal and territorial space)	0.65
9.	Long waits (waiting too long for an examination / intervention, in waiting room or at the emergency)	0.65
10.	Long-term hospital stay	0.68
11.	Personality of a nurse	0.64
12.	Belittling the feeling of the patient	0.67
13.	Confrontational behavior / statements of a nurse	0.65

14.	Failure of a nurse in dealing with conflict	0.69
15.	Giving false reassurance	0.69
16.	Paternalistic nurse – patient relationship (taking decisions instead of a patient; "dictatorial behavior of a nurse")	0.62
17.	Clinical incompetence of a nurse (lack of clinical skills, failure to recognize the needs and solve the problems of a patient)	0.65
18.	"Too busy" nurse	0.62
19.	Lack of communication skills (Listening, broad opening, eye-contact, respect, sharing empathy, ignorance, sharing suggestions, sharing perceptions, etc.)	0.87
20.	Isolated work of a nurse (only one nurse on a shift)	0.66
21.	Multiple shifts job of a nurse	0.64
22.	Large number of shifts for a nurse (in a row, without free time)	0.85
23.	Aggression and violence as social learned behavior of a patient (i.e. The established way of solving problems)	0.65
24.	A patient's alcohol and drug abuse	0.63
25.	Primary medical diagnosis of a patient	0.67
26.	Mental health problems / mental disorder of a patient	0.65
27.	Closed nurse stations (barrier-based nurse rooms with glass window / wall and a door – usually with just one exit)	0.69
28.	Open access nurse stations (reception-type stations with a counter, designed as open-spaced and semi-private)	0.64
29.	"Blind" spaces in healthcare environment (e.g. Poorly lighted, dark narrow corridors or lifts)	0.63
30.	Equipment hazards in healthcare environment (furniture or objects that can be used as a "weapon", e.g. Vases, paintings, thermos)	0.68

Table no. (3.11). Reliability of patient aggressive behavior scale toward HealthCare Providers

Model	No. of items	Alpha
Cronbach's Alpha	30	0.95
Guttman Split-Half	30	0.93

Table no. (4.1). Number, mean, standard deviation, and percentage of the patient aggressive behavior prevalence toward HealthCare Providers

Variable	N	Mean*	Std. Deviation	Percent %
Patient aggressive behavior prevalence total score	368	3.85	0.61	77.0

***Mean out of 5 points.**

Table no. (**4.2**). **Mean scores, standard deviation, and percentage for the risk factors of patient aggressive behavior toward HealthCare Providers ranked in a descending order**

Indicators of patient aggressive behavior toward HealthCare Providers	Mean*	Std. Deviation	Percent %
Pain experienced by a patient	4.02	0.80	80.4
Situations of physical and emotional distress of a patient	4.01	0.80	80.2
Gender differences (a nurse and a patient are of the opposite sex)	3.94	1.05	78.8
Equipment hazards in healthcare environment (furniture or objects that can be used as a "weapon", e.g. Vases, paintings, thermos)	3.92	1.05	78.4
Loss experienced by a patient (e.g. Loss of positive future prospects, body image disturbance, body function changes)	3.90	0.90	78
Primary medical diagnosis of a patient	3.89	0.83	77.8
Intervention/treatment possibly causing metabolic changes (e.g. Surgery, anesthesia)	3.89	0.97	77.8
Aggression and violence as social learned behavior of a patient (i.e. The established way of solving problems)	3.89	0.91	77.8

Fear, concerns or psychological strain experienced by a patient (e.g. The fear of diagnostic tests results, the fear of surgery; the need to participate in treatment decision-making)	3.89	0.87	77.8
Open access nurse stations (reception-type stations with a counter, designed as open-spaced and semi-private)	3.88	0.93	77.6
"Blind" spaces in healthcare environment (e.g. Poorly lighted, dark narrow corridors or lifts)	3.88	0.97	77.6
Large number of shifts for a nurse (in a row, without free time)	3.88	0.96	77.6
Mental health problems / mental disorder of a patient	3.87	0.97	77.4
Lack of communication skills (Listening, broad opening, eye-contact, respect, sharing empathy, ignorance, sharing suggestions, sharing perceptions, etc.)	3.87	0.95	77.4
Paternalistic nurse – patient relationship (taking decisions instead of a patient; "dictatorial behavior of a nurse")	3.86	0.98	77.2
Multiple shifts job of a nurse	3.85	1.01	77
Lack of privacy (in terms of physical environment, personal and territorial space)	3.85	0.97	77
A patient's alcohol and drug abuse	3.84	1.02	76.8
Clinical incompetence of a nurse (lack of clinical skills, failure to recognize the needs and solve the problems of a patient)	3.84	0.99	76.8
Long waits (waiting too long for an examination / intervention, in waiting room or at the emergency)	3.83	0.97	76.6
Personality of a nurse	3.82	0.88	76.4
"Too busy" nurse	3.80	0.91	76
Giving false reassurance	3.79	0.95	75.8
Isolated work of a nurse (only one nurse on a shift)	3.79	1.05	75.8
Confrontational behavior / statements of a nurse	3.77	0.90	75.4
Unmet patient needs (frustration)	3.77	0.88	75.4

Belittling the feeling of the patient	3.76	0.91	75.2
Long-term hospital stay	3.75	0.94	75
Closed nurse stations (barrier-based nurse rooms with glass window / wall and a door – usually with just one exit)	3.74	1.00	74.8
Failure of a nurse in dealing with conflict	3.71	1.02	74.2
Total	3.85	0.61	77.0

***Mean out of 5 points.**

Table no. (4.3). T-test for the differences in the patient aggressive behavior prevalence toward HealthCare Providers according to gender

Gender	N	Mean*	Std. Deviation	DF	T-value	Sig.
Male	222	3.89	0.56	366	1.693	0.092
Female	146	3.78	0.67			
Total	368	3.85	0.61			

***Mean out of 5 points.**

Table no. (4.4). T-test for the differences in the patient aggressive behavior prevalence toward HealthCare Providers according to authority

Authority	N	Mean*	Std. Deviation	DF	T-value	Sig.
Governmental	160	3.72	0.68	366	-3.510	0.001
Non-Governmental	208	3.95	0.52			
Total	368	3.85	0.61			

***Mean out of 5 points.**

Table no. (4.5). One-way analysis of variance for the differences in the patient aggressive behavior prevalence toward HealthCare Providers according to qualification

Source	DF	Sum of squares	Mean square	F-value	Sig.
Between groups	2	4.916	2.458		

Within groups	365	132.268	0.362	6.783	0.001
Total	367	137.184	-----		

Table no. (4.6). Tukey test for the differences in the patient aggressive behavior prevalence toward HealthCare Providers according to qualification

Qualification	Diploma or below	Bachelor	Master or above
Diploma or below		-0.29016	-0.51424*
Bachelor			-0.22408*
Master or above			

Table no. (4.7). Mean scores and standard deviation for the patient aggressive behavior prevalence toward HealthCare Providers according to qualification

Qualification	N	Mean*	Std. Deviation
Diploma or below	21	3.53	0.50
Bachelor	280	3.82	0.60
Master or above	67	4.05	0.60
Total	368	3.85	0.61

***Mean out of 5 points.**

Table no. (4.8). One-way analysis of variance for the differences in the patient aggressive behavior prevalence toward HealthCare Providers according to work shift

Source	DF	Sum of squares	Mean square	F-value	Sig.
Between groups	2	2.018	1.009	2.724	0.067
Within groups	365	135.167	0.370		
Total	367	137.184	-----		

Table no. (4.9). Mean scores and standard deviation for the patient aggressive behavior prevalence toward HealthCare Providers according to work shift

Work shift	N	Mean*	Std. Deviation
A	154	3.78	0.62

B	129	3.85	0.65
C	85	3.97	0.49
Total	368	3.85	0.61

***Mean out of 5 points.**

Table no. (4.10). One-way analysis of variance for the differences in the patient aggressive behavior prevalence toward HealthCare Providers according to division

Source	DF	Sum of squares	Mean square	F-value	Sig.
Between groups	4	1.496	0.374	1.001	0.407
Within groups	363	135.688	0.374		
Total	367	137.184	-----		

Table no. (4.11). Mean scores and standard deviation for the patient aggressive behavior prevalence toward HealthCare Providers according to division

Division	N	Mean*	Std. Deviation
Circulating	55	3.96	0.53
Medical	113	3.77	0.64
Surgical	72	3.89	0.53
ICU	77	3.86	0.69
Emergency	51	3.82	0.56
Total	368	3.85	0.61

***Mean out of 5 points.**

Table no. (4.12). One-way analysis of variance for the differences in the patient aggressive behavior prevalence toward HealthCare Providers according to profession

Source	DF	Sum of squares	Mean square	F-value	Sig.
Between groups	2	7.276	3.638	10.222	0.000
Within groups	365	129.908	0.356		
Total	367	137.184	-----		

Table no. (4.13). Tukey test for the differences in the patient aggressive behavior prevalence toward HealthCare Providers according to profession

Profession	Doctor	Nurse	Administrative
Doctor		0.34512*	0.04567
Nurse			-0.29945
Administrative			

Table no. (4.14). Mean scores and standard deviation for the patient aggressive behavior prevalence toward HealthCare Providers according to profession

Profession	N	Mean*	Std. Deviation
Doctor	70	4.12	0.57
Nurse	287	3.77	0.59
Administrative	11	4.07	0.79
Total	368	3.85	0.61

***Mean out of 5 points.**

Table no. (4.15). Regression coefficients between age, professional experience and the patient aggressive behavior prevalence toward HealthCare Providers

Variables	N	Beta	Sig.
Age	368	0.602	0.000
Professional experience	368	-0.477	0.000

R Square=0.100

CONFLICTS OF INTEREST

The authors declare no conflicts of interest regarding the publication of this paper.

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