

## Factors Affecting Aggressive Behavior among Patients with Schizophrenia

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### Abstract

**Background:** Acts of violence and aggression committed by patients with schizophrenia is a major public health concern affecting patients, their families, treating clinicians as well as the community at large. **The aim of the study:** was to assess factors affecting aggressive behavior among patients with schizophrenia. Descriptive design was used to achieve the aim of this study. **Setting:** El-Abbasia Mental Health Hospital. **Subject:** A convenience sample of 135 patients who were hospitalized at above mentioned setting. **Tools:** Data were collected using structured interview questionnaire tools, first tool was consisted of two parts to assess socio-demographic, clinical characteristics and second tool was to assess factors affecting aggressive behavior among patients with schizophrenia. **Results:** Majority of studied patients experience aggressive behavior inside the hospital, verbal aggression was the most common form of aggression inside the hospital, less than three fifth of patients with aggressive behavior was affected by moderate risk of static factors, less than three fifth of studied patients was affected by moderate risk of clinical and dynamic factors. Two third of patients with aggressive behavior was affected by mild risk of health team related factors and moderate risk of unit and environmental related factors. **Conclusion:** All the patients with schizophrenia understudy engaged in aggressive behaviors in the hospital at least twice and the most common type of aggressive behavior among them was verbal aggression .There are several factors that can affect and contribute to aggressive behavior among patients with schizophrenia including static factors, clinical and dynamic factors, health team related factors, unit and environmental related factors. **Recommendations:** This study recommended that the necessity for training staff nurse to deal with aggressive behaviors and to know when and how the use of coercive interventions, which might reduce recourse to seclusion and restraints.

**Key Words:** Schizophrenia, Violence and aggression.

### Introduction

Schizophrenia is a chronic and severe mental disorder that affects a person's thoughts, feelings, and behaviors. This disorder affects a person's perception of reality, social interactions, and thought processes. Symptoms of schizophrenia include hallucinations which may be visual or auditory, delusions, cognitive impairment manifesting as an unusual way of thinking or disorganized speech, and difficulty in social relationships. Schizophrenia affects 20 million people worldwide and commonly starts earlier among men. Schizophrenia is associated with

considerable disability and may affect educational and occupational performance. People with schizophrenia are 2 - 3 times more likely to die early than the general population. (World Health Organization, 2019).

Aggression is the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that resulting in injury, death, psychological harm, mal-development, or deprivation. Aggression is a serious problem on psychiatric wards and has large consequences for patients as well as staff working in mental healthcare.

Aggressive behavior is an important reason to seclude or restrain a patient and can take many forms (verbal aggression, object aggression, self-aggression, and physical aggression).( **Weltens et al.,2021**).

Patients with schizophrenia have a higher rate of aggressive behavior than the general population. Patients defined as aggressive if they exercised physical force or exhibited hostile or spiritually destructive attitude or behavior including verbal or physical aggression, auto-aggression, or aggression against others. Aggressive behavior is associated with clinical factors such as (positive symptoms and incomplete adherence to medication), as well as social factors such as (having physical disease and being unmarried) (**Wu et al., 2018**).

The major factors for aggression in psychiatric settings including internal factors as psychiatric diagnosis, socio-demographic factors, history of aggressions, history of childhood abuse or neglect and drug abuse , external factors as poor staff-patient interaction, high patient-nurse ratios, overcrowding in the ward , involuntary examinations and lack of care for the patient.( **Caruso et al., 2021**)

The role of the nurse is effective in aggression management and fundamental to delivering high-quality inpatient care. Practice parameters for managing aggression in in-patient units suggest that prevention strategies can help patients develop skills to cope with distress and conflict. These strategies reinforce the importance of baseline assessment with identification of triggers, individualized treatment planning, anger management where appropriate, staff training, and promotion of the use of least restrictive interventions. An organizational approach to reducing aggression involving staff training, interdisciplinary collaboration, improvement of physical environment,

consistent ward activities (**Dean et al., 2007**).

### **Significance of the study**

Schizophrenia is a complex, chronic mental health disorder characterized by an array of symptoms, including delusions, hallucinations, disorganized speech or behavior, and impaired cognitive ability (**Patel et al., 2014**). Aggressive behavior is a common problem in acute psychiatric inpatient units and can put both the healthcare provider and patient at risk. It is estimated that between 8%-44% of patients practicing aggressive behavior during their stay on psychiatric inpatient units which vary widely and 10%-30% of hospitalized psychiatric patients have engaged in violence prior to admission (**Olupona et al., 2017**).

Aggressive behavior may threaten the safety of staff and patients and can compromise the therapeutic milieu of the inpatient unit (**Dean et al., 2007**). In clinical psychiatric care, aggressive behavior is a critical issue. It might lead to physical injury, disability or death of the attacker. It might also cause adverse psychological and emotional effects on clinical caregivers and their work efficiency and quality (**Wang et al., 2019**). There fore, it's important to assess factors affecting aggressive behavior among patients with schizophrenia as a way to prevent and manage aggressive behavior and maintain optimal quality of care for patients with schizophrenia.

### **Aim of the study**

#### **The study aims to:**

Assess the factors affecting aggressive behavior among patients with schizophrenia.

**Research Question:**

What are the factors affecting aggressive behavior among patients with schizophrenia?

**subjects and methods****I. Technical design:**

The technical design for this study includes the research design, setting, subjects of the study and the tools of data collection.

**Research Design:**

A descriptive design was utilized to achieve the aim of this study.

**Setting:**

The study was conducted in inpatient unit of El Abbasia Mental Health Hospital in Cairo. It is a government psychiatric hospital that provides in-patient services for both female and male inpatients. The hospital's capacity of around 2000 beds and also offers outpatient services to psychiatric patients.

**Subjects of the Study:****Sample size:**

The sample size was 135 patients. It have been determined according to the research equation

$$(N = \frac{z^2 X p (1-p)}{n2})$$

**Type of sample:**

A convenience sample of patients with Schizophrenia from El-Abbasia Mental Health Hospital. They were selected according to the following:

**Inclusion criteria:**

- Male sex.
- Patients with schizophrenia free from medical illness.

- Adult patients diagnosed with schizophrenia.
- Patients engaged in aggressive behavior more than one time during his period of hospitalization.

**Exclusion criteria:**

The patients who have other psychiatric disorder.

**Data Collection Tool:**

Data were collected using the following:

**I-** Interview questionnaire tool consisted of two parts:

**Part A:** socio-demographic characteristics of the studied patients, such as age and gender, educational level, marital status, occupation, place of residence, number of family member, family history of violent behavior .....etc.

**Part B:** clinical characteristics and history of the studied patients such as schizophrenic subtype, mode of admission, length of hospitalization, smoking, history of substance abuse, a past history of violence prior to entering the hospital and a history of committing violence inside the hospital, as well as the number and type of violence committed .....etc.

**II:** Interview questionnaire tool for factors affecting aggressive behavior among patients with schizophrenia. It was developed by **Shams-allden (2016)**, and modified by the researcher to assess factors affecting aggressive behavior among patients with schizophrenia and consisted of (47 items) divided into 4 subscales as:

• **Static factors** : 14 items such as committing violence at an earlier age , exposure to physical abuse in childhood , any problems between patient and his family led to violence, any problems during the study period ...etc.

• **Clinical and dynamic factors** : 9 items such as patient insight of his disease , hearing any voices that order the patient to make an aggressive things , seeing things that push the patient to violence.... etc.

• **Health team related factors** : 14 items such as listening of health team to patient when he needed , giving the patient the information if he want about his condition , isolating the patient in single room , suffering from carelessness and delaying in providing medical care..etc.

• **Unit and environmental factors:** 10 items such as crowding, noise , poor ventilation and lack of cleanliness in the ward , availability of privacy for the patient , availability of daily supplies of drugs or meals....etc.

❖ **Scoring system:**

Interview questionnaire sheet to assess factors affecting aggressive behavior among patients with schizophrenia .It consists 47 items , each items has a set of three levels , Yes , No , and Sometimes .The items "Yes" take score 2 ,the items " Sometimes" take score 1,and the items "No" take score 0.

**These classifications are as the following:**

(1) The total mean score for static factors ranged as the following:

- No risk (0)
- Mild risk (1-14)
- Moderate risk (14.1-21)
- Sever risk (21.1-28).

(2) The total mean score for clinical and dynamic factors ranged as the following:

- No risk (0),
- Mild risk (1-8)
- Moderate risk (8.1-13.5).
- Sever risk (13.6-18).

(3) The total mean score for health team factors ranged as the following:

- No risk (0)
- Mild risk (1-14)
- Moderate risk (14.1-21)
- Sever risk (21.1-28).

(4) The total mean score for unit and environmental factors ranged as the following:

- No risk (0)
- Mild risk (1-10)
- Moderate risk (10.1-15)
- Sever risk (15.1-20).

## **II-Operational Design:**

It includes the preparatory phase, pilot study and field work.

### **A) The preparatory phase:**

This phase involved a review of related literature and also theoretical knowledge of several aspects of the study using books, articles, internet periodicals, and magazines to gain a clear picture of all aspects of the research topic.

### **B) Ethical considerations:**

All subjects were informed that participation in the study was entirely voluntary before it began. Subjects were told that the information gathered from the questionnaires would be kept private and that no personal identification would be required in any way. Patients were informed that the tool's content would only be used for research purposes and that they could refuse or withdraw from the study at any times.

### **C) A pilot study:**

Before beginning field work, a pilot study was conducted to ensure that the tools were clear and feasible, as well as to estimate the time required to fulfill the tool items. It was conducted on a sample of 14 schizophrenic patients who were included in the main study sample. El-Abbasia Mental Health Hospital was the source of these patients.

**D) Field work:**

- After receiving official approval to perform the study from the manager of El-Abbasia Mental Health Hospital. The researcher began collecting data by introducing himself to the patient and giving them a brief explanation of the study's goal.
- The data was gathered by interviewing the patient in the hospital. Each interview was 20 to 30 minutes long.
- The data gathering was performed between October 2019 and January 2020. From 9.00 a.m. to 3:00 p.m., the researcher visited the selected units three times every week (Saturday, Tuesday, and Thursday).

**III. Administrative design:**

El-Abbasia Mental Health Hospital received an official letter from the Dean of the Faculty of Nursing asking authorization to perform the study. To obtain permission and assistance for data collection, this letter includes the study's aim and a copy of the data collection tool.

**IV. Statistical design:****Results**

**Table (1):** shows that all (100%) of the patients with schizophrenia in the study were men. In terms of age, it was found that (38.5%) of them were between the ages of 20 and 29. When it came to marital status, (77%) of them were single. In relation to, the educational level of those patients, this table reveals that almost (37.8%) secondary education. and (61.4%) of patients resided in urban. This table reveals that more than half of studied patients had family members of three to six individuals, and (57.8%) of them had no family history of aggressive behaviors, also this table show that

Using the computer programmes SPSS (Statistical Package for the Social Science), data analysis was performed, and acquired data was structured, coded, computerized, and tabulated. For qualitative variables, descriptive statistics in the form of frequencies and percentages were used, while for quantitative data, mean was used. A statistically significant value was considered at ( $p \leq 0.05$ ), A highly statistically significant value was considered at ( $p \leq 0.001$ ), while ( $p > 0.05$ ) indicate no statistically significant.

**Limitations of the study:**

This study had no limitations; however it did have some challenges:

- Dealing with subjects was difficult; after promising confidentiality, several of them declined to participate in the study.
- Some patients withdrew during the interview after answering a few questions and refusing to complete the questionnaire, while others withdrew after answering a few questions and went on to talk about something else (91.1%) of patients' father and mother aren't blood relatives.

**Table (2):** shows that there is a highly statistically significant correlation between environmental factors and health team related factors among patients with schizophrenia under study, and there is statistical significant correlation between static factors and health team related factors among patients with schizophrenia under study.

**Figure (1) :** show that less than three fifth (58.5%) of the patients with aggressive behavior was affected by moderate risk of static factors, more

than one third (37.5%) was affected by mild risk of static factors and only (3.7%) was affected by severe risk of static factors .

**Figure (2):** illustrates that more than two-thirds (69.6%) of the patients with aggressive behavior was affected by mild risk of health team -related factors, while less than one-third (30.4%) of the

patients was affected by moderate Risk of health team-related factors.

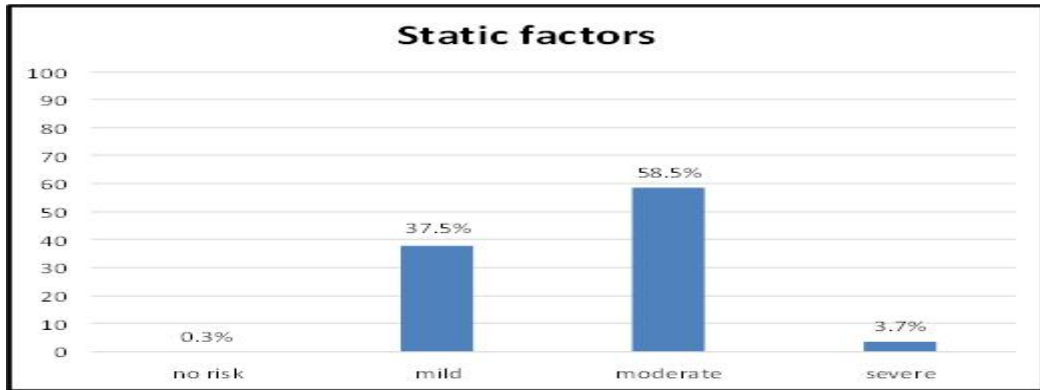
**Figure (3):** shows that about one third (32.6%) of the patients with aggressive behavior was affected by mild risk of unit and environment related factors, followed by more than two-thirds (67.4%) of the patients was affected by moderate risk of unit and environment related factors.

**Table (1):** Frequency distribution of socio-demographic characteristics of patients with schizophrenia under study (n=135).

Items	Number (No.)	Percentage (%)
<b>Gender</b>		
Male	135	100.0
Female	0	0.0
<b>Age</b>		
Less than 20 years	0	0.0
From 20 > 29 years	52	38.5
From 30 > 39 years	46	34.1
Above 40 years	37	27.4
<b>Social Status</b>		
Single	104	77.0
Married	17	12.6
Divorced	14	10.4
Widowed	0	0.0
<b>Educational level</b>		
Illiterate	21	15.6
Read and write	15	11.1
Primary education	29	21.5
Secondary education	51	37.8
University education	19	14.1
<b>Job</b>		
Employed	75	55.6
Jobless	60	44.4
<b>Income for the family</b>		
Enough	71	52.6
Enough and can be saved	15	11.1
Not Enough	49	36.3
<b>Place of residence</b>		
Rural	52	38.5
Urban	83	61.4
<b>Ranking within the family</b>		
First	62	45.9
Middle	39	28.9
Last	31	23.0
Single	3	2.2
<b>Number of family members</b>		
Less than 3	18	13.3
From 3 to 6	72	53.3
More than 6	45	33.3
<b>Do you have a history of aggressive or violent behaviors in your family</b>		
No	78	57.8
Yes	57	42.2
<b>Is your father and mother related by blood?</b>		
No	123	91.1
Yes	12	8.9

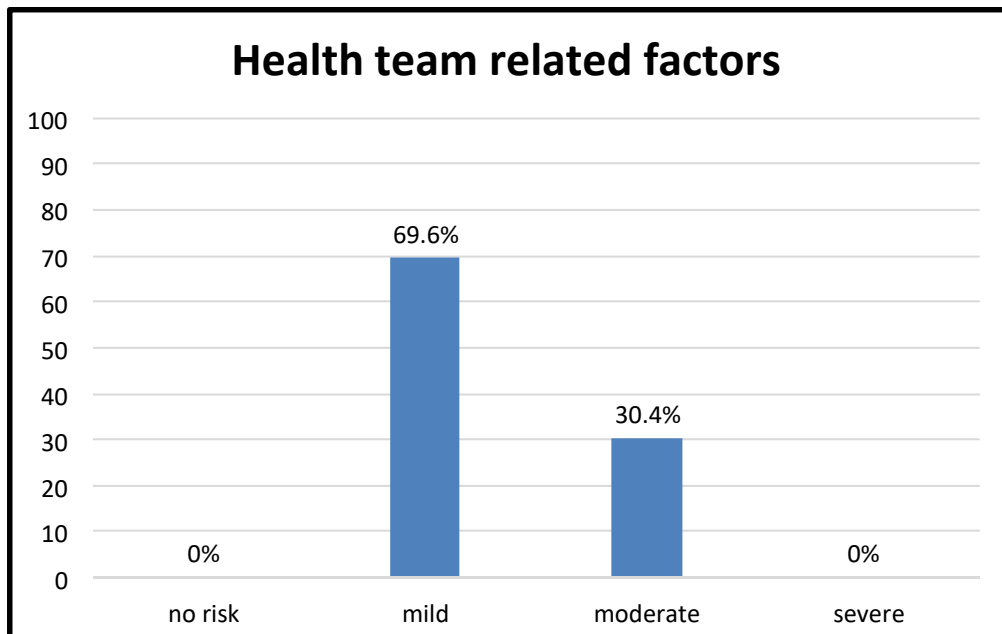
**Table (2):** Correlations between factors affecting aggressive behavior among patients with schizophrenia.

Items	Clinical factors		Static factors		Health team related factors	
	r	P	r	P	r	P
Clinical factors			-.023	.793	.145	.093
Static factors					.204*	.018
Unit and environment factors	.065	.453	.080	.357	.298**	.000

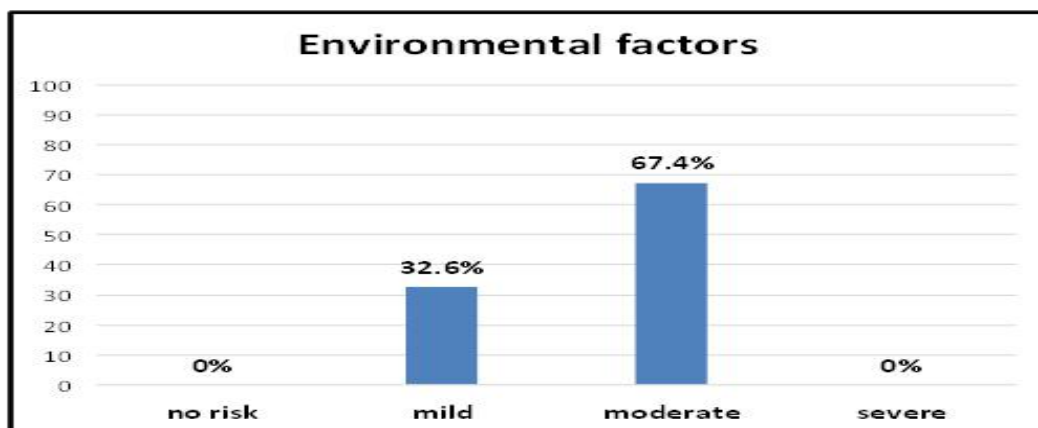


**Figure (1):** Total level of aggressive behavior among patient with schizophrenia regarding (static factors).

**Figure (2):** Total level of aggressive behavior among patient with schizophrenia regarding (health team related factors)







**Figure (3):** Total level of aggressive behavior among patient with schizophrenia regarding (unit and environment related factors).

### Discussion

Patients with schizophrenia may experience distress, delusion, hallucination, and disorganized speech and behavior. The rates of aggressive or violent behaviors among patients with schizophrenia higher than in the general population. Aggressive or violent behavior in patients with schizophrenia may be a response to psychotic delusions (especially paranoid or persecutory delusions), hallucinations, or misperceptions, and therefore a psychotic form of self-defense. (Maneeton et al., 2019).

In regard of the socio-demographic characteristics of the patients studied, the findings revealed that approximately a third of the patients were between the ages of 20 and 29. This finding was supported by Steadman et al., (1998) who found that the risk of aggressive behavior was significantly associated with young age in individuals with schizophrenia, particularly those under the age of 40 years. Furthermore, this result agreed with, Soyka et al., (2007) who revealed that the risk of

future aggression increases with young adulthood.

The present study showed that the majority of the patients under study were male, this may be due to several possible factors as substance abuse, property crime and schizophrenia diagnosis. This result was supported by Zhu et al., (2016) who reported that patients diagnosed with schizophrenia who are male have a higher incidence of aggressive behaviors. On the other hand, this result consistent with, Friedman, (2006) who show that being male increases the risk of aggression by more than two times when compared to being female.

Moreover, this result disagreed with, Anderson et al., (2004) who claimed that women admitted to a psychiatric inpatient service were just as likely as men to commit a violent act. Also, this finding contradicts with, Dack et al., (2013) who showed that the male sex was not strongly associated with violence at an individual patient level.

Concerning the patient marital status, nearly two-thirds of the patients

were single, according to the results. This could be due to the disease's early onset, which disrupts the development of all personal and social skills and is burdened with stigma. Single marital status has been connected to a number of clinical factors in schizophrenia patients, including hospitalizations and active symptoms that can lead to aggression and violence. This result was supported by **Iozzino et al., (2015)**, who observed that aggression or violence was associated with not being married and being a young age in inpatient settings. This result disagreed with, **Al-Sagarat et al., (2016)**, who showed that married patients had a considerably higher frequency of aggression than single, separated, divorced, or widowed patients.

Furthermore, nearly a third of the patients in the current study had a secondary education, this could be related to the early onset of schizophrenia in late adolescence and early adulthood, which is associated with significant cognitive deficits and can impede educational and vocational performance. This result agreed with, **Soliman et al., (2007)** who reported that an association between lower educational level and aggression. In addition, this result in line with, **Dickson et al., (2020)** who showed that those with schizophrenia were less likely to pursue higher education than individuals without the disorder.

In respect of patient residence, the current study reported that approximately three-quarters of the patients studied came from urban areas. This could be due to social stressors and socio-environmental adversities, which are exacerbated by low social cohesion and low socioeconomic status (low income, employment and education). Furthermore, a lack of green space, pollution, and toxin exposure has been linked to an increased

risk of aggression. It's also possible that urban patients are more likely to be isolated from their families and other social support networks when they're admitted to the hospital, which could raise the rate of violence among patients.

This study result was agreed with, **Selim, (2006)** stated that the risk of violence was mainly attributed to urban patients. This finding was disagreed with, **El-Genadi, (2009)** who reported that patients from rural areas were more likely to be violent and destructive than those from urban ones.

The findings of the study demonstrated that, less than three fifth of the patients with aggressive behavior was affected by moderate risk of static factors. This may be due to a number of static factors that have been linked to aggression and violence, such as a history of childhood abuse, parental brutality and neglect during childhood, exposure to a lot of stress and personal loss, and academic and job failure. This result supported by **Craig et al., (2015)** who revealed that static risk factors are relatively time-invariant. They are incapable of changing over time, either spontaneously or in response to some type of intervention or management strategy. These risk factors may indicate a skewed developmental path and a long-term tendency for violence and aggression. That is, static risk factors are best for assessing long-term risk and classifying individuals into risk groups. This result disagreed with **Blanchard, (2013)** who found that static risk factors can't predict when violence and aggression will occur and can't be used to determine risk change over time.

The current study illustrates that, less than three fifth of the patients with aggressive behavior was affected by

moderate risk of clinical and dynamic factors. This may be due to a number of dynamic factors that have been linked to aggression and violence, such as feeling agitated when dominated by other patients, anger and frustration when needs are not satisfied, feelings of insecurity. In this respect, this finding consistent with, **Wong & Gordon, (2016)** who found that clinical and dynamic factors have been shown to be predictive of various indices and types of violence and aggression in institutional setting. This result disagreed with, **Singh & Fazel , (2010)** who reported that neither a static nor a dynamic approach alone resulted in more accurate predictions of aggression and violence.

The results of the study revealed that more than two third of the patients with aggressive behavior was affected by mild risk of health team related factors. This could be due to a variety of health-care- team related factors, including medical negligence or delays in providing medical care, forcing patients to sleep and take medication, giving them numerous instructions, and a lack of basic knowledge about the patient's illness, all of which can lead to anger and aggression. This finding is supported by **Simon & Tardiff, (2018)**, who show that caregiver characteristics play a significant role in the risk factors for inpatient aggression and violence. Also, this finding was also in line with, **Pelto-Piri et al., (2020)** who found that caregivers' job experience and attitude influence the risk of a violent encounter with staff. Negative staff-patient interactions often lead to patient aggression and coercive measures. Furthermore, **Foster et al., (2017)** who discovered that factors related to staff could be linked to the occurrence of aggressive acts in clinical settings. Staff

clinical skills are likely to trigger patient aggression.

The results of the study illustrates that, more than two third of the patients with aggressive behavior was affected by moderate risk of unit and environment related to factors. This might be due to overcrowding in the ward, excessive noise, a lack of adequate privacy for the patients, the lack of any means of communication between the patient and his family, and locked wards, which limit the mobility of patients within the hospital, all of which are linked to aggressive behavior. This result agreed with, **Berg, (2012)** who found that unit environmental factors are related to patient aggression as limited space and lack of privacy contribute to aggressive behaviors .Further, and how the unit is designed has an effect on the occurrence of aggressive incidents.

In this respect, this result in line with, **Johnson & Delaney, (2017)** who observed that environmental risk factors including excessive external stimuli such as noise or physical activity are related to violent and aggressive behavior, that an environment devoid of therapeutic groups and activities contributes to boredom and may increase the risk of violence, and that changing environments, such as during renovations, may increase the risk of violence.

In addition, there is a highly statistically significant relation between environmental factors and health team related factors of aggressive behavior. This could be due to the fact that the health team has a direct relationship with the ward environment's structure by providing care and executing daily activities such as (medication and meal administration), as well as attempting to manage patients' behaviors. This result

was agreed with, **Van wijk et al., (2014)** who found that there are a highly statistical significant association between the environmental factors related to aggressive behavior such as (living conditions ,ward atmosphere) and attitude and behavior of the staff . This result was in line with, **Hills & Joyce, (2013)** who reported that there are statistical significant relation between unit and environmental design issues (closed doors frequently, poor lighting and over-crowding) and health team issues (staffing shortages, poor clear communication among care provider team and patients).

The current study revealed that there are statistical significant relation between static factors and health team related factors of aggressive behavior. This could be attributable to the fact that static factors cannot be changed through clinical intervention, making it difficult for the health team to deal with it during the course of the patient's therapy and may resulting in aggression. This finding was supported by, **National Collaborating Centre for Mental Health ( NICE ) , (2015)** which found a statistically significant relation between staff factors related to aggression among schizophrenic patients and a number of static factors such as the patient's age and gender in inpatient settings. This result disagreed with, **Schablon et al., (2018)**, who found that there are no statistical significant association between static factors of aggressive behavior and health team risk factors.

### **Conclusion**

On the light of this study results, it could be concluded that aggressive behavior in psychiatric inpatients units is a major and persistent problem. All the patients with schizophrenia understudy

engaged in aggressive behaviors in the hospital at least twice and the most common type of aggressive behavior among them was verbal aggression.

Also, the results of the present study concluded that aggressive behavior among patients with schizophrenia was affected by many factors including static factors as physical abuse as a child, parental cruelty and neglect, personal losses throughout lives, failure at work and in school, clinical and dynamic factors as feeling of insecurity at the hospital, persecutory delusion and being dominated by other patients, health team related factors as medical neglect or delays in receiving medical care for patients, forcing the patients to take medication and giving them orders repeatedly, unit and environment related factors as lack of privacy, noise and overcrowding in the ward, no means of communication with their family.

### **Recommendations**

In view of the study findings, the following recommendations are proposed:

- Establishing an accurate system for assessment and monitoring of patient related factors at the time of admission to the hospital in order to reduce and prevent aggressive behavior.
- An educational program on anger management, conflict resolution, coping with symptoms, and stress management should be implemented for aggressive patients in inpatient units.
- Staff training program and workshops in verbal de-escalation skills, therapeutic rapport with patients, involvement of the patient in his or her treatment plan and positive unit leadership have been identified as factors that can help reduce violence in the unit culture.
- It is necessary for staff nurses to maintain the structure of the ward milieu, routines of daily activities for

patients and keeping safe environment to reduce and prevent aggression.

- Community-based prevention programs addressing factors that influence and contribute to the risk of aggression and violence, as well as early management of psychiatric disorders, particularly schizophrenia, to reduce recurrent hospitalizations associated with an increased risk of aggressive behavior.
- Further research should be conducted to establish unit cultural values and norms, which will provide a better understanding of the factors that can promote healthy, safe, and aggression-free environments.
- More research should be conducted to determine how patient factors, health team factors, and environmental factors interact with one another, resulting in aggression and violence in the inpatient psychiatric unit.

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