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Using Delphi method to address factors contributing to aggressive behaviour in mental health settings

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Using Delphi method to address factors contributing to aggressive behaviour in mental health settings

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Accessible summary

What Is Known about the Subject?

- Nurses' perspectives and consensus on the possible key factors contributing to aggression at inpatient units can be summarized into patients' related factors, staff related factors and environment related factors.
- Results of the possible factors contributing to aggression at inpatient units reflect the complicated nature of this problem.

What the Paper Adds to Existing Knowledge:

- Perspectives of nurses as frontline mental health professionals on factors contributing to aggression as one of the psychiatric emergencies were considered through an iterative process. This approach gave nurses an opportunity to revisit their own views in each round to provide an in-depth reflection in the light of the contribution of others.

What Are the Implications for Mental Health Nursing Practice?

- Nursing curricula should focus on nurses' communication skills and emotion regulation training.
- An open dialogue between nurses and people with mental health issues should be initiated to discuss the possible key factors contributing to aggressive behaviour at inpatient units from both standpoints.
- Mental health nurses' turnover at inpatient settings could be targeted through the design and implementation of aggression prevention protocols

Abstract

Introduction: Aggression at inpatient units is a universal problem leading to hazardous outcomes.

Aim: To generate group consensus about factors contributing to aggressive behaviour among patients with mental health issues at inpatient units.

Methods: Nurses working at inpatient psychiatric departments were approached, and purposive sampling was employed to implement Delphi technique. A total of three Delphi rounds were conducted online. The average percent of majority opinions method was followed to measure consensus in which questions with a cut-off rate below 69.7% were included in the next round.

Results: Twenty-one nurse experts with different skills participated in this study. Consensus increased among nurse experts across rounds for the following items:

Patients' misinterpretation of the attitude of the healthcare providers, severity of mental health issues, attitude and communication style of the healthcare providers, nurses limited emotional regulation capacity and the inadequate staff–patient ratio in psychiatric wards.

Discussion: The complicated nature of aggressive behaviour displayed by people with mental health issues is reflected on the results of the current study; patients' related factors, staff related factors and environment related factors constitute interacting facets for this issue.

Implications for Mental Health Nurses: Nurse scientists could use insights derived from this study to design studies aiming at assessment and management of aggression at inpatient units guided by implementation science frameworks. Additionally, open dialogues between nurses and people with mental health issues could be initiated about factors contributing to aggression at inpatient units. Mental health nursing training should focus on nurses' communication and emotion regulation skills.

KEYWORDS
aggression, consensus, Delphi studies, inpatient units, mental health issues, mental health nurses

1 | BACKGROUND

Aggressive behaviour displayed by individuals with different psychiatric diagnoses is a critical phenomenon for psychiatric inpatient units (Niu et al., 2019). Historically, 'aggression' is often an ambiguous term, which includes various interpretations that are used interchangeably with 'violence' and 'agitation'. According to the World Health Organization, 'aggression' and 'violence' demonstrate the same principle, and are reported as

> The intentional use of physical force or power, potential or actual, against oneself, another, or against a group or community, resulting in or has a high likelihood of resulting in injury, death, psychological harm, mal-development, or deprivation.
>
> (Krug et al., 2002)

The British National Institute for Health and Care Excellence (NICE) defines aggression as

> A range of behaviours or actions that can result in harm, hurt or injury to another person, regardless of whether the violence or aggression is physically or verbally expressed, physical harm is sustained, or the intention is clear.
>
> (National Collaborating Centre for Mental Health, 2015).

Taken together, such definitions can be comprehended as a continuum of severity, whereby agitation could be escalated into aggression, and eventually into violence (Weltens et al., 2021). An unfortunate facet in working in the psychiatric setting is the risk of exposure to aggressive behaviour (Parakkal Kurian et al., 2023). This risk cannot be entirely avoided, since some psychiatric patients by virtue of their illness may engage in behaviours that are dangerous to themselves and others (Eweida et al., 2018; Parakkal Kurian et al., 2023). Incidents of aggression are alarmingly omnipresent in psychiatric health settings and inflict psychological pain and even physical harm to both patients exhibiting such behaviour, other patients and service users, and healthcare staff (Eweida et al., 2022).

Bowers et al. (2011) systematically reviewed 122 studies from 11 countries and revealed that around 32.4% of patients admitted to psychiatric hospitals engaged in violent or aggressive behaviour. A more recent meta-analysis by Weltens et al. (2021) reported that the weighted mean prevalence score of aggressive behaviour was 54%, with a wide divergence in prevalence reported among studies (7.5%–75.9%), broader than the divergent results reported in a prior review (3%–44%) (Iozzino et al., 2015). Nurses, as one of the largest therapeutic teams within psychiatric facilities, have experienced physical violence at some point in their career (Alhassan & Poku, 2018). Weltens et al. (2021) reported that around 25–80% of nurses in psychiatric facilities have been assaulted over the course of their clinical practice. The corresponding flashpoints that highlight the prominence of aggression as an endangered risk to patient and staff safety (Eweida et al., 2023; Yang et al., 2018). A Delphi survey investigated research priorities for clinical nurses revealed that patients' safety was the highest ranked research priority among mental health nurses (Fossum et al., 2022).

Jones and Jones (2020) conducted a study aimed at investigating experts' opinion regarding patients' triaging in mental health crisis. Results showed that aggressive behaviour exhibited by patients received the highest level of priority. A descriptive study examining Solvak mental health nurses' perception of the factors contributing to aggressive behaviour among patients in 10 hospitals concluded

that patients' related factors, for example, the nature of the diagnoses constituted the highest risk (72.25%), hospital-related factors, for example, long hospital stay comprised 52% of the risk contributing to aggression. Nurses' related factors, for example, nurses' communication style encompassed 51% of the risk to patients' aggression (Lepiesova et al., 2015).

Contemporary mental health policies at both regional and international levels have endorsed the need for providing care in the least restrictive environment (Rathod et al., 2017). However, there is a wide range of challenges to the activation of such endorsement in psychiatric facilities in practice, due to inherent restrictions entailed by involuntary admission, architectural features, and general safety and security precautions taken in various types of psychiatric facilities (Chrysikou, 2019). Therefore, there is a tremendous need for stimulating an open dialogue among psychiatric nurses to identify the possible key factors that might contribute to the existence of aggressive behaviour in psychiatric facilities.

Although similar study scopes exist, for example, Cowman et al. (2017) & Lepiesova et al. (2015), the current study focuses on the identification of risk factors contributing to aggression which could consequently help in developing aggression prevention protocols (APP) through the lens of nurses as frontline mental health professionals. Additionally, the study could provide fertile ground for aggression reduction using restrictive security features and damage-resistant components, such as observation windows, cameras, violence-proof doors and isolation rooms (O'Connor et al., 2018). Finally, while some studies have examined violence in mental health settings in Eastern cultures, results are still variable and inconclusive due to regional and cultural differences in addition to variations in definitions, policies and procedures associated with aggression at mental health settings (Al-Azzam et al., 2017; Al-Omari et al., 2019). This variability makes obtaining general knowledge about this multifaceted phenomenon or generalizing findings about the contributing factors complex, difficult and needs further culturally sensitive investigations from frontline mental health professionals.

1.1 | Aim

The aim of this study is to generate group consensus from nurse experts about the possible key factors contributing to the existence of aggressive behaviour at psychiatric inpatient units through Delphi method.

2 | METHODS

2.1 | Design

This study employed Delphi method, which is an iterative process used to transform opinions into consensus (Hasson et al., 2000). The Delphi technique was developed by the Rand Corporation in the early 1950s as an interactive way to collect experts' opinions on ways to avert nuclear missile attacks (Yang, 2003). In Delphi studies, consensus is contentious, due to variations in measurement (Rayens & Hahn, 2000).

2.2 | Participants and sampling

Keeney et al. (2006) suggested that group size in Delphi studies is determined by group dynamics and the richness of findings, not by statistical power analysis. Participants' numbers recruited for this study ($n=21$) exceeded the number in most Delphi studies which usually ranges from 7 to 12 participants (Harper et al., 2012; Wilson et al., 2010). However, it was crucial to recruit nurse experts from diverse educational backgrounds and years of experience to obtain a various range of input. The panel members were required to be registered nurses working at psychiatric hospitals (public or private) in Dakahliya governorate, Egypt. Both technical and nurse specialists were eligible to participate. The authors identified nurse experts working in mental health settings from authors' contacts; the identified list included three technical nurses and four nurse specialists. After meeting nurse experts from authors' contacts, snowball sampling was employed to proceed with participants' recruitment.

2.3 | Procedure

Ethical approval was issued from Faculty of Nursing, Mansoura University, (Ethical Approval No. P.0453). Three online Delphi rounds were conducted using SurveyMonkey online software. An extensive literature search was conducted to extract factors contributing to aggressive behaviour among patients with mental health issues. Nurse experts were approached online in the first round of Delphi and were asked open-ended questions about factors contributing to aggressive behaviour among patients with mental health issues at inpatient units, for example, What are the factors that affect the magnitude and nature of aggression displayed by patients at inpatient units. Describe at least one incidence of aggression at the inpatient unit you are working in, specifically describe the interactional and situational precipitants of the incident. How to achieve the least restrictive therapeutic mental health environment.

Nurses' responses were collected and categorized, and a line-by-line coding of participants' textual answers to the open-ended questions was implemented. Some responses created 'chunk coding' which happens when multiple sentences create one code. Similarities and patterns between codes were sought and then aggregated into themes. The created themes represented factors contributing to aggression according to nurses' opinion. Nurses' responses were thematically analysed by RE and NI independently to increase the rigour of analysis (Lochmiller, 2021). The two researchers met for discussion to check any discrepancies which were solved by discussions. Factors elicited from nurses' responses besides the extracted

factors from literature search were collated creating a 31 item of factors contributing to aggression among people with the experience of psychosis at inpatient units.

In Round 2 of the Delphi, the list comprising the 31 factors was returned to the final identified panel of experts ($n=21$) for rating. Participants were asked to rate each identified item on a 5-point Likert-type scale, indicating the strength of the likelihood of the existence of aggressive behaviour at psychiatric ward for each item. The scale responses ranged from 1 'strongly disagree' to 5 'strongly agree'. Experts were given 2 weeks to respond to the survey, and a reminder e-mail was sent after 1 week to those who did not respond.

In Round 3, nurses' responses were analysed, and factors were arranged according to the strength of each item based on results of Round 2 and the list was returned to nurses to reach a consensus view.

The study commenced on January 2023 until August 2023.

2.4 | Statistical analysis

The IBM SPSS Package, Version 25 was used for the descriptive analysis of quantitative data, including number and percentage of demographic characteristics. To measure consensus in the current study, we followed the average percent of majority opinions (AMPO) method, in which questions with a cut-off rate below 69.7% were included in the next round (Von Der Gracht, 2012). However, all items from the first round were included in the second round to check participants' response consistency.

2.5 | Ethical considerations

Approval from the Research Ethics Committee of the Faculty of Nursing, Mansoura University was obtained (Ethical Approval No. P.0453). Data confidentiality was assured, and nurses' anonymity was maintained and respected. Participants were informed about their rights to refuse to participate or withdraw from the research at any time. According to The American Association of Public Opinion Research (AAPOR), code of ethics for survey research was followed and encrypted protection of the survey files was ensured to participants. Ethical handling of the data including restriction of the use and storage of the files outside the research team and university premises were followed and assured to participants prior to commencing with the study.

3 | RESULTS

A total of 21 nurses participated in the current study; 57.14 of participants aged between 31 to 40 years (mean age = 34.19 ± 6.73 [SD = 6.73]). In relation to participants' educational level, more than half of the respondents had bachelor's degree (57.14%). Moreover, those who had less than or equal to 10 years of experience constituted 57.14%.

TABLE 1 Distribution of the studied nurses according to socio demographic data ($n=21$).

	No.	%
Sex		
Male	7	33.33
Female	14	66.67
Age (years)		
≤30	5	23.81
31–40	12	57.14
More than 40	4	19.05
Min.–Max.	21.0–49.0	
Mean ± SD.	34.19 ± 6.73	
Level education		
Diploma	1	4.76
Bachelor's degree	12	57.14
Technical institute	8	38.1
Length of service (Years)		
≤10	12	57.14
11–20	5	23.81
More than 20	4	19.05
Min.–Max.	1.0–26.0	
Mean ± SD.	12.29 ± 4.87	
Type of ward		
Female	12	57.14
Male	9	42.86

Participants' characteristics are shown in Table 1.

Four domains reached 100% consensus among nurse experts in Round 3 of the Delphi: Hospital-related environment, patients' misinterpretation of the attitude of the healthcare providers, severity of mental health issues and inadequate staff–patient ratio in psychiatric wards. Three domains had increased consensus rate in Round 2 compared to Round 1 and then decreased in Round 3; however, Rounds 2 and 3 remained above the average percent of majority opinions (AMPO) method (unresponsiveness to the treatment plan, trajectory of psychotropic medication use and nurses limited emotion regulation capacity).

The results of the three rounds of Delphi analysis are displayed in Table 2.

4 | DISCUSSION

This study aimed at generating group consensus from nurse experts about the possible key factors contributing to the existence of aggressive behaviour at psychiatric inpatient units through Delphi method. A total of 21 nurses participated in this study. In the current

TABLE 2 Summary of Top Prioritized Factors Contributing to Aggressive Behaviour, Degree of Consensus and Attributes' Amendment After Each Delphi Round.

	Attribute	Round 1 consensus	Amend attribute	Round 2 consensus	Amend attribute	Round 3 consensus	Final attributes
1	Patients' inability to cope with the hospital atmosphere, including overcrowded and chaotic environments in the psychiatric ward, sense of physical confinement, lack of privacy and lack of structure in day-to-day activities.	90.47%	Inability to cope with the hospital atmosphere and restrictive ward environment.	95.24%	Hospital atmospheres (e.g., over-occupancy) coinciding with restrictive ward environments.	100%	Hospital-related environment
2	Patients' perceived feelings of bullying and being controlled by staff, workers and other patients.	85.71%	Patients acting upon psychotic symptoms.	100%	Patients' false perception and misinterpretation of staff attitudes.	100%	Patients' misinterpretation of the attitude of the healthcare providers.
3	Severity of patients' psychopathological symptoms.	80.95%	Acuteness of patients' conditions and severity of psychopathological conditions.	90.47%	Severity of psychopathological conditions.	100%	Severity of mental health issues
4	Staff negligence to address patients' concerns and to properly respond to patients' inquiries and questions.	47.61%	Staff burnout and poor nurse-to-patient ratio in the workplace.	90.47%	Inadequate staff–patient ratios in psychiatric wards.	100%	Inadequate staff–patient ratio in psychiatric wards.
5	Physical aggression or assaults directed toward patients by workers who are employed in psychiatric wards; breakdowns in communication and poor interaction between patients and staff.	71.43%	Verbal and physical assault from healthcare providers.	79.43%	Authoritative and over-control healthcare providers.	86.19%	Attitude and communication style of the healthcare providers.
6	Patients' resistance to treatment or not responding to the prescribed dosage.	76.19%	Resistance to medication or incorrect description of medication dose.	88%	Inaccurate treatment modalities and resistance to medication.	79%	Unresponsiveness to the treatment plan.
7	The inappropriate prescription of psychotropic drugs.	66.66%	Misdiagnosis of mental health issues and inappropriate prescribing.	100%	Trajectory of psychotropic medication use.	79%	Trajectory of psychotropic medication use.
8	Nurses' inability to effectively contain or regulate their own emotions.	52.38%	Poor emotional regulation abilities in professional nursing practice.	61.90%	Improper emotional regulation abilities in psychiatric practice.	79%	Nurses limited emotion regulation capacity.

study, five items had a cut-off rate below 69.7% and were included in the second round.

Consensus has increased among nurse experts across rounds in the following items: Patients' related factors (patients' misinterpretation of the attitude of the healthcare providers and severity of mental health issues), health care providers' related factors (attitude and communication style of the healthcare providers and nurses limited emotional regulation capacity) and environment related factors (the inadequate staff–patient ratio in psychiatric wards and overoccupancy of beds).

A study by Barlow et al. (2000) reported that patients' mental state was the primary causal factor contributing to aggression in psychiatric inpatient units; however, a recent integrative review on the perception of staff and patients about aggression reported consensus on rapport and 'interpersonal skills' of staff caring for patients was central in 'either exacerbating or de-escalating aggression and violence' (Fletcher et al., 2021). The situational or the interactional model explaining patients' aggressive behaviour states that negative-staff–patient relationships contribute to patient aggression (Duxbury & Whittington, 2005).

The current study found that poor nursing communication skills and staff attitudes toward patients were among the factors in which consensus increased among rounds. Negative 'staff–patient interaction' was reported as the most preceding factor for aggressive incidents (Caruso et al., 2021). A total of 24 studies systematically reviewed by Weltens et al. (2021) concluded that the quality of nurse–patient interaction is associated with aggression in psychiatric inpatient wards.

Nurses' emotion regulation capacity as a factor contributing to aggression among patients in inpatient wards, Eweida et al. (2022), revealed that nurses who possess emotion regulation capacity can communicate better when confronted with patients' aggressive behaviour. Hammarström et al. (2019) concluded that working with people suffering from severe mental health issues threatens nurses' professional identity. Emotion regulation strategies are among the tools that enable the nurse to respond to patients' needs, especially when caring for those displaying aggressive behaviour.

The design theory proposes that hospital environment can be designed to reduce patients' aggression and violence. Inpatient wards should manifest in its design various stress-reducing environmental attributes (Ulrich et al., 2012). A compassionate containment approach suggests that balance should be considered in the design of inpatient units between patients' or technical safety (material environment) and therapy (social environment) (Curtis et al., 2013). However, this could face implementation challenges, particularly given the existential problem of inadequate staffing reported by participants. Furthermore, wards with high levels of containment and more than average staff absences have more incidents of aggressive behaviours displayed by patients (Weltens et al., 2021) This compounds inherent health system challenges of high levels of patient admission and occupancy (Cutcliffe & Riahi, 2018; Ulrich et al., 2012).

4.1 | Implications for clinical practice

Health service research can apply results of the current study to improve patients' related outcomes. The Consolidated Framework For Implementation Research (CFIR) can be used to promote the implementation Damschroder et al. (2009); the framework consists of five major interacting domains; some of the CFIR domains that can be used are the inner setting domain which can be implemented through working on the hospital-related environment issues including occupancy rates, containment approaches and the hospital design.

The intervention characteristics' domain of the CFIR framework can be applied to the trajectory of psychotropic medication uses through ensuring quality and strengths of the evidence base in drug prescription. Implementing evidence-based nursing interventions targeting nurses' communications and emotion regulation skills. Particular attention should be paid to the adaptability of evidence-based interventions in different contexts.

The characteristics of individual domains of the CFIR framework can be applied through hiring different skill mix of the nursing staff.

4.2 | Implications for mental health nurses

Mental health nurses' training could focus on nurse–patient interactional factors and nurses' emotion regulation capacity as factors contributing to the development of aggression. Using insights generated from the results of the current study in developing culturally appropriate APP responsive to Egyptian mental health nurses' perspectives will help in reducing incidents of aggression at inpatient settings which is usually directed at mental health nurses and contribute to high turnover rates among mental health nurses.

4.3 | Implications for research

Participatory research between nurse experts and people with experience of mental health issues could use the discernments generated from this study to further investigate factors contributing to aggressive behaviour from different perspectives.

4.4 | Limitations

The small sample size in the current study may affect the generalizability of its findings. Additionally, the mean age of participating nurses which reflects experienced nurses who are possibly equipped with skills to detect and manage aggressive behaviours displayed by patients, and future studies may focus on novice nurses' perspectives. Finally, since nursing education and practice in Egypt have diverse routes and roles Ibrahim et al. (2022), lacking the perspectives of nurse academics in the experts' views is considered among the study limitations as it could have added different insights to the results of the current study.

5 | CONCLUSION

The current study is the first Egyptian study using Delphi method to communicate nurse experts' views on factors contributing to aggression at inpatient units where the biomedical model dominates mental health practice. This list of factors can stimulate open dialogue between nurses about how to prevent subsequent escalation behaviour and improve patients' clinical outcomes and working conditions for staff in psychiatric wards. Researchers ensured rigorous implementation of the study through independent analysis of qualitative data by researchers, discussion of differences to solve disagreements and following established method for consensus measurement.

6 | RELEVANCE STATEMENT

Nurses are an integral part of mental health teams; their perspectives on complicated issues like aggression are highly important. Egyptian mental health nurses face many work challenges particularly low nurse–patients ratio and very low wages. Their voices as first line defenders at inpatient units must be heard, and future research should tackle their insights in intervention design and implementation.

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DATA AVAILABILITY STATEMENT

Data is available upon request to the corresponding author.

ETHICS STATEMENT

Faculty of Nursing, Mansoura University Ethical approval was issued (Ethical Approval No. P.0453). Data confidentiality was assured, and nurses' anonymity was maintained and respected. Participants were informed about their rights to refuse to participate or withdraw from the research at any time.

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