

Assessing psychiatric nurses' perception and attitude toward simulation-based training in psychiatric setting: A descriptive quantitative study using SET-M tool

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Abstract

Background: Simulation-Based Training (SBT) is a transformative educational training strategy in nursing, offering a safe and interactive environment to bridge theory and practice. In psychiatric care, where nurses face unpredictable scenarios such as aggression management, seizure response, and psychotropic medication administration, SBT provides structured opportunities to enhance clinical judgment, confidence, and therapeutic communication. Debriefing is recognized as the essential component of SBT, fostering reflection, psychological safety, and professional growth.

Methods: This descriptive quantitative study evaluated psychiatric nurses' perceptions of SBT effectiveness at Al Masarra Hospital (AMRH), Sultanate of Oman. A total of 192 registered nurses completed the adapted Simulation Effectiveness Tool-Modified (SET-M) immediately after participating in simulation sessions covering Basic Life Support, psychiatric medication, aggression management, ambulance training, seizure management, and medical emergencies. Data were analyzed using descriptive and inferential statistics.

Results: Nurses reported overwhelmingly positive perceptions across all five SET-M domains, with highest ratings in Learning & Knowledge Acquisition ($M=4.68$) and Psychological Safety & Feedback Quality ($M=4.68$). Debriefing consistently scored above 4.6, underscoring its role in clarifying concepts, analyzing decision-making, and developing strategies for clinical improvement. No significant correlations were found between demographic variables and SET-M scores ($p>0.05$), confirming general applicability.

Conclusion: Structured simulation, supported by high-quality debriefing, is perceived as an effective educational strategy for psychiatric nurses. Institutionalizing simulation as a longitudinal component of professional development can strengthen competence, confidence, and patient safety.

Keywords: Simulation-Based Training; Psychiatric Nursing; Debriefing; Clinical Competence; SET-M

1. Introduction

Simulation-Based Training (SBT) has become an increasingly important educational approach in healthcare, providing a structured, interactive, and risk-free environment where healthcare professionals, such as nurses, can practice and refine their clinical skills without compromising patient safety.¹ Unlike the traditional teaching methods, SBT allows learners to actively engage in realistic clinical scenarios, thereby enhancing experiential learning and bridging the gap between theory and practice.² In nursing education, simulation has been widely adopted as an effective tool to improve clinical competence, critical thinking, professional confidence, and patient safety.^{3 4} The growing complexity of healthcare systems has further emphasized the need for innovative training strategies, such as SBT, to ensure that nurses are adequately prepared to deliver safe and high-quality care.

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In a psychiatric setting, the importance of effective training is even more pronounced due to the unique and often unpredictable nature of mental health care. Psychiatric nurses frequently encounter complex clinical situations, including managing aggressive behaviors, responding to psychiatric and medical emergencies, administering psychotropic medications, and addressing patients with comorbid physical health conditions. These situations require a combination of clinical expertise, therapeutic communication skills, emotional intelligence, and rapid clinical judgement. Traditional classroom-based instruction may not sufficiently prepare nurses for these challenges, creating a need for more interactive and practical training approaches.⁵ SBT offers a valuable solution by allowing nurses to practice these high-risk scenarios in a safe environment.

One of the key advantages of SBT is its ability to replicate real-life clinical situations with a high degree of realism, enabling learners to develop both the technical and non-technical skills.⁶ Simulation scenarios such as aggression management, seizure management, and basic life support (BLS) assist psychiatric nurses to gain hands-on experience and build clinical confidence. Moreover, SBT promotes active learning by encouraging nurses to engage in problem-solving and clinical reasoning during simulation. This experiential approach has been shown to enhance knowledge retention and improve overall clinical performance.⁷ As a result, SBT is increasingly being integrated into nursing education and professional development programs worldwide.^{8 9}

Debriefing is widely recognized as the critical component of SBT.¹⁰ It provides nurses with a structured, facilitator-guided opportunity to engage in reflective conversations, analyze their decision-making process, and receive constructive, formative feedback in a supportive environment.¹¹ This reflective process helps learners in identifying their strengths and areas for improvement, ultimately leading to deeper learning and improved clinical competence. Research has consistently demonstrated that effective debriefing significantly enhances learning outcomes, confidence, and critical thinking skills among nurses.^{3 11} Furthermore, creating a psychologically safe environment during debriefing encourages open communication and fosters a positive learning three.^{1 11}

Despite the recognized benefits of SBT, it is important to evaluate its effectiveness in specialized fields such as psychiatric nursing. Nurses' perception and attitudes towards SBT play a crucial role in determining the success of such a program or intervention within the institution. In the context of Al Masarra Hospital (AMRH), as the only dedicated psychiatric tertiary hospital in the Sultanate of Oman, a significant gap remains in the empirical evaluation of its simulation program. While the hospital has simulation programs dedicated to bridging the theory-to-practice gap, there is no current research evidence that assesses how nurses perceive the impact of SBT on their professional competency and confidence. Filling this gap is vital for optimizing the design and implementation of the SBT program at AMRH, ensuring that the training effectively prepares nurses for the unique role in psychiatric care.

Aim of the Study

The primary objective of this study is to critically evaluate the perceived effectiveness of SBT among psychiatric nurses using the SET-M. Specifically, the research aims to assess how these SBTs influence nurses' perceived clinical competence and confidence when dealing with different clinical scenarios. Given that debriefing is widely recognized as the cornerstone of SBT, a significant focus of this evaluation is directed toward the quality and impact of debriefing from the nurses' perspective. Finally, the study seeks to determine if a significant correlation exists between these perceptions and various demographic variables.

2. Methodology

2.1. Study Design

This study utilized a quantitative, cross-sectional descriptive design to assess nurses' confidence, perceived learning outcomes, and experience immediately following the simulation training experience. The simulation training comprised: Ambulance and Seizure Management, Aggression Management, Basic Life Support, Psychiatric Medication, and Medical Management. All nurses received pre-briefing instruction before the actual simulation training then a debriefing session was provided after the simulation. Nurses were invited to complete the SET-M questionnaire immediately after their training session to capture their immediate perceptions of the simulation's effectiveness.

2.2. Study Setting

The study was conducted at AMRH, a tertiary training institution specializing in psychiatric and mental health care services. AMRH is the only hospital exclusively dedicated to psychiatry in the whole Sultanate of Oman. The center caters a wide range of specialized mental health services, including general adult, child and adolescent, geriatric, and forensic

psychiatry. Furthermore, Al Masarra hospital served as a primary training center for doctors, nurses, and other allied medical students and staff from various academic and healthcare institutions across the country. The Nursing Affairs Department has the largest human resources in the hospital. Within the department is a special section, the Nursing Supportive Services- Clinical Instructor Team, which helps the organization and staff provide exceptional and competent mental health nursing services to its stakeholders. They are also the pioneer in providing Simulation-Based Training Programs to all nursing staff within the Department; thus, the implementation of a feedback mechanism that measures the primary impact of the training program on its learners is part of their structured simulation-based training plan.

2.3. Study Subjects: Inclusion and Exclusion Criteria

The study population comprised staff nurses at AMRH. The nurses who attended the SBT were conveniently enrolled in the study. Inclusion criteria were strictly limited to registered nurses currently assigned to the psychiatric area, who had successfully completed at least one institutional SBT between March and December of 2025. Conversely, nurses were excluded from the study if they provided incomplete survey data, if hospital staff who participated in the simulation were not nurses, or if they failed to meet the eligibility criteria.

2.4. Data Collection Procedure

A QR code was displayed on the training screen right after each simulation session, providing nurses with direct access to a Google Form survey. The survey link outlined the research objectives, the significance of the study, and the potential benefits. The participants were allowed to review the information and given the assurances of strict confidentiality, and had the right to withdraw at any time if they wished to during the course of study. Participants provided their informed consent before filling out the questionnaire.

2.5. Study Instrument

The study adapted the Simulation Effectiveness Tool-Modified (SET-M) to evaluate participants' perception of the simulation-based learning experience. This validated tool was carefully selected in the study for its known effectiveness in measuring how well the training program met the learners' objectives and expected outcomes.¹³ The tool was divided into 5 domains: Learning & Knowledge Acquisition, Critical Thinking & Clinical Judgment, Psychological Safety & Feedback Quality, Application to Practice, and Overall Experience.

2.6. Data Analysis

Data was analyzed using SPSS software V26. Descriptive statistics like (percentage, mean, frequency, and standard deviation) that illustrate the sample and summarized scores on the SET-M. Inferential statistics such as the Eta coefficient analysis, degree of freedom (df), and the Chi-square test, were utilized to examine relationships between demographic variables and the SET-M scores.

2.7. Ethical Consideration/Statement

The Ethical approval for this research was granted by the Ministry of Health's Center of Studies and Research. This center serves as the regulatory body mandated for implementing research policies that encourage a culture of scientific research and inquiry in the health sector of the Sultanate of Oman. The Reference number for this study is MH/DGHS/DPT/511/2025, issued by the office of the Regional Research Committee, DGHS-Muscat, Directorate General of Health Services for Muscat Governorate.

3. Results

3.1. Participant's demographic Characteristics

Of the 287 psychiatric nurses of AMRH who participated in the different simulation-based training over the period of 10 months (March – December 2025), 199 agreed to complete the survey via Google Form; of these participants, 7 were excluded as 4 had multiple items missing from the survey they submitted while 3 were excluded as they did not meet the inclusion criteria. The final sample for analysis consisted of 192 participants. **Table 1** summarizes the demographic characteristics of the participants. The participants were characterized predominantly as middle-aged nurses, aged 30-39 (n=133, 69.3%), by Omani nationals (n=144, 75.0%), and mainly female (n=121, 63.0%) while the marital status was nearly split between married (n=100, 52.1%) and single (n=92, 47.9%). Academic qualifications were concentrated among nurses with bachelor's degrees (n=119, 62.0%), among whom 24 of these BSN nurses also hold MHNP (Mental Health Nursing Practitioner) certification. A significant portion of the participants reported 0-5 years of professional

experience (n=75, 39.1%) followed by those with 11-15 years of experience (n=57, 29.7%). Clinical assignments were widely distributed across the units or wards of the hospital with the highest number of participants in Male Ward 1 (n=24, 12.5%). Specific simulation trainings attended by the participants were also distributed evenly with the highest number attending the Basic Life Support (n=44, 22.9%).

Table 1 Demographic profile of Nursing Staff

Demographic Variable	Category	Frequency (N=192)	Percentage (%)
Age	20–29 years	34	17.7%
	30–39 years	133	69.3%
	40–49 years	19	9.9%
	50–59 years	5	2.6%
	60+ years	1	0.5%
Nationality	Omani	144	75.0%
	Egyptian	20	10.4%
	Indian	14	7.3%
	Filipino	13	6.8%
	Sri-Lankan	1	0.5%
Gender	Female	121	63.0%
	Male	71	37.0%
Marital Status	Married	100	52.1%
	Single	92	47.9%
Qualifications	BSN*	119	62.0%
	Diploma	48	25.0%
	MHNP	22	11.5%
	Master	3	1.6%
Years of Experience	0–5 years	75	39.1%
	6–10 years	43	22.4%
	11–15 years	57	29.7%
	16–20 years	12	6.3%
	>20 years	5	2.6%
Area of Assignment	Male Ward 1	24	12.5%
	Female Ward 1	20	10.4%
	Male Ward 3	20	10.4%
	Male Ward 5	19	9.9%
	Male Ward 2	17	8.9%
	Male Ward 6	17	8.9%
	Outpatient Dept.	16	8.3%
	Child Ward	15	7.8%
	Male Ward 4	15	7.8%

Types of Simulation	Female Ward 2	12	6.3%
	Emergency	11	5.7%
	Forensic Ward	6	3.1%
	Basic Life Support (BLS)	44	22.9%
	Psychiatric Medication	38	19.8%
	Aggression Management	37	19.3%
	Medical Management	37	19.3%
	Ambulance & Seizure Mgmt.	36	18.8%

*24 of these BSN nurses also hold MHNP

3.2. Psychiatric Nurses' Perceptions of Simulation-Based Training Effectiveness

The results demonstrated an overwhelming positive reception among psychiatric nurses in AMRH of simulation-based training effectiveness across the 5 domains in SET-M. **Table 3** presents the average scores for each domain. Learning and Knowledge Acquisition, Psychological Safety, and Feedback Quality received the highest cumulative ratings ($M=4.68$), indicating that nurses are satisfied with the simulation-based training. The data in **Table 2** also support this, with several items strongly agreeing that nurses met their specific expectations in simulation-based training including. *Item 1* showed that nurses believed that simulation enhanced their understanding of learning objectives ($M=4.60$, $SD=0.57$), and *Item 13* explained that nurses understand the clinical situation better by linking theory to practice during simulation ($M=4.53$, $SD=0.69$). Furthermore, *Item 16* explained that nurses will use the experience in simulation in clinical and professional practice ($M=4.65$, $SD=0.57$), *Item 17* indicated that simulation met the learning needs of nurses ($M=4.58$, $SD=0.57$), while *Item 20* showed that simulation is perceived as important for nurses' growth.

Table 2 Evaluation on the learner's experience during simulation

Item	Questions	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean (M)	SD
Learning & Knowledge Acquisition (Items 1-4)								
1	The simulation experience helped me better understand the learning objectives.	0 (0.0%)	0 (0.0%)	6 (3.1%)	40 (20.8%)	146 (76.0%)	4.73	0.51
2	I gained valuable knowledge that I can apply to actual clinical situations.	0 (0.0%)	2 (1.0%)	5 (2.6%)	49 (25.5%)	136 (70.8%)	4.66	0.58
3	The feedback provided during the debriefing helped clarify concepts I found difficult.	0 (0.0%)	2 (1.0%)	5 (2.6%)	57 (29.7%)	128 (66.7%)	4.62	0.59
4	The simulation and debriefing increased my confidence in making decisions.	0 (0.0%)	1 (0.5%)	5 (2.6%)	39 (20.3%)	147 (76.6%)	4.73	0.53
Critical Thinking & Clinical Judgment (Items 5-8)								
5	The debriefing session helped me analyze my decision-making process.	0 (0.0%)	0 (0.0%)	7 (3.6%)	56 (29.2%)	129 (67.2%)	4.63	0.56
6	I was encouraged to reflect on my actions and consider alternative approaches.	0 (0.0%)	1 (0.5%)	6 (3.1%)	53 (27.6%)	132 (68.8%)	4.64	0.55
7	The facilitator helped me recognize gaps in my knowledge or skills.	0 (0.0%)	0 (0.0%)	6 (3.1%)	43 (22.4%)	143 (74.5%)	4.65	0.57

8	The feedback was constructive and helped me understand areas for improvement.	0 (0.0%)	0 (0.0%)	8 (4.2%)	60 (31.3%)	124 (64.6%)	4.71	0.52
Psychological Safety & Feedback Quality (Items 9-12)								
9	I felt psychologically safe to share my thoughts and ask questions during the debriefing.	0 (0.0%)	0 (0.0%)	3 (1.6%)	38 (19.8%)	151 (78.6%)	4.60	0.57
10	The facilitator created an environment that encouraged honest reflection.	0 (0.0%)	0 (0.0%)	6 (3.1%)	50 (26.0%)	136 (70.8%)	4.66	0.55
11	The feedback was delivered respectfully and supported my learning.	0 (0.0%)	0 (0.0%)	9 (4.7%)	49 (25.5%)	134 (69.8%)	4.77	0.46
12	I felt my contributions during the debriefing were valued and acknowledged.	0 (0.0%)	3 (1.6%)	7 (3.6%)	61 (31.8%)	121 (63.0%)	4.68	0.53
Application to Practice (Items 13-16)								
13	The simulation and feedback process helped me link theory to practice.	0 (0.0%)	1 (0.5%)	6 (3.1%)	53 (27.6%)	132 (68.8%)	4.65	0.57
14	I feel better prepared to handle similar situations in real life.	0 (0.0%)	1 (0.5%)	5 (2.6%)	61 (31.8%)	125 (65.1%)	4.56	0.64
15	The debriefing helped me develop strategies for improving future performance.	1 (0.5%)	0 (0.0%)	6 (3.1%)	55 (28.6%)	130 (67.7%)	4.65	0.55
16	I will be able to use the lessons learned in future clinical or professional settings.	0 (0.0%)	0 (0.0%)	5 (2.6%)	49 (25.5%)	138 (71.9%)	4.65	0.57
Overall Experience (Items 17-20)								
17	The simulation and debriefing experience met my learning needs.	0 (0.0%)	0 (0.0%)	6 (3.1%)	40 (20.8%)	146 (76.0%)	4.61	0.57
18	The feedback process was well-structured and easy to understand.	0 (0.0%)	2 (1.0%)	5 (2.6%)	49 (25.5%)	136 (70.8%)	4.63	0.60
19	I would recommend this simulation and feedback approach to others.	0 (0.0%)	2 (1.0%)	5 (2.6%)	57 (29.7%)	128 (66.7%)	4.69	0.52
20	Overall, I found the simulation and feedback experience valuable for my growth.	0 (0.0%)	1 (0.5%)	5 (2.6%)	39 (20.3%)	147 (76.6%)	4.68	0.54

Legend: 5.00 – 4.21 Strongly Agree 4.20 – 3.41 Agree ; 3.40 – 2.61 Neutral 2.60 – 1.81 Disagree; 1.80 – 1.00 Strongly Disagree

3.3. Perceived Impact on Confidence and Competence in Clinical-decision making in Managing Psychiatric Care

The impact of simulation-based training on nurses' confidence and clinical competence showed a positive response. Critical Thinking and Clinical Judgment (M= 4.66, SD= 0.55) and Application to practice (M= 4.63, SD= 0.53) domains in **Table 3** showed strong influence on nurses' competence and clinical decision making. Items from **Table 2** reveal this point, *Item 4* showed that nurses reported that simulation-based training assists in developing their confidence in decision-making (M= 4.55, SD=0.63) and nurses enhanced their ability to analyze decision-making in clinical situations (M=4.56, SD= 0.61) as detailed in *Item 5*. Moreover, *Item 7* revealed that nurses acknowledged that simulation helps them in identifying their gaps in knowledge and skills (M= 4.54, SD= 0.64) and *Item 14* disclosed that simulation helps them prepare to handle similar situations in the real clinical scenarios of psychiatric care (M= 4.53, SD= 0.69). This

finding suggests that a structured simulation-based training directly contributed to the perceived sense of readiness and mastery of a psychiatric clinical situation.

3.4. Quality and Effectiveness of Debriefing Sessions

Debriefing sessions were identified as a core strength of the simulation-based experience through the provision of a safe and constructive learning environment. As detailed in **Table 3**, the Psychological Safety and Feedback Quality domain ($M = 4.68$, $SD = 0.45$) signifies that nurses felt respected and valued during the simulation-based training. It is supported by the data in **Table 2** which highlights that facilitators deliver feedback in a respectful and supportive manner as seen in *Item 11* ($M = 4.77$, $SD = 0.46$). *Item 3* indicates that the feedback given during debriefing help nurses to clarify the concept that they found difficult to comprehend ($M = 4.62$, $SD = 0.59$), while *Item 5* shows that debriefing helps them in analyzing decision making ($M = 4.63$, $SD = 0.56$), and *Item 15* highlights how debriefing helps nurses to develop strategies for improving their clinical performance ($M = 4.65$, $SD = 0.55$). Additionally, *Item 12* revealed that nurses felt that their contributions during debriefing sessions were valued and acknowledged by the facilitators ($M = 4.68$, $SD = 0.53$). These findings underscore that debriefing sessions not only reinforce knowledge but also foster psychological safety, reflective practice, and professional growth among nurses.

Table 3 Domain-Level Averages with Interpretation

Domain	Items	Mean (M)	SD	Interpretation
Learning & Knowledge Acquisition	1–4	4.68	0.49	Nurses strongly agreed that simulation enhanced knowledge, confidence, and understanding of objectives.
Critical Thinking & Clinical Judgment	5–8	4.66	0.55	Debriefing promoted reflection, identification of gaps, and constructive improvement.
Psychological Safety & Feedback Quality	9–12	4.68	0.45	Nurses felt safe, respected, and valued, with feedback delivered effectively.
Application to Practice	13–16	4.63	0.53	Simulation supported theory-to-practice transfer, though slightly more variability in preparedness.
Overall Experience	17–20	4.65	0.51	Nurses found the simulation valuable, structured, and recommendable.

3.5. Relationship between Nurses demographics and SET-M Scores

Table 4 shows the relationship between nurses' demographics and SET-M scores statistical testing using Eta coefficient analysis, degree of freedom (df), and the Chi square test revealed no significant relationship across the demographic variables and total SET-M scores (all p-values > 0.05).

Table 4 Significant relationship between demographic variables and the total SET-M score

Profile	Eta value	df	p-value
Age	11.031 ^a	8	0.271
Nationality	12.966 ^a	8	0.262
Gender	3.632 ^a	2	0.122
Marital Status	.063 ^a	2	0.969
Qualifications	10.398 ^a	8	0.224
Years of Experience	2.791 ^a	8	0.895
Area of Assignment	19.841 ^a	22	0.803
Types of Simulation	15.241 ^a	8	0.053

if p – value > 0.05 Threshold Level: Accept Ho: Not Significant

The absence of significant effects suggests that simulation-based training facilitated by AMRH is perceived as effective across a diverse group of psychiatric nurses. This reinforces the adaptability of simulation-based training, indicating that it is equally beneficial regardless of the age ($p=0.271$), gender ($p=0.122$), nationality ($p=0.262$), marital status ($p=0.969$), years of experience ($p=0.895$), area of assignment ($p=0.803$), and educational background ($p=0.224$) of the psychiatric nurses.

4. Discussion

The study provides substantial evidence that SBT is perceived as highly effective by psychiatric nurses at AMRH as seen in the consistently positive response across all domains of SET-M.^{8 14} Such evidence indicates how this educational and transformative strategy successfully meets the unique learning needs of psychiatric nurses through realistic simulation to enhance clinical competencies such as managing psychiatric patients during crisis.^{1 15} These findings are congruent with the growing literature suggesting that simulation is a transformative tool to bridge the gap between theory and practice, which frequently hinders the transition of nurses' theoretical knowledge into clinical action.¹⁶

In the context of psychiatric care, where interpersonal dynamics and relational skills are important, simulation allows practitioners such as nurses to navigate complex scenarios and social interactions in a safe, controlled environment.^{1 17} Consequently, the result reinforces the view that structured simulation programs are important in promoting the clinical judgment, confidence, and decision-making skills of nurses required for psychiatric patient care.^{15 18 19}

The strong agreement among nurses regarding simulation suggests that it effectively captured the complex psychiatric care.¹⁴ These findings align with the work of Pfeiffer and Wands (2021), who demonstrated that utilizing participants as simulated patients significantly enhances nurses' confidence in psychiatric assessment. AMRH supported the idea that SBT provides a safe environment to practice mastery in psychiatric care, which Bandura (1986) theorized as the most effective way to develop self-efficacy. According to Bandura's self-efficacy theory, repeated successes in a safe learning environment are the most effective way to cultivate the professional confidence required for actual clinical practice.

One of the important outcomes of this study, that simulation improves nurses' confidence in clinical decision making is consistent with the studies conducted in Hong Kong and Vietnam. The researchers illustrated that structured simulation effectively enhances problem-solving skills, clinical reasoning, and perceived efficacy among nursing students.^{21 22} This is vital for psychiatric nursing, as the nurses often report feeling underprepared for the distinct psychiatric care. By providing a structured environment to practice skills like BLS, psychiatric medication, aggression management, and other clinical competencies, the program of AMRH addresses the stress in transitioning often experienced by nurses in the clinical area.

Another consistent finding of this study is the positive evaluation of the debriefing. Nurses at AMRH highly value the opportunity to verbalize feelings, self-reflect, and receive constructive feedback, which literature describes as essential for internalizing clinical learning and refining skills.^{8 23} These results align with the findings such as in a Polish study where debriefing was identified as a primary driver for satisfaction and students' engagement.¹⁶

Debriefing is considered the cornerstone of simulation-based training.²⁴ The success in AMRH highlights the critical importance of the expertise of the facilitator as the quality of debriefing reflects the degree of knowledge transfer to the actual clinical practice. Nurses in this study reported feeling respected, valued, and psychologically safe during debriefing which is critical for critical reflection and professional growth. This reinforces the argument that debriefing is not a supplementary activity but a central mechanism through which simulation achieves its educational impact among the nurses.¹

Debriefing during simulation is important to both observers and active participants. Both receive the needed learning. This is supported by recent quasi-experimental evidence from the United States, which shows that simulation effectiveness occurs regardless of whether one is an observer or a participant.²⁵ This suggests that reflective learning and collaborative discussions during debriefing allow observers to engage in the experience of simulation as effectively as those who actually participated. In contrast, other literature suggests that active participation significantly reports higher scores in learning, trust, and debriefing compared to observers only.¹⁹

These findings also align with Activity Theory, originally proposed by Vygotsky (1978) which conceptualizes learning as a socially constructed process shaped through dialogue, collaboration, and participation in a shared community of practice. Within the study, debriefing serves as the critical activity system where nurses collectively interpret experiences, negotiate meaning, and transform errors into opportunities for growth.²³ At AMRH, structured debriefing

sessions fostered open discussion and reflection, creating a psychologically safe learning culture among nurses. Additionally, encouraging collective reflection and debriefing promoted resilience and confidence among psychiatric nurses, equipping them to manage the emotional and cognitive demands that are common in psychiatric care.

Another notable finding of this study is the lack of a significant relationship between demographic variables and the perceived effectiveness of simulation using the SET-M, which suggests that there is inclusivity and universal applicability of simulation across the nursing workforce. This finding aligns with the evidence from Hong Kong and Saudi Arabia, where researchers similarly observed that the beneficial effect of high-fidelity simulation did not differ across gender, academic program, or clinical experience.^{14 22} However, this offers a different result with psychometric research in Brazil, which reported a positive correlation between age and perception scores, suggesting that older participants may perceive a greater learning effectiveness.²⁷

4.1. Implication to Policy and Practice

From the policy perspective, the consistently high satisfaction and overwhelming nurses' reception of SBT suggest that AMRH administration should recommend making simulation a longitudinal component of professional development.² Standardizing these simulation modules across the hospital could facilitate more equitable training outcomes and significantly enhance patient safety by systematically identifying latent safety threats and reducing preventable clinical errors.²

In clinical practice, the results highlight the necessity of maintaining a safer learning culture where clinical errors are viewed as an essential component for growth. SBT can also serve as an important intervention for promoting nurses' well-being, reducing burnout, and fostering professional resilience particularly in a demanding environment of psychiatric care.²⁸ Most importantly, these findings emphasized that simulation must be prioritized as a central educational mechanism, with administration investing in facilitator training, modernizing equipment, and implementing structured and evidence-based simulation protocols to ensure that simulated experience effectively translates into actual clinical excellence.^{1 18}

Limitation of the Study

Despite the positive outcomes of the study, several limitations must be considered. The study was conducted in a single institution, AMRH, which may limit the generalizability of the results to other nursing institutional settings with different resources and cultural dynamics.²⁷ Another limitation is the reliance on a convenience sample and self-reported perceptions may introduce social desirability bias, as nurses may feel inclined to rate the institutional training programs favorably.²² Additionally, the lack of a control group limits the ability to establish a definitive causal link between SBT and the observed gains in confidence and skills of the nurses. Lastly, the absence of a longitudinal design makes it difficult to assess and evaluate skill retention and actual patient outcomes.^{19 29}

Recommendation for Future Research

Following these findings, several recommendations are proposed. First, the need for longitudinal research to assess skill retention and actual transfer of knowledge to actual clinical practice outcomes over six to twelve months. Additionally, conducting multicenter comparative studies across diverse facilities, particularly in Oman or in Gulf countries, would significantly enhance the generalizability of results and help identify context-specific or cultural barriers to implementation of SBT. There is also a need for further investigation to compare the effectiveness of different simulation modalities such as the use of standard patient versus the immersive capabilities of virtual reality. Lastly, as facilitator expertise and the quality of guided reflection are primary determinants of knowledge transfer, research should explore the impact of facilitator training and various simulation models on nurse learning outcomes. Establishing these evidence-based best practices is essential for institutionalizing simulation not merely as a learning exercise but as a strategy that prepares nurses for the complexities of psychiatric care.

5. Conclusion

The study showed that SBT is perceived as highly effective by psychiatric nurses at AMRH, which is consistent with strong ratings across the domains of the SET-M tool. It has been reported that there is a substantial gain in knowledge, critical thinking, confidence, and application to practice, reinforcing the value of SBT in bridging the gap between theory and clinical practice. Additionally, debriefing served as a cornerstone of the simulation experience, fostering psychological safety, reflective practice, and professional growth among the nurses. The findings of the study affirm that simulation provides a safe and supportive environment for nurses to practice complex scenarios, enhance decision-making skills, and strengthen clinical competence. The absence of significant demographic differences highlights the

universal applicability of SBT among different nursing workforces. This reflects the role of simulation as a transformative educational strategy that prepares psychiatric nurses to manage different situations safely and effectively. From the policy perspective, incorporating simulation as part of the component of professional development will ensure sustained competence, resilience, and patient safety. Future research should extend the findings through longitudinal and multicenter studies, exploring expertise of facilitators, and use of different modalities to further institutionalize simulation as part of psychiatric education and professional growth.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that there are no conflicts of interest related to this study. The research was conducted independently and did not involve any commercial, financial, or personal relationships that could be construed as potential sources of bias or influence.

Statement of ethical approval

Ethical approval for this study was obtained from the Ministry of Health's Center of Studies and Research, Directorate General of Health Services – Muscat Governorate (Reference No. MH/DGHS/DPT/511/2025). Informed consent was obtained from all participants prior to completing the survey. Participation was voluntary, and confidentiality was strictly maintained throughout the study.

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Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request. In accordance with institutional policies, raw datasets are not publicly accessible to protect participant confidentiality and organizational privacy.

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