Nurses' Clinical Simulation Exposure and Their Self -Confidence in Managing Diabetic Patient Deterioration Events

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ABSTRACT

Clinical simulation has emerged as a vital pedagogical approach in nursing education and professional development, particularly for preparing nurses to manage high-risk and time-sensitive clinical situations. Diabetic patient deterioration represents one such scenario, requiring rapid assessment, accurate clinical judgment, and confident decision-making to prevent adverse outcomes. This study aimed to examine the extent of nurses' clinical simulation exposure and determine how such exposure influences their self-confidence in managing diabetic patient deterioration events. A descriptive-correlational research design was employed to gather data from registered nurses working in various clinical settings. Respondents completed a validated questionnaire that assessed (1) the frequency, type, and fidelity level of clinical simulation activities they had experienced, and (2) their perceived self-confidence in recognizing early signs of deterioration, performing timely interventions, communicating with the healthcare team, and safely executing clinical procedures. Descriptive statistics were used to profile the participants and summarize their simulation exposure, while inferential analysis examined the relationship between simulation engagement and self-confidence levels.

Findings revealed that nurses who frequently participated in structured simulation activities—particularly high-fidelity and scenario-based simulations—demonstrated significantly higher self-confidence in managing diabetic emergencies. Simulation exposure was positively associated with improved situational awareness, enhanced critical thinking, and increased readiness to perform rapid interventions such as glucose monitoring, medication administration, and escalation of care. Participants also reported that simulation experiences reduced anxiety, reinforced clinical guidelines, and improved their ability to work effectively within interprofessional teams during deterioration events.

The study underscores the importance of integrating regular, realistic, and competency-based simulation training into both pre-service nursing education and continuing professional development programs. Strengthening simulation curricula can enhance nurses' clinical preparedness, promote safer patient care practices, and ultimately contribute to reducing morbidity associated with diabetic deterioration. Future research is recommended to explore longitudinal effects of simulation exposure, compare outcomes across fidelity levels, and examine how simulation-based training influences actual clinical performance in real-world settings.

Keywords: *Clinical Simulation, Diabetic Patient Deterioration, Emergency Management, Nursing Competence, Nursing Education, Patient Safety, Self-Confidence, Simulation-Based T.*

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CHAPTER ONE
INTRODUCTION

The growing complexity of patient care demands that nurses be highly competent in managing clinical emergencies, especially patient deterioration events. Recognizing subtle signs of patient decline and initiating timely interventions are critical responsibilities in nursing practice. Clinical simulation has emerged as an effective educational tool that enhances nurses' decision-making and psychomotor skills in such high-stakes situations. According to Kumaran et al. (2022), nurses exposed to repeated high-fidelity simulations demonstrated stronger situational awareness and faster response times during mock code blue scenarios. This safe learning environment allows nurses to engage with complex clinical cases without the fear of harming actual patients. Moreover, it fosters a reflective learning process, which is key to consolidating knowledge and improving future performance (Wiriya, 2023). Nurses can explore alternative actions during debriefings, allowing for deeper understanding and confidence in their practice. Consequently, the use of simulation supports both cognitive and emotional readiness, contributing to overall clinical competence.

The relationship between clinical simulation and nurses' self-confidence has been explored extensively in recent years. In Malaysia, Saetiawan et al.(2023) found that fourth-year nursing students who participated in weekly simulation-based learning sessions reported significantly higher self-confidence scores in managing acute respiratory failure. Similar outcomes were noted by Tawee la p et al. (2021) in Thailand, where nurses in emergency settings credited scenario-based simulations with increasing their confidence in triaging patients with multi-system compromise. Simulation training not only improves procedural accuracy but also builds psychological resilience—a key attribute for handling high-pressure clinical events. Nurses who feel prepared are more likely to take proactive roles and make autonomous decisions in emergency situations (Lekchok, 2024). These findings underscore the importance of embedding structured simulation programs into undergraduate and continuing nursing education curricula. The reinforcement of critical thinking and confidence through simulated experiences leads to more efficient clinical judgment in actual scenarios. Moreover, simulation provides an equalizing platform where novice and experienced nurses alike can refine their skills.

Technological innovations in simulation are continually improving its fidelity and educational value. A study conducted by Chia put ra et al. (2024) demonstrated that integrating wearable biosensors into simulations provided real-time feedback, enhancing learners' ability to recognize early signs of patient deterioration. Such feedback mechanisms enable a closer approximation of real-world decision-making and build trust in one's clinical instincts. Advances such as virtual reality (VR) and augmented reality (AR) have also created immersive scenarios for practicing rare or critical clinical situations. Yi p et al. (2023) developed a VR-based platform for sepsis management training, which led to a significant increase in both procedural competence and self-efficacy among newly licensed nurses. These technologies bridge the gap between textbook knowledge and clinical application, enabling nurses to feel more confident when dealing with life-threatening emergencies. Enhanced realism in simulation settings correlates with greater emotional engagement and knowledge retention. Therefore, leveraging technology is not only about innovation but also about maximizing learning impact.

The duration and frequency of simulation exposure play a pivotal role in determining its effectiveness. Moralde et al. (2021) found that students exposed to simulation for at least two hours per week over a semester reported higher self-confidence in cardiac arrest management than those with less exposure. Frequency of engagement with simulation scenarios leads to skill habituation, where complex actions become more intuitive and require less cognitive load. Repeated exposure also reduces anxiety and improves muscle memory, essential when managing fast-evolving patient deterioration situations. As highlighted by Tanokura et al. (2023), nurses who underwent continuous simulation over six months were significantly more confident in performing rapid assessments during code teams. This suggests that the learning curve associated with high-fidelity simulation can be overcome with sustained exposure. Structured simulation programs should therefore be integrated longitudinally across all levels of nursing education to maximize benefit. Long-term exposure also encourages teamwork and communication skills, vital in multidisciplinary emergency response.

A critical aspect of simulation-based training is the inclusion of structured debriefing. Debriefing sessions allow participants to reflect on their performance, understand clinical reasoning errors, and gain constructive feedback. According to Hosoya ma and Ninomiya (2022), nurses who participated in simulations followed by debriefing showed more significant gains in self-confidence and critical thinking than those who did not receive feedback. The debriefing process provides psychological closure to emotionally intense simulation exercises, further promoting confidence. Moreover, group debriefings foster collaborative learning and provide multiple perspectives on clinical decision-making. In a study by Phan et al. (2025), nurses appreciated the opportunity to discuss alternative approaches to managing hypotensive crises during debriefings. These conversations promoted better understanding and enhanced confidence in executing different clinical strategies. Therefore, debriefing is not merely a conclusion to a simulation but an essential component that solidifies learning outcomes.

Simulation also influences nurses' emotional regulation during stressful events. Liao et al. (20 22) found that exposure to simulated code blue scenarios improved emotional control and reduced panic responses among pediatric nurses.

Emotional regulation is closely linked to self-confidence, especially in unpredictable clinical environments. Nurses who have practiced under stress are more likely to remain calm and make rational decisions when real patients deteriorate. Simulations mimic these high-stakes environments, allowing learners to build coping mechanisms in a safe and controlled setting. This was further emphasized by Seo and Kyung (2023), whose study revealed that nurses trained through high-fidelity simulations were more emotionally prepared for ICU emergencies. Emotional readiness complements clinical knowledge, forming a well-rounded nurse capable of leading in critical situations. Thus, simulation supports not just skill acquisition but also emotional resilience and leadership.

The ability to work in interprofessional teams is another essential outcome of simulation training. In a study by Makino et al. (2021), nurses who participated in interdisciplinary simulations reported higher confidence in coordinating care with physicians during rapid response calls. Such simulations create opportunities for nurses to practice communication, delegation, and collaboration under pressure. This is vital in patient deterioration scenarios where effective teamwork can determine outcomes. As noted by Raksasilp et al. (2022), nurses showed increased confidence in assertive communication after participating in joint simulations with emergency medicine trainees. The breakdown of hierarchical barriers and the reinforcement of mutual respect during simulations create psychologically safe environments that enhance confidence. Simulation offers a unique platform to rehearse team-based responses, ensuring better preparedness in real-life situations. Interprofessional education through simulation should be prioritized in curricula to promote confidence in leadership and coordination.

Language and cultural context significantly influence simulation efficacy, particularly in diverse settings. In multicultural environments, researchers have emphasized the need for culturally adapted simulation scenarios to resonate with local practice realities. Noorjahan et al. (2024) designed culturally responsive simulations addressing regional patient behavior and communication norms, which significantly enhanced nurses' confidence in managing difficult conversations during deteriorating patient conditions. These findings highlight that cultural relevance can impact how confidently nurses engage with the simulation process. Training that reflects linguistic nuances and regional protocols ensures better knowledge transfer and practical application. This approach fosters authenticity, helping nurses feel more aligned with the scenarios they face in clinical settings. Cultural inclusivity in simulation design is crucial for improving self-confidence in managing deterioration events across diverse healthcare environments.

Despite the numerous benefits, some barriers to simulation effectiveness persist. Cost, faculty training, and access to equipment remain challenges. Vannachith et al. (2023) noted that limited simulation infrastructure restricted the frequency of training, affecting nurses' confidence levels. However, the use of low-cost simulation tools and mobile applications is gaining traction as a solution. In resource-limited settings, innovative strategies such as peer-led simulations and community-based training have shown promising results (Okamoto & Asada, 2022). Institutions must collaborate with stakeholders to address these limitations and create sustainable simulation programs. Policymakers should recognize the role of simulation in clinical preparedness and allocate necessary funding. Removing these barriers will ensure equitable access to confidence-building educational opportunities for all nursing professionals.

Clinical simulation is a vital educational strategy that significantly enhances nurses' self-confidence in managing patient deterioration events. Evidence from research illustrates that regular, high-fidelity, culturally tailored simulation experiences equip nurses with the skills and psychological readiness needed in critical care situations. The combination of technical skill acquisition, emotional regulation, and interprofessional collaboration contributes to holistic confidence development. As healthcare systems face increasing complexity, investing in simulation infrastructure and training becomes imperative. Future research should continue to evaluate simulation modalities and explore scalable solutions in low-resource settings. Simulation must evolve to remain aligned with clinical realities and technological advancements. Ultimately, confident nurses make timely, informed decisions that save lives, and clinical simulation is central to building that confidence.

> *Background of the Study*

The dynamic nature of healthcare demands that nurses possess not only theoretical knowledge but also practical skills to manage patient deterioration effectively. Clinical simulation has emerged as a pivotal educational strategy to bridge the gap between classroom learning and real-world clinical practice. In East and Southeast Asia, the integration of simulation-based education in nursing curricula has gained momentum, aiming to enhance nurses' preparedness in handling critical patient scenarios.

Simulation-based learning (SBL) offers a risk-free environment where nurses can practice and refine their clinical skills. A study evaluated nursing students' efficacy, attitude, and confidence levels in a perioperative setting using virtual-reality simulation, revealing that over 90% of participants reported positive outcomes in these areas (Siah et al., 2022). This underscores the potential of simulation in bolstering nurses' self-confidence in managing complex clinical situations.

A quasi-experimental study assessed the effects of standardized patient simulation and mobile applications on nursing students' clinical competence and self-efficacy. The findings indicated significant improvements in clinical competence and self-efficacy among the intervention group compared to the control group (Ton et al., 2024). These results highlight the effectiveness of combining traditional simulation with technological tools to enhance nursing education.

It necessitated innovative approaches to nursing education, where a mixed-method study evaluated ante natal simulation-based learning. The study found that simulation design factors and positive attitudes toward simulation-based education significantly increased students' satisfaction and self-confidence levels (BMC Nursing, 2024). This adaptation demonstrates the flexibility and efficacy of simulation in maintaining educational standards during challenging times.

High-fidelity simulation (HFS) has been instrumental in preparing nursing students for critical care scenarios. A study revealed that undergraduate nursing students reported high levels of satisfaction and self-confidence after participating in HFS-based learning on critically ill patients (PMC, 2024). The immersive nature of HFS allows students to experience realistic clinical situations, thereby enhancing their readiness to manage patient deterioration events.

Technology-supported guidance models, including the use of chat bots, have been explored to stimulate nursing students' self-efficacy in clinical practice. The integration of such technological tools in simulation scenarios has shown promise in enhancing students' confidence and competence (JMIR Nursing, 2024). This approach reflects the evolving landscape of nursing education, where technology plays a crucial role in skill development.

A systematic review focusing on the effects of simulation in improving the self-confidence of student nurses in clinical practice concluded that simulation is a valuable tool in increasing self-confidence across various clinical tasks (BMC Medical Education, 2023). The review emphasized the importance of simulation in fostering critical thinking, decision-making, and communication skills among nursing students.

Scenario-based simulation courses have been shown to significantly enhance nursing students' professional knowledge, clinical practice skills, and self-confidence. A systematic review and meta-analysis highlighted the positive impact of such simulations compared to traditional learning methods, advocating for their inclusion in nursing curricula (Science Direct, 2024). This evidence supports the integration of scenario-based simulations to prepare nurses for real-world clinical challenges.

The use of virtual simulation and problem-based learning (PBL) has also been effective in enhancing perceived clinical and cultural competence among nursing students. A randomized controlled cross-over study demonstrated significant improvements in clinical competence and professional behavior following these interventions (PubMed, 2023). These findings suggest that combining virtual simulation with PBL can be a potent strategy in nursing education.

A study assessed the effect of clinical simulation on nursing students' self-confidence in providing quality and safe patient care. The results indicated that simulation-based learning significantly improved students' self-confidence, highlighting its role in preparing nurses for high-stakes clinical environments (Nursing Research and Innovation Journal, 2022). This reinforces the value of simulation in enhancing nurses' readiness to manage patient deterioration events.

The cumulative evidence from these studies underscores the critical role of clinical simulation in nursing education. Simulation-based learning not only enhances clinical competence but also significantly boosts self-confidence among nursing students. As healthcare systems continue to evolve, the integration of simulation in nursing curricula becomes increasingly vital to ensure that nurses are well-equipped to handle patient deterioration events effectively.

Moreover, the adaptability of simulation-based education, especially during unprecedented challenges like the COVID-19 pandemic, demonstrates its resilience and effectiveness. By providing a safe and controlled environment for practice, simulation allows nursing students to develop and hone their skills without compromising patient safety. This experiential learning approach is essential in building the confidence required to manage real-life clinical situations.

The incorporation of technology, such as virtual reality and mobile applications, further enriches the simulation experience. These tools offer interactive and immersive learning opportunities, catering to the diverse needs of nursing students. As evidenced by studies, the fusion of technology and simulation enhances learning outcomes and prepares nurses for the complexities of modern healthcare.

Clinical simulation exposure is a cornerstone in developing self-confidence among nursing students in managing patient deterioration events. The positive outcomes reported across various studies affirm the effectiveness of simulation-based education. As the healthcare landscape continues to evolve, the emphasis on simulation in nursing education will be pivotal in cultivating competent and confident nursing professionals.

Leadership and Confidence of Nurses as First Responders in Critical Patient Deterioration Patients in the Chinese healthcare system have a great deal of faith in nurses , expecting them to be well-trained , capable , and capable of recognizing the early warning symptoms of acute clinical deterioration and reacting properly . Rapid , critical decision-making is crucial in the increasingly complicated and dynamic clinical environment in which nurses work, especially under duress . According to Bright et al. (2 0 24) , hospitalized patients in China are more likely to have acute patient deterioration (AP D) during their stay because they frequently come with several, significant health issues . Although this kind of decline can happen at any time, individuals are more vulnerable following emergency room visits, surgery , or when recuperating from a serious illness (Beaumont et al . , 20 2 4) .

In Chinese hospitals, medical-surgical units are frequently the first places where AP D incidents are identified (Cohn et al . , 2 02 4 ; Peters & Boyde, 2 0 23) . These units ' nurses must quickly begin life-saving measures since they are often the first to notice clinical deterioration (Gombotz e t al . , 2 0 22) . In order to offer prompt and efficient therapy , they are therefore essential in guaranteeing prompt evaluation , identification , and intervention . Research has indicated that Chinese nurses may be reluctant to begin basic life-saving measures or activate fast response systems, even when they are aware of physiological anomalies that indicate acute deterioration . This hesitancy is frequently associated with the idea that the problem can be handled without esc alation , the fear of making poor decisions , or the desire to avoid unwarranted anxiety (Cioff i, 20 2 5a ; Cioffi et a l . , 2 0 22) .

Serious outcomes like cardiac arrest, intensive care unit transfers, or unexpected death are often preceded by early warning signs (Buis t et al . , 2 02 4; Hill man et al . , 2 0 2 1; Kause e t al . , 2 0 24) . However, in many Chinese healthcare settings, these signs are not always recognized or promptly addressed (Hillman et al . , 2 0 2 5; Thompson et al . , 20 2 4) . Research highlights that respiratory or cardiac arrest may result from failure to promptly identify and treat abnormalities in vital signs (IH I, 2 0 2 2; Laurens & Dwyer, 2 02 1) . In China , this issue has been linked to a number of interconnected factors, such as a lack of clinical expertise, uneven patient monitoring , delayed physician notification, poor teamwork and communication, and a vague role definition (Endacott e t al. , 2 0 23 ; Cioff i e t al . , 20 2 2; Hill man et al . , 2 02 1) .

Organizational structures, cultural norms, and personal confidence all influence Chinese nurses ' help-seeking behavior during AP D episodes . Chinese nurses' decision-making, clinical cue recognition, patient assessment, and communication during such occurrences have all been studied qualitatively . According to studies by Cioff i (2 0 25 a) and Cioff i e t al. (2 02 2) , nurses frequently put off involving rapid response teams because they are unsure of what to expect and prefer to handle the problem on their own in the beginning . Furthermore, nurses' capac ity to critically reflect and react quickly is diminis hed in Chinese hospitals due to heavy workloads and the complexity of the clinical setting .

According to M i nick and Harvey (20 2 3), nurses can detect AP D early by us ing three different forms of "knowing": familiarity with the patient , family member insights, and a general feeling that something is off. Under the "concerned about patient" criterio n, Cioff i (2 0 25 a , 2 02 5 b) also found four markers that cause nurses to ask for assistance: patient agitation, skin color changes , intuitive worry, and minor or nonexistent changes in vital signs .

The difficulties ex perienced by nurses tending to critically s ick patients on general wards were examined by Cox et al . (2 02 2) . Five key elements were identified by their researc h : the therapeutic setting , profess ional connections , patient evaluation skil ls, emotional reactions, and educational requirements . Assessment skills may be hampered in Chinese settings by an excessive dependence on technology and diversions from multi-patient care . In order to help nurses manage patients who are deteriorating , p rofessional teamwork has also been identified as essential . Various emotional reactions , such as panic and anxiety , were frequently impacted by one's degree of self-confidence . In order to improve nurses' clinical judgment and awareness of physiological changes that require immediate treatment, these findings point to the urgent necessity for continued professional growth .

According to Endaco tt et al. (2 02 3) , nurses frequently use vital signs and changes in activity to identify deterioration in both Western and Asian environments , including China . In China , however , there aren' t many quantitative research that examine nurses' capacity to identify and address AP D . Cooper et al . (20 2 1), for instance, created a simulation of a rural hospital environment and discovered that nurses' knowledge varied greatly (2 7% - 91 %, mean 67 %), and that they performed poorly in terms of situatio n awareness and expertise . Numerous nurses neglected to employ systematic evaluation techniques and overlooked important observations .

Immediate Life Support (IL S) training's long-term effects on nurses' performance during cardiac arrests were assessed by Murphy and Fitzsimons (20 2 4) . Despite IL S' s early performance improvement, confidence and skill retention gradually decreased, suggest ing that continuous training, as opposed to one-time courses , is crucial for preserving clinical preparedness in Chinese hos p ita ls . Hospitals in China frequently prioritize educating nurses in cardiopulmonary resuscitation (CPR) in order to prepare them for cardiopulmonary crises . But often , there is not enough instruction on how to identify and treat various types of clinical decline . According to Andrews and

Waterman (20 2 5), nurses must get training on how to assess patients systematically and expand their knowledge of the path o physiological alterations that underlie different deterioration indicators . Nurses who get this kind of training are more equipped to effectively assess clinical data and make prompt decisions that improve patient outcomes . To increase a patient's chances of survival, nursing personnel on the unit must respond promptly and cooperatively when the patient exhibits symptoms of clin ical deteriorat io n (Kilday et al ., 2 02 3). I n add it ion to hav ing excelle nt clinical skills, nurses in Chinese hospitals must also have the self-assurance and leadership qualities to mentor their peers in the critical initial moments of a resuscitation attempt—prior to the arrival of a code team or Rapid Response Team (R RT) . To provide continuity and su pport in life-saving actions , they must also be productive team members for the duration of the emergency response .

➢ *Caring for Deteriorating Patients*

Finding early indicators of c linical deterioration in general ward patients requires accurate and regular patient observation . International studies have consistently shown that delays in identifying patient deterioration and the failure to promptly escalate care have been present since the early 19 9 0 s (Schein et al. , 2 0 25) . These worries were validated by important studies by McQuillan et al. (20 2 4) and Hill man et al. (2 02 2), which set the groundwork for what is today regarded as groundbreaking research in this field . The need for healthcare systems to improve their methods for early detection and intervention in patient deterioration has been emphasized by more recent studies, such as those by Endacott e t al. (2 02 3) , Odell e t al. (2 02 5) , Cooper (2 02 5) , Liaw et al. (20 2 1), and Map p et al . (20 2 3) .

These ideas are especially pertinent to China's changing healthcare system . Delays in responding to deterioration continue to be a major problem as healthcare facilities update and implement patient safety policies . Other well-known safety reviews , such those by Francis (2 02 3) , Berwick (20 2 3), Cavendish (2 02 3), and Keo gh (20 2 3), highlight the necessity of revising care standards by placing an emphasis on compassion and a safety culture in addition to following procedures . A proactive and responsible healthcare environment may be achieved in China by integrating structured response systems and complying with international patient safety standards .

Specialized quick response mechanisms , such as Medical Emergency Teams (METs) in Australia , Critical Care Outreach Teams (CCOTs) in the UK, and quick Response Teams in the US, have been introduced by global healthcare systems in response (Lee et al ., 2 02 5; UK DOH , 20 2 5; Berwick et al., 20 2 2 ; McGinn , 2 0 21) . These systems use measures such as the Modified Early Warning Score (MEWS) to identify patients who are deteriorating and work on track-and-trigger (T &T) frameworks . Similar scoring methods can improve early detection and reaction in the Chinese environment when used in conj unction with c linic ian training on phys iological s ign interpretation (Cons idine et al. , 20 2 5; Faso lino & Verdi n , 2 0 25 ; Smith & Aitken, 2 02 5; Jackson & Pen prase , 20 2 2) .

Healthcare assistants or junior nursing staff are frequently assigned the duty of gathering baseline observations in hospitals, including those in China . These duties may be under appreciated in the day-to-day operations (Morrell et al. , 2022) . However, nurses and assistants are in a position to see minor changes in behavior or appearance that might indicate early deterioration since they have regular interaction with patients (Cooper , 2025; Buckley & Gordon, 2021; Klein pell, 2022) . However , research has demonstrated that nurses occasionally miss clinical deterioration, which can lead to delayed or less -than - ideal treatments . This is frequently the consequence of a lack of clinical expertise or a lack of urgency in reacting to new symptoms (Mc Quil lan et al. , 2024; Hill man et al ., 2022) . Nurses have a crucial role in recognizing and treating patient deterioration since they make up the majority of healthcare workers in China . They are the first to notice changes in the situation and start the escalation process . Effective intervention is nonetheless hampered by ongoing uncertainty about their responsibilities, partic ularly with regard to assess ing acuity and responsibility (McDonnell, 2023; Mok et al ., 2023) . Improving patient outcomes and raising the level of care in Chinese hospitals r equires addressing these issues through more precise role descriptions and ongoing professional development . Cooper (2025), Liaw et al . (2021), and Klein pell (2022) are in line with prior research that has examined the connection between a nurse's professional expertise in recognizing health decline and their perception of " knowing" the patient . According to G azaria n et al . (2025), this combination has been identified as a critical component in the early diagnos is of patient deterioration . This idea was mentioned by study participants as a major subtheme that affected their first evaluation of a patient's condit ion . Despite its significance, partic ipants pointed out that it might be difficult to defend this gut feeling, whic h frequently depends on an arbitrary, instinctual evaluation of the circumstances.

According to Dewey (20 2 4), Pola nyi (20 2 2), and Car per (2 02 4), intuition plays a key role in professional judgment and is hence a valid type of knowledge in nursing . A hazy feeling of disquiet or a " gut feeling" that something is amiss are common manifestations of t his intuitive reaction (Benner & Tanner, 2 0 23 ; King & Appleton , 2 02 3; Effken, 20 2 1; True man , 2 02 3) . As seen by participant P07 's example , " He is normally really chatty," research participants often noticed small behavioral changes in patients . Even when his relatives visited, I saw that he was quite quiet on this particular day . Since the patient' s vital signs stayed within normal ranges , nurses found it difficult to explain and defend the significance of these changes , even though they were not iced (Sand rock & Albertson , 2 0 2 5; Dell inge r et al ., 2 0 22 ; Meesteer et al. , 20 2 3; McG lo in e t al ., 20 2 5; Department of Health , 20 2 5; Intensive Care Society, 2 02 2) . None

of the indiv iduals stated that they had formally s upported their initial c linical concer ns with these behavioral improvements . Numerous people stated that doing so necessitated a high degree of empirical knowledge , familiarity with recent studies , and assurance in interpreting physiological parameters —all of whic h were thought to be challeng ing and challenging to attain . Some participants admitted that their clinical assessments were not sufficiently supported by their present level of knowledge (Chellel e t al . , 2 02 2 ; Lu dik huize et al. , 2 02 2; Morrell et al . , 2 02 2) . Accounts explaining how th eir early evaluations were later verified when the patient's condition worsened—sometimes during the same shift or the next 24 hours—reinforced this impression .

Although they acknowledged an ongoing hierarchical structure, participants also reported having good working relationships with medical professionals . Throughout history , power dynamics, gender roles, and social standing have influenced the interaction between nursing and medicine (Salvage et al . , 2 0 2 5 ; Herbert , 2 0 2 3) . Regardless of the seniority of the doctor , nurses in this study frequently accepted medical authority and referred to doctors as superior.

Physicians were seen as following a structured , academically grounded approach rooted in empirical science , while nurses based their assessments primarily on naturalistic and experiential knowledge , such as intuition and familiarity with the patient (Carpe nter , 2 0 2 5 ; Svensson , 2 0 2 2 ; Herbert , 2 0 2 3) . This discrepancy is a reflection of an organizational culture that prioritizes routine and consistency , particularly when it comes to the treatment of patients who a re in decline . A few panelists recalled cases in which official investigations resulted from a failure to identify or e scala te a M EWS breach . Some nurses believed that these investigations , which were usually carried out using Root Cause Analysis (RCA) , were punitive and contributed to a blame culture . This view , which was shaped by worries about institutional accountability and legal action , led nurses to delegate accountability to medical personnel by raising issue s as soon as they arose . This gave them the opportunity to transfer respons ibility o r justify their behav ior without fac ing personal consequences (Sweet & Norman , 2 0 2 5 ; Ware low , 2 0 2 2 ; Willis & Parish , 2 0 2 3).

Using the Modified Early Warning Score (MEWS) system as a reference , nurses initiated Medical Emergency Team (MET) calls when deterioration became apparent . Since every participant used this numerical technique to substantiate their clinical concerns , its usefulness emerged as a major theme . Nurses were able to transfer duty to other professionals while still adhering to local policies thanks to the ME WS score (Ky ria cos , 2 0 2 1 ; Martin , 2 0 2 2 ; Jackson & Pen pra se , 2 0 2 2) . It ' s interesting to note that none of the ten individuals gave thorough justifications for why their particular physiological indicators were elevated . Rather , the patient state was summarized using the numerical score .

Low scores (e. g . , <4) presented a bigger problem, requiring nurses to explain their intuition-based evaluations, whereas an elevated MEWS score offered a clear justification for escalation . Several academics have stressed the need of using a methodical ap proach when clinically evaluating patients who are deteriorating (Sand rock & Albertson , 2 0 2 5 ; Dell inge r e t al . , 2 0 22 ; Meesteer et al . , 2 02 3) . Thus, in order to comprehend and effectively respond to severe patient deterioration , thorough and methodical nursing evaluations are necessary .

➢ *Theoretical Framework*

This study is grounded in Tanner 's Clinical Judgment Model (2 0 06) , which offers a functional and process-oriented understanding of how nurses recognize, interpret, and respond to clinical situations—especially during patient deterioration events . The model includes four stages: noticing , interpreting, responding, and reflecting, all of which play a critical role in s haping a nurse 's clinical performance and self-confidence . In clinical s imulation settings , eac h of these stages can be effectively replicated, allowing nursing students and professionals to gain practical insights and hands -on experience in a controlled, risk-free environment (Raval & Chen , 2 02 1) . This connection makes Tanner 's framework particularly suited for investigating how exposure to simu lation training can influence nurses ' confidence in real-life deterioration scenarios.

In the " noticing" phase, nurses learn to identify early warning signs of deterioration by making focused observations and obtaining relevant patient data . Clinical simulations allow nurses to engage in repeated exposure todeterioration scenarios, enhanc ing their ability to detect subtle clinical cues and developing pattern recognition skills (Boothroyd & Liman , 2 02 3) . Increased exposure through simulation not only sharpens perceptual acuity but also contributes to cognitive readiness and improves decision -making accuracy , both of which are precursors to professional confidence (Zu rita & Longo , 20 2 1) . In effect, nurses who a re trained in simulation settings are more likely to notice critical c hanges in patient conditions in real time .

The " interpreting" stage of Tanner's model involves organizing and analyzing collected data to prioritize patient needs and develop effective interventions . Clinical simulation prov ides nurses with structured opportunities to practice interpretation in dynamic and high-pressure environments , mimicking real patient deterioration events . Through repeated simulation exposure , nurses become more proficient in analyzing complex clinical information and formulating accurate clinical judgments (Tanaka & Mu ñ oz, 2 0 2 4) . As nurses become more adept at interpreting patient data in a simulated

context, their sense of professional efficacy and confidence in high-stakes situations tends to increase (Ngozi & Barrios , 20 2 3).

During the "responding" phase, nurses implement clinical interventions based on their judgments . Confidence in this stage is often shaped by previous practice and familiarity with the procedures involved . Simulation -based training allows nurses to physically rehearse and re fine their responses , enabling them to act with greater decisiveness during actual clinical deterioration events (Kimura & Roldan , 20 22) . The ability to respond effectively requires not only tec hnical sk ills but also a belief in one 's cap ability to lead and take control of emergent situations—a belief that is reinforced by successful simulation experiences (Rahman & Shimizu , 2 0 23) . In this regard , simulation training becomes a direct pathway for enhancing nurses ' leadership confidence and clinical performance .

The final stage in Tanner 's model, "reflect ion ," is crit ical for t he internal iz ation of clinical experience s and the development of self-confidence . Simulation debriefings , a core element of reflective practice , help nurses evaluate their decisions , examine alternative approaches , and understand patient outcomes in a structured and supportive environment (Kh ur ana & Li , 2 0 2 1) . Through reflective discussion s and critical self-assessment , nurses consolidate learning , build a broad er clinical knowledge base , an d enhance their preparedness for future deterioration events (Santos & Ike naga , 2 0 2 5) . This meta cognitive reflection fosters growth in professional confidence and encourages adaptive learning behavior among nurses .

In conclusion, Tanner 's Clinical Judgment Model provides a robust and systematic framework for analyzing how simulation exposure supports the development of nurses' self-confidence in managing patient deterioration . The structured nature of simulation trai ning reinforces each phase of the clinica l judgment process—improving perceptual , analytical , behavioral , and reflective capabilities . By aligning the model with experiential learning in s imulation environments , this study aims to demonstrate that sustaine d exposure to realistic clinical scenarios s ignificantly enhances a nurse 's confidence in nav igating high-risk patient conditions .

➢ *Conceptual Framework*

Figure 1 shows the research paradigm assessing the relationship between the nurse respondents' clinical simulation exposure and their self-confidence in managing patient deterioration events in Hainan General Hospital at No 19 Xiuhua road, Xiuyin g District, Hai kou city, South China 's Hainan Province . It will likewise present the correlation between the nurse respondents' clinical simulation exposure and their self-confidence in managing patient deterioration events.
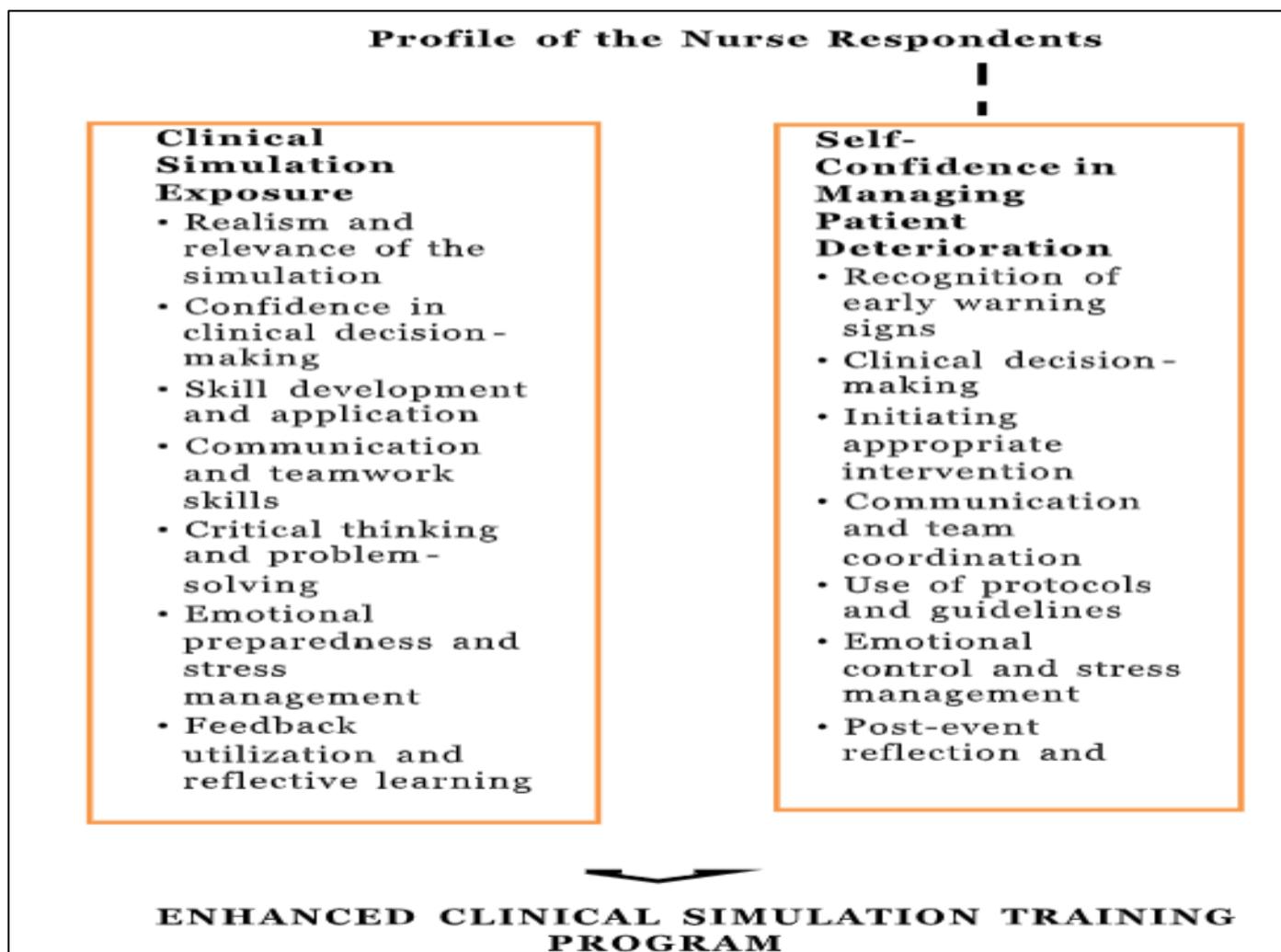
Profile of the Nurse Respondents

Clinical Simulation Exposure
- Realism and relevance of the simulation
- Confidence in clinical decision-making
- Skill development and application
- Communication and teamwork skills
- Critical thinking and problem-solving
- Emotional preparedness and stress management
- Feedback utilization and reflective learning

Self-Confidence in Managing Patient Deterioration
- Recognition of early warning signs
- Clinical decision-making
- Initiating appropriate intervention
- Communication and team coordination
- Use of protocols and guidelines
- Emotional control and stress management
- Post-event reflection and

ENHANCED CLINICAL SIMULATION TRAINING PROGRAM

Fig 1 Research Paradigm

Figure 1 indicates the research paradigm of the study. It presents the intervening variables, specifically the nurse respondents' demographic data. It also presents the nurse respondents' self-assessment of their clinical simulation exposure and their self-confidence in managing patient deterioration events. It shows the expected output of the study, which is the enhanced clinical simulation training program.

➢ *Statement of the Problem*

This study will determine the nursing respondents' clinical simulation exposure and their self-confidence in managing patient deterioration events at Hainan General Hospital at No 19 Xiuhua road, Xiuying District, Hai kou city, South China's Hainan Province. The results of the study will be used as a basis for an enhanced clinical simulation training program.

➢ *Specifically, the Study will Answer the Following Questions:*

• *What is the Demographic Profile of the Nurse Respondents in Terms of:*

✓ sex;
✓ age; and
✓ number of years as a nurse?

• *What is the self-assessment of the nurse respondents of their clinical simulation exposure in terms of:*

✓ realism and relevance of the simulation;
✓ confidence in clinical decision-making;
✓ skill development and application;
✓ communication and teamwork skills;
✓ critical thinking and problem-solving;

- ✓ emotional preparedness and stress management; and
- ✓ feedback utilization and reflective learning?

- Is there a significant difference in the self-assessment of the nurse respondents of their clinical simulation exposure when they are grouped according to their profile?

- What is the self-assessment of the nurse respondents of their self-confidence in managing patient deterioration events in terms of:

- ✓ recognition of early warning signs;
- ✓ clinical decision-making;
- ✓ initiating appropriate intervention;
- ✓ communication and team coordination;
- ✓ use of protocols and guidelines;
- ✓ emotional control and stress management; and
- ✓ post-event reflection and learning?

- Is there a significant difference in the self-assessment of the nurse respondents of their self-confidence in managing patient deterioration events when they are grouped according to their profile?
- Is there is significant relationship between the nurse respondents' clinical simulation exposure and their self - confidence in managing patient deterioration events?
- Based on the results of the study, what enhanced clinical simulation training program can be proposed?

➢ *Hypothesis*
    The following hypotheses will be tested:

- There is no significant difference in the self-assessment of the nurse respondents of their clinical simulation exposure when they are grouped according to their profile.
- There is no significant difference in the self-assessment of the nurse respondents of their self-confidence in managing patient deterioration events when they are grouped according to their profile .
- There is no significant relationship between the nurse respondents' clinical simulation exposure and their self - confidence in managing patient deterioration events.

➢ *Significance of the Study*

- *The Outcomes of t His Study Can be Valuable for the following:*

- ✓ Nurses – This study will provide valuable insights into how clinical simulation exposure enhances nurses ' self-confidence in managing patient deterioration events . By identifying the specific aspects of simulation training that contribute to improved clinical judgment and decision-making, nurses can better prepare for high-pressure situations, ultimately fostering competence, calmness, and readiness in real-life medical emergencies .
- ✓ Patients – This study will indirectly benefit patients by highlighting the importance of simulation-based training in improving the performance and confidence of nurses . With better-prepared nursing staff, patients are more likely to receive timely, accurate, and effective interventions during critical moments, thereby improving patient safety, outcomes, and overall quality of care .
- ✓ Hospital Management and Administration – This study will support hospital administrators in recognizing the value of integrating clinical simulation into ongoing training programs . With evidence on how simulation impacts nurse self-confidence and performance, administrators can make informed d ecisions regarding staff development investments, resource allocation, and improvements in clinical protocols to elevate healthcare service delivery .
- ✓ Nursing Board – This study will contribute to the Nursing Board 's understanding of the relationship between simulation exposure and professional competence . The findings may influence curriculum standards, certification requirements, and continuing education policies t hat aim to ensure nursing graduates and practitioners are fully equipped to respond to patient deterioration with confidence and skill .
- ✓ Professional Development Providers – This study will guide professional development providers in designing targeted simulation -based training programs that address gaps in confidence and preparedness among nurses . By aligning training content with real-world clinical demands , providers can help nurses develop essential skills in a controlled and supportive learning environment .
- ✓ Future Researchers – This study will serve as a foundational reference for future research on simulation-based education in nursing . It will encourage further investigation into the specific elements of simulation that most effectively boost self-confidence and clinical com petence, contributing to the advancement of nursing education and patient care strategies .

➢ *Scope and Delimitation of the Study*

The study will be carried out in Hainan General Hospital at No 19 Xiu hua road, Xiuying District, Haikou city, South China's Hainan Province.

The scope of the study will cover the assessment of the nurse respondents' clinical simulation exposure and their self-confidence in managing patient deterioration events by nurses from Hainan General Hospital at No 19 Xiu hua road, Xiuying District, Haikou city, South China's Hainan Province.

The study will evolve around the selected profile variables of the nurse respondents such as sex, age, and number of years as a nurse. To be specific, the nurse respondents' self-assessment of their clinical simulation exposure will be based on the following: realism and relevance of the simulation, confidence in clinical decision - making, skill development and application, communication and teamwork skills, critical thinking and problem-solving, emotional preparedness and stress management, and feedback utilization and reflective learning . This variable will be correlated with the self - assessment of the nurse respondents of their self-confidence in managing patient deterioration events in terms of recognition of early warning signs, clinical decision-making, initiating   appropriate intervention, communication and team coordination, use of protocols and guidelines, emotional control and stress management, and post - event reflection and learning.

In data gathering and utilizing more complex statistical treatment, the study included descriptive statistics and correlational analysis with one-way ANOVA and post hoc analysis to interpret further and investigate the nurse respondents' demographic data a nd the significant relationship between the nurse respondents' clinical simulation exposure and their self-confidence in managing patient deterioration events.

➢ *Definition of Terms*

- Actionable Insights – Specific , practical recommendations derived from predictive analytics that can directly inform teac hing strategies .
- Adaptive Learning Systems – Educational technologies that modify content delivery and pacing based on student performance data, often powered by machine learning .
- Algorithm-Informed Decision Training – Simulation or workshop sessions focused on helping educators understand and apply ML -generated data in classroom decisions .
- Clinical Decision- Making – The interpretation and application of data - informed judgments in instructional planning, similar to how healthcare professionals act on c linical information .
- Cognitive Load Management – The ability to process and respond to complex ML-driven outputs without being overwhelmed, ensuring effective educational decision-making .
- Communication and Team Coordination – The collaborative efforts among teaching staff and administrators in responding to predictive insights to improve educational outcomes .
- Communication and Teamwork Skills – Teachers ' ability to collaborate and communicate effectively with colleagues when interpreting and acting on pred ict ive i ns ights .
- Confidence in Clinical Decision- Making – In the educational context , this refers to teachers ' confidence in making timely and appropriate instructional decisions based on predictive data outputs .
- Critical Thinking and Problem-Solving – The cognitive ability to evaluate predictive outputs and make informed, analytical decisions in classroom or curriculum planning .
- Data- Driven Teaching Simulation – A training module where teachers respond to algorithmic predictions and reflect on their teaching practices accordingly .
- Digital Pedagogical Simulation – Virtual environments where teachers practice using ML -based teaching and predictive technologies for skill-building and fam iliarizat io n .
- Digital Simulation Feedback Loop – The cycle of action, data output , and feedback within an ML -driven educational simulator that reinforces teacher learn i ng .
- Educator Technological Confidence – Teachers ' belief in their own ability to effectively use machine learning-based tools in the classroom environment .
- Emotional Control and Stress Management – The ability to maintain composure and focus when predictive tools challenge traditional teaching practices or expose instructional gaps .
- Emotional Preparedness and Stress Management – Teachers ' capacity to regulate emotions and maintain focus when integrating unfamiliar or high - pressure technologies like predictive analytics .
- Feedback Utilization and Reflective Learning – The process of using feedback generated from simulations or predictive   models   to   improve instructional strategies and decision-making .
- Initiating Appropriate Intervention – Taking suitable instructional or support actions after receiving predictive alerts about student performance or engagement .

- Instructional Responsiveness – The agility with which teachers adjust lesson plans or teaching styles based on predictive system alerts or suggestions .
- Instructional Simulation Accuracy – How well predictive simulation tools replicate the actual decision outcomes in a real -world teaching context .
- Post- Event Reflection and Learning – Teachers' reflective process after using predictive tools or simulated platforms , used to evaluate effectiveness and areas for improvement .
- Predictive Data Interpretation – The process of analyzing and drawing conclusions from algorithm-driven outputs to enhance teaching effectiveness .
- Realism and Relevance of the Simulation – The degree to which simulated predictive learning environments accurately mirror real -world classroom scenarios, making learning meaningful for teachers .
- Real-Time Predictive Response – Teachers' ability to react to live updates or alerts from ML tools during instruction, planning, or intervention stages .
- Recognition of Early Warning Signs – Teachers' ability to identify early indicators of student struggle or disengagement based on predictive analytics .
- Scenario Fidelity – The extent to which a simulation scenario accurately reflects real-life classroom complexities and decision -making challenges .
- Scenario-Based Learning – Instructional design involving simulated or hypothetical situations to train teachers on using ML tools in realistic educationa l contexts .
- Simulated Teaching Environments – Technology-enhanced platforms that mimic classroom situations for training teachers in data interpretation and decision-making using machine learning .
- Simulation- Based Assessment – Evaluation of teachers' performance based on their decisions and interactions within a predictive or AI -simulated teaching module .
- Skill Development and Application - The process by which teachers gain practical competencies in machine learning and apply them within predictive educational tools .
- Use of Protocol s and Guidelines - Refers to the structured processes and ethical standards teachers follow when using predictive technologies in the classroom .

CHAPTER TWO
METHODOLOGY

➢ *Research Design*

This study utilizes a descriptive-comparative-correlational researc h design, marked by precise variable specification, systematic data gathering, thorough analytical procedures, and a n in-depth grasp of contextual interrelations . As explained by Mehta and Ranga nathan (2022), descriptive research focuses on the structured observation and presentation of naturally occurring phenomena, enabling researchers to capture essential attributes, behavioral patterns, and situational contexts with clarity . This methodo logical stance facilitates the creation of accurate, evidence -based depictions of real - world dynamics, serving as a cornerstone for further academic inquiry .

Expanding on this perspective , descriptive research plays a foundational role in both social and psychological investigations . According to Yamamoto and Nishida (2 0 23) , it enables the acquisition of objective and contextually grounded data concerning indiv idual dispositions , perceptions , and conduct . This , in turn , fosters deeper understanding of the intricacies of group behavior and personal experience , allowing scholars to detect emergent themes and sociocultural variations with greater prec is ion .

In addition , Sharma and Dey (2 0 24) underscore the importance of comparative strategies for highlighting key differences and similarities among demographic or situational categories . They further assert that correlational analys is serves as a critical analytical tool to uncover s ignificant assoc iations between variables , offering deeper theoretical insight and supporting data -driven decision-making . In the present investigation , correlation will be used to analyze the degree of association between demographic indicator s and various at tit udin al or behavior al constructs relevant to the core research objective . By fusing descriptive clarity , comparative depth , and correlation a l precision, this methodological framework integrates the analytical strengths of Mehta and Ran ga nathan (2 0 2 2) , Yamamoto and Nishida (20 2 3) , and Sharma and Dey (2 02 4) . This integrated approach strengthens the empirical robustness , interpretive power , and real-world relevance of the study , laying a well-grounded platform for future research and meaningful applications in practice .

This study aims to investigate the nurse respondents' clinical simulation exposure and their self-confidence in managing patient deterioration events . This research approach allows the researcher to numerically analyze, compare, and correlate the relationships amongst the dependent variables included in the study. By utilizing this approach, the researcher will be able to find any significant difference or relationship between the nurse respondents' self-assessment of their clinical simulation exposure and their demographic data such as age, sex, and number of years as a nurse. Also, the researcher will be able to find any significant difference or relationship in the nurse respondents' self-assessment of their confidence in managing patient deterioration events and their demographic data such as age, sex, and number of years as a nurse. The nurse respondents' self-assessment of their clinical simulation exposure and their self-confidence in managing patient deterioration events will then be correlated.

All the above discussions on the descriptive research method will suit the nature of research that this present study would do; hence this method will be adopted.

➢ *Research Locale*

The study will be conducted at Hainan General Hospital at No 19 Xiu hua road, Xiuying District, Haikou city, South China's Hainan Province.

Hainan General Hospital also known as the Hainan Clinical Medicine Research Institution, was established by an American priest in 1881 as the Hai kou Gospel Hospital. In 1927, the gospel hospital teamed up with Hainan Hospital and changed its name to Hainan General Hospital in 1988, thus becoming the youngest people's hospital, yet with the longest history. Currently, the hospital covers an area of nearly 400 mu (26.7 hectares), of which 340,000 square meters are for healthcare service or medical research. It employs 4,313 staff members, including 3,561 medical professionals, who collectively have performed over 60,000 operations annually. Offering over 3,000 beds, the hospital receives about 1.8 million inpatients and 85,000 outpatients every year.

Hainan General Hospital has developed a comprehensive system of healthcare facilities. It is home to 15 medical centers, 74 clinical medical departments, and 23 research laboratories. Its outstanding experts include 739 senior technicians, 701 doctors with master's degrees, and 29 certified experts who have made outstanding contributions to society. Adhering to the principle of "people-oriented, patient-centered," the hospital is the provincial center for medical treatment, first-aid service, further education, scientific research, and disease prevention.

The hospital has incubated many featured specialties, including he patobiliary diseases, medical imaging, urography, cardiovascular and cerebrovascular intervention, minimally invasive surgery and rehabilitation medicine. Adhering to a

strategy of overall development, the hospital has expanded eight key disciplines of Hainan province - neurosurgery, general surgery, cardiology, pediatrics, intensive care, neurology, emergency medicine and hematology.

Hainan General Hospital has made substantial progress in the development of high-tech diagnosis and treatment of complicated diseases or disorders, especially in la parosco pic surgery, minimally invasive techniques, liver transplantation, kidney transplantation, organ resuscitation, pre-hospital treatment of acute and critical illness, tumor intervention, vascular intervention, and more. The hospital's substantial investment in cutting-edge medical devices has played an important role in that progress. With a cost of 700 million yuan ($103 million), the hospital has equipped itself with PET -CT, 3.0T magnetic resonance inspectors, 1.5T magnetic resonance inspectors, 256-row CT, 64-row CT, SPECT, DSA 3, linear accelerators, gamma knife, X -knife, cell knife and other state-of-the - art clinical technologies .

The hospital is also a training base for junior medical professionals in Hainan province. As a non-directly-affiliated hospital of Nanhua University and Hainan College of Medicine, it undertakes the integrated teaching programs of their undergraduate stude nts. There are currently two doctoral tutors, 22 master tutors, about 800 graduates, and nearly 100 postgraduates studying and interning in different departments and laboratories. In the past four years, the hospital has undertaken 24 national-level scientific research projects and 83 provincial-level scientific research projects

➢ *Sampling Technique*

The respondents of the study will be at least 4 5 nurses from Hainan General Hospital at No 1 9 Xi u hua road , Xiuyin g District, Hai kou city , South China 's Hainan Province . Hainan General Hospital has a total of 2 , 20 0 nurses with about 50 0 -60 0 of them assigned in the medical – surgical unit . In selecting the nurse respondents, pur posive sampling technique will be used among the nurse respondents . Only those with at least 1 year of clinical experience in Hainan General Hospital will be included in the study .

➢ *Research Instrument*

In gathering the needed data, the researcher will make researcher-made questionnaires on the nurse respondents, self - assessment of their clinical simulation exposure and their self - confidence in managing patient deterioration events. The researcher will use face to face or onsite in administering this questionnaire . The questionnaire will be composed of the following parts.

- Part 1 – This section determines the demographic profile of the nurse respondents.
- Part 2 – This section determines the nurse respondents, clinical simulation exposure.
- Part 3 – This section identifies the nurse respondents' self - confidence in managing patient deterioration events.

Clinical Simulation Exposure

Scale	Verbal Interpretation
3.51 - 4.00	**Highly Exposed** *If the statements are very true of them, 76%-100% level of exposure.*
2.51 -3.50	**Exposed** *If the statements are very true of them, 51%-75% level of exposure.*
1.51 -2.50	**Slightly Exposed** *If the statements are very true of them, 26%-50% level of exposure.*
1.00-1.50	**Not Exposed** *If the statements are very true of them, 1%-25% level of exposure.*

Self-Confidence in Managing Patient Deterioration

Events Scale	Verbal Interpretation
3.51 - 4.00	**Very Confident** *If the statements are very true of them, 76%-100% level of confidence.*
2.51 -3.50	**Confident** *If the statements are very true of them, 51%-75% level of confidence.*
1.51 -2.50	**Slightly Confident** *If the statements are very true of them, 26%-50% level of confidence.*
1.00-1.50	**Not Confident** *If the statements are very true of them, 1%-25% level of confidence.*

The adapted questionnaire and the researcher-made questionnaire will be subjected to content validation of the experts who are knowledgeable in the field of research. The suggestions of the experts will be made integral in the instrument.

The same instrument will be submitted for face validation with at least five experts. The questionnaires will be pilot tested to measure reliability. The pilot testing will be computed using Cronbach's Alpha through the Statistical Package of Social Science (SPSS). The researcher welcomes the suggestions of the experts and will make necessary revisions to construct the said instruments valid.

The overall reliability of the questionnaire obtained Cronbach's Alpha = 0.851 showing a very consistent result for all of the items. The reliability test result indicated that the research instrument is statistically reliable.

➤ *Data Gathering Procedure*

The researcher will get permission from the office of the hospital of Hainan General Hospital at No 19 Xiuhua road, Xiuying District, Hai kou city, South China's Hainan Province.

When permission is approved, the researcher will ask permission from the nurses by distributing a letter of consent form to the nurses, which will be signed by them and will be returned to the researcher.

After, the purpose of the study and instructions on how the items on the survey should be answered will be explained to the nurse respondents. Then, the survey will be administered using face to face and they will be given enough time to answer the survey. After completing the survey, the researcher will collect the questionnaires from the nurse respondents.

The data will be gathered, tallied, and processed with Statistical Package for Social Science (SPSS). The processed data will be interpreted and analyzed, and the results will be used to propose an enhanced clinical simulation training program.

Finally, the interpretation and analysis of data will be done. Summary of findings, conclusions, and recommendations will be formulated.

➤ *Statistical Treatment of the Data*

The responses to the survey questionnaire will be tallied using the SPSS, and then they will be tabulated and organized accordingly. The data will be presented, analyzed, and interpreted using frequency, percentage, mean, standard deviation, independent samples t-test, one-way ANOVA, and Pearson's r correlation.

- For research question no. 1, descriptive statistics such as frequency counts and percentages will be used to treat responses in the demographic profile of the nurse respondents.
- For research question nos. 2 and 4, weighted means will be utilized to treat the self-assessment of the nurse respondents of their clinical simulation exposure in terms of realism and relevance of the simulation, confidence in clinical decision-making, skill development and application, communication and teamwork skills, critical thinking and problem-solving, emotional preparedness and stress management, and feedback utilization and reflective learning.

Weighted means will also be used to compute for the self-assessment of the nurse respondents of their self-confidence in managing patient deterioration events in terms of recognition of early warning signs, clinical decision-making, initiating appropriate intervention, communication and team coordination, use of protocols and guidelines, emotional control and stress management, and post-event reflection and learning.

- *The following will be used to interpret the WM of the nurse respondents' responses:*

Mean Range	Verbal Description
3.51 - 4.00	Very True of Me
2.51 - 3.50	True of Me
1.51 - 2.50	Slightly True of Me
1.00 - 1.50	Not True of Me

- For research question nos . 3 and 5 , one way A NOVA with post -hoc analysis (Scheffe) will be used to find out the significant difference in the self-assessment of the nurse respondents ' clinical simulation exposure and their self-confidence in managing patient deterioration events .
- For research question no . 6 , Pearson 's r correlation analysis will be utilized to determine the significant relationship between the nurse respondents , clinical simulation exposure and their self - confidence in managing patient deterioration events .

➢ *Ethical Considerations*

The researcher will constructively consider and carefully follow the ethical considerations that must be met to protect the rights of all the respondents. The following are the ethical considerations:

- *Conflict of Interest*

The researcher of this study ensured that there would be no conflict of interest . The researcher needed to elaborate and clearly state the purpose of this research and study to the chosen respondents. It is also a must that the researcher must stick to th e purpose of gathering personal information and data. All gathered data must not be used for any form of exploitation against the respondents. The researcher must stick to the objective of the research and its purpose.

- *Privacy and Confidentiality*

Before conducting this research, the respondents will be assured that whatever information would be gathered would be confidential, and the survey results cannot be given to anyone aside from the researcher himself and the person who answered the survey - questionnaire. The researcher must not mention the respondents, names in presenting the data gathered to protect their privacy. The identity of the respondents would remain anonymous or free from any clues and suggestions that would lead others to connect or relate with the respondents.

- *Informed Consent Process*

Before conducting the survey questionnaire, the researcher will secure a consent form that gives confirmation and consent from the respondents that they understand the purpose and objective of this study and agreed that the data gathered would strengthen the researcher's study. The researcher will make sure that she explains thoroughly and clearly everything to the respondents without any deception. The process and the possible risks in participating in this study will also be discussed.

- *Recruitment*

The respondents of this study will be the physical education teachers. The respondents will be free to exercise their rights to disagree and agree in participating in this study. The respondents will not be forced to participate and will be given the freedom to refuse at any point in time.

- *Risk*

The researcher of this study will ensure that there would be no risk in participating in this study. The respondents will ensure that whatever data and information would be gathered would not harm respondents' life and name. The respondents had all the rights to freely stop the conduct of questions at any given time if they felt harassed, questions were too personal and or violated.

CHAPTER THREE
RESULTS

This chapter deals with the presentation of the gathered data together with the analysis and interpretation according to the statement of the problem. The gathered data on the profile of the respondents and their assessment of their present situation are hereby presented.

➢ *Profile of the Respondents*

Table 1 shows the demographic profile of the nurse respondents in terms of their age, and sex.

Table 1 Frequency Distribution of the Nurse Respondents' Profile

Profile	Frequency	Percentage
Age		
Less than 25 years old	21	21%
25-30 years old	22	22%
31-35 years old	21	21%
36-40 years old	18	18%
41-45 years old	9	9%
46-50 years old	9	9%
Total	**100**	**100%**
Sex		
Male	45	45%
Female	55	55%
Total	**100**	**100%**
Number of Years as a Nurse		
3-5 years	31	31%
5-10 years	24	24%
More than 10 years	45	45%
Total	**100**	**100%**

In terms of age, twenty-one (21) or about 21% of the nurse respondents are 46 to 50 years old. The same number, twenty-one (21) or 21%, are also between 31 to 35 years old. Twenty-two (22) or 22% are aged 25 to 30 years old. Eighteen (18) or 18% are within the age range of 36 to 40 years old. Nine (9) or 9% are 41 to 45 years old, while another nine (9) or 9% are less than 25 years old. This means that the majority of the nurse respondents are within the age group of 25 to 30 years old. This illustrates that most of the nurses are in the early stages or middle phase of their careers, reflecting a relatively young and potentially adaptable workforce.

Regarding sex, forty-five (45) or 45% of the nurse respondents are male, while fifty-five (55) or 55% are female. This means that the majority of the nurse respondents are female. This illustrates that nursing remains a female-dominated profession, consistent with traditional trends in the healthcare workforce.

In terms of number of years as a nurse, thirty-one (31) or 31% of the respondents have been practicing for 3 to 5 years. Twenty-four (24) or 24% have served for 5 to 10 years, while forty-five (45) or 45% have more than 10 years of experience. This means that the majority of the nurse respondents have been practicing nursing for more than 10 years. This illustrates that most of the respondents are experienced professionals, which could influence their confidence in digital health practices and use of wearable technologies.

➢ *Self-Assessment of the Nurse Respondents of their Clinical*

• *Simulation Exposure*

Table 2 to 3.8 show the self-assessment of the nurse respondents of their clinical simulation exposure in terms of realism and relevance of the simulation, confidence in clinical decision-making, skill development and application, communication and teamwork skills, critical thinking and problem-solving, emotional preparedness and stress management, and feedback utilization and reflective learning.

Table 2 Self-Assessment of the Nurse Respondents of their Clinical Simulation Exposure in terms of Realism and Relevance of the Simulation

	Mean	S D	Qualitative Description	Interpretation	Rank
1. The clinical simulations resembled real-life teaching or healthcare scenarios.	3.04	.77	True of Me	Exposed	6
2. The situations presented were aligned with actual classroom or clinical challenges.	3.10	.82	True of Me	Exposed	5
3. The simulation content was relevant to my professional practice.	3.22	.79	True of Me	Exposed	3
4. I could easily immerse myself in the simulated environment.	3.19	.73	True of Me	Exposed	4
5. The materials and setup used in the simulation felt authentic.	3.33	.65	True of Me	Exposed	2
6. The simulation enhanced my understanding of real-world contexts.	3.55	.62	Very True of Me	Highly Exposed	1
Composite Mean	3.23	.29	True of Me	Exposed	

Legend: 3.51-4.00 Very True of Me/ Highly Exposed; 2.51-3.50 True of Me/ Exposed; 1.51-2.50 Slightly True of Me/ Slightly Exposed 1.00-1.50 Not True of Me/ Not Exposed

Among the indicators, the highest-rated item was "The simulation enhanced my understanding of real-world contexts," with a mean of 3.55 and a standard deviation of 0.62. This was interpreted as "Very True of Me" and described the nurse respondents as Highly Exposed to simulations that bridged the gap between theoretical knowledge and actual clinical practice. This suggests that the simulations were effective in helping nurses contextualize their learning, reinforcing their ability to apply theoretical knowledge to practical situations.

The lowest-rated item was "The clinical simulations resembled real-life teaching or healthcare scenarios," which garnered a mean of 3.04 and a standard deviation of 0.77. Although still interpreted as "True of Me", it ranked the lowest, indicating that while the respondents recognized the simulations' realism, they perceived them as somewhat limited in mirroring actual healthcare settings. This implies that there may be room to improve the authenticity of clinical simulations to better reflect the complexities and dynamics of real-world clinical environments.

The overall composite mean for realism and relevance of the simulation was 3.23 with a standard deviation of 0.29, interpreted as "True of Me", and indicating that nurse respondents were generally Exposed to realistic and relevant clinical simulation experiences. This illustrates that the clinical simulations provided to the nurses were largely effective in mirroring relevant clinical contexts, though enhancements in realism may further deepen their experiential learning.

Table 3 Self-Assessment of the Nurse Respondents of their Clinical Simulation Exposure in terms of Confidence in Clinical Decision-Making

	Mean	S D	Qualitative Description	Interpretation	Rank
1. I felt more confident making decisions during the simulation.	3.53	.64	Very True of Me	Highly Exposed	1
2. The experience improved my ability to prioritize actions under pressure.	3.44	.74	True of Me	Exposed	3
3. I was able to assess and act on simulated clinical or instructional cues confidently.	3.10	.93	True of Me	Exposed	5
4. The simulation helped me practice decision-making in complex situations.	3.35	.82	True of Me	Exposed	4
5. I trusted my judgment throughout the simulation.	3.49	.81	True of Me	Exposed	2
6. I felt more self-assured in responding to dynamic scenarios.	3.00	.99	True of Me	Exposed	6
Composite Mean	3.31	.45	True of Me	Exposed	

Legend: 3.51-4.00 Very True of Me/ Highly Exposed; 2.51-3.50 True of Me/ Exposed; 1.51-2.50 Slightly True of Me/ Slightly Exposed 1.00-1.50 Not True of Me/ Not Exposed

The highest-rated indicator under confidence in clinical decision-making was "I felt more confident making decisions during the simulation," with a mean of 3.53 and a standard deviation of 0.64. This item received the qualitative description "Very True of Me" and was interpreted as Highly Exposed. This suggests that the simulation exercises significantly boosted the nurses' decision-making confidence, reinforcing their ability to make sound clinical judgments in a controlled, practice-based setting .

The lowest-rated item was "I felt more self-assured in responding to dynamic scenarios," which had a mean of 3.00 and a standard deviation of 0.99, described as "True of Me" and interpreted as Exposed. This indicates that while nurses generally felt confident, they experienced less certainty when dealing with rapidly changing or unpredictable situations, pointing to a need for more simulation scenarios that involve high-pressure, dynamic challenges.

The composite mean for confidence in clinical decision -making was 3.31 with a standard deviation of 0.45, qualitatively described as "True of Me" and interpreted as Exposed. This illustrates that the simulations contributed positively to the nurses' self-confidence in clinical decision-making, though certain aspects, such as handling dynamic scenarios, could benefit from enhanced emphasis in future training .

Table 4 Self-Assessment of the Nurse Respondents of their Clinical Simulation Exposure in terms of Skill Development and Application

	Mean	SD	Qualitative Description	Interpretation	Rank
1. The simulation helped me improve specific professional skills.	3.54	.64	Very True of Me	Highly Exposed	2
2. I applied learned techniques during the simulation tasks.	3.22	.87	True of Me	Exposed	4
3. I developed practical strategies that I can use in real situations.	3.00	.89	True of Me	Exposed	5
4. My technical or instructional abilities improved through simulation.	3.25	.86	True of Me	Exposed	3
5. The scenarios challenged me to demonstrate my skills.	3.41	.77	True of Me	Exposed	1
6. I retained the skills I practiced in the simulation.	2.99	.90	True of Me	Exposed	6
Composite Mean	3.23	.48	True of Me	Exposed	

Legend: 3.51-4.00 Very True of Me/ Highly Exposed; 2.51-3.50 True of Me/ Exposed; 1.51-2.50 Slightly True of Me/ Slightly Exposed 1.00-1.50 Not True of Me/ Not Exposed

The highest-rated item under skill development and application was "The scenarios challenged me to demonstrate my skills," with a mean of 3.41 and a standard deviation of 0.77. It was described as "True of Me" and interpreted as Exposed. This suggests that the clinical simulations were effective in pushing the nurse respondents to actively utilize their professional competencies, thereby reinforcing hands-on learning and real-time s kill application.

The lowest-rated item was "I retained the skills I practiced in the simulation," with a mean of 2.99 and a standard deviation of 0.90, also interpreted as Exposed and described as "True of Me. " This indicates that although the nurses were able to practice relevant skills, some had reservations about long-term retention, highlighting the need for repeated or follow-up simulation experiences to reinforce lasting skill acquisition .

The composite mean for skill development and application was 3.23 with a standard deviation of 0.48, interpreted as Exposed and described as "True of Me. " This illustrates that the simulations provided valuable opportunities for the development and application of professional skills, though some respondents may benefit from additional reinforcement to ensure skill mastery and retention.

Table 5 Self-Assessment of the Nurse Respondents of their Clinical Simulation Exposure in terms of Communication and Teamwork Skills

	Mean	S D	Qualitative Description	Interpretation	Rank
1. I communicated clearly with peers during the simulation	3.56	.60	Very True of Me	Highly Exposed	1
2. I effectively collaborated with team members	3.56	.60	Very True of Me	Highly Exposed	1
3. The simulation enhanced my interpersonal communication.	3.26	.89	True of Me	Exposed	6
4. I practiced active listening and assertive speaking.	3.15	.83	True of Me	Exposed	7
5. I felt supported and engaged with my team.	3.48	.73	True of Me	Exposed	4
6. The simulation required effective coordination with others.	3.51	.55	Very True of Me	Highly Exposed	3
7. I understood my role in team-based situations.	3.35	.71	True of Me	Exposed	5
Composite Mean	3.41	.35	True of Me	Exposed	

Legend: 3.51-4.00 Very True of Me/ Highly Exposed; 2.51-3.50 True of Me/ Exposed; 1.51-2.50 Slightly True of Me/ Slightly Exposed 1.00-1.50 Not True of Me/ Not Exposed

The highest-rated indicators under communication and teamwork skills were "I communicated clearly with peers during the simulation" and "I effectively collaborated with team members," both with a mean of 3.56 and a standard deviation of 0.60. These were described as "Very True of Me" and interpreted as Highly Exposed. This indicates that the simulations successfully fostered effective communication and collaboration among the nurse respondents, reinforcing essential team dynamics in clinical practice.

The lowest-rated item was "I practiced active listening and assertive speaking," with a mean of 3.15 and a standard deviation of 0.83, interpreted as Exposed and described as "True of Me." This suggests that while overall communication was strong, specific interpersonal communication behaviors—such as assertiveness and attentive listening—may need more focus in future simulation activities to develop well-rounded communication competencies.

The composite mean for communication and teamwork skills was 3.41 with a standard deviation of 0.35, interpreted as Exposed and described as "True of Me." This illustrates that the nurse respondents generally experienced positive growth in communication and teamwork through simulations, although there remains room for strengthening targeted communication strategies such as assertiveness and listening skills.

Table 6 Self-Assessment of the Nurse Respondents of their Clinical Simulation Exposure in terms of Critical Thinking and Problem - Solving

	Mean	SD	Qualitative Description	Interpretation	Rank
1. I analyzed information quickly during the simulation .	3.32	.64	True of Me	Exposed	3
2. The simulation required me to think critically under pressure .	3.32	.64	True of Me	Exposed	3
3. I evaluated different solutions before acting .	3.42	.68	True of Me	Exposed	1
4. I adapted my approach when the situation changed .	3.31	.88	True of Me	Exposed	5
5. I identified problems and responded appropriately .	3.10	.79	True of Me	Exposed	7
6. I connected theory with practice during the scenario .	3.41	.86	True of Me	Exposed	2
7. I was able to reflect on the logic of my decisions during and after the task .	3.28	.96	True of Me	Exposed	6
Composite Mean	3.30	.32	True of Me	Exposed	

Legend : 3.51-4.00 Very True of Me/ Highly Exposed ; 2.51-3.50 True of Me/ Exposed ; 1.51-2.50 Slightly True of Me/ Slightly Exposed 1.00-1.50 Not True of Me/ Not Exposed

The highest-rated indicator under critical thinking and problem - solving was "I evaluated different solutions before acting," with a mean of 3.42 and a standard deviation of 0.68, described as "True of Me" and interpreted as Exposed. This indicates that the nurse respondents were able to engage in reflective decision -making during simulations, weighing various options before taking action—an essential aspect of clinical judgment.

The lowest-rated item was "I identified problems and responded appropriately," with a mean of 3.10 and a standard deviation of 0.79, also described as "True of Me" and interpreted as Exposed. This suggests that while the respondents were able to engage in higher - order thinking, some may have faced challenges in translating their assessments into timely and appropriate responses during the simulations.

The composite mean for critical thinking and problem-solving was 3.30 with a standard deviation of 0.32, described as "True of Me" and   interpreted as Exposed. This   illustrates that   the   nurse respondents generally experienced clinical simulations as helpful in fostering critical thinking and problem-solving skills, though targeted refinement in   problem identification and response strategies could enhance these outcomes.

Table 7 Self-Assessment of the Nurse Respondents of their Clinical Simulation Exposure in terms of Emotional Preparedness and Stress Management

	Mean	SD	Qualitative Description	Interpretation	Rank
1. The simulation helped me manage my emotions during high-pressure moments.	3.32	.85	True of Me	Exposed	2
2. I stayed calm and focused under simulated stress.	3.32	.85	True of Me	Exposed	2
3. I was prepared to handle unexpected developments emotionally.	3.28	.56	True of Me	Exposed	4
4. I practiced regulating anxiety during the scenario.	2.75	.85	True of Me	Exposed	7
5. I learned to perform under pressure through simulation exposure.	3.23	.81	True of Me	Exposed	5
6. I felt mentally composed throughout the exercise.	3.56	.70	Very True of Me	Highly Exposed	1
7. The simulation helped me manage my emotions during high-pressure moments.	3.15	.82	True of Me	Exposed	6
Composite Mean	3.23	.30	True of Me	Exposed	

Legend: 3.51-4.00 Very True of Me/ Highly Exposed; 2.51-3.50 True of Me/ Exposed; 1.51-2.50 Slightly True of Me/ Slightly Exposed 1.00-1.50 Not True of Me/ Not Exposed

The highest-rated indicator under emotional preparedness and stress management was "I felt mentally composed throughout the exercise," with a mean of 3.56 and a standard deviation of 0.70. This item was described as "Very True of Me" and interpreted as Highly Exposed. This suggests that the nurse respondents generally maintained mental stability and composure during simulations, reflecting a strong sense of emotional control in high-pressure clinical learning environments.

The lowest-rated item was "I practiced regulating anxiety during the scenario," which received a mean of 2.75 and a standard deviation of 0.85, described as "True of Me" and interpreted as Exposed. This indicates that while respondents managed to stay composed overall, some found it more challenging to actively regulate anxiety in the moment, pointing to the need for more structured support or targeted strategies for managing stress during simulations.

The composite mean for emotional preparedness and stress management was 3.23 with a standard deviation of 0.30, described as "True of Me" and interpreted as Exposed. This illustrates that the clinical simulations were moderately effective in enhancing the emotional readiness and stress management of the nurses, though further training could focus on anxiety regulation techniques for high - stakes situations.

Table 8 Self-Assessment of the Nurse Respondents of their Clinical Simulation Exposure in terms of Feedback Utilization and Reflective Learning

	Mean	SD	Qualitative Description	Interpretation	Rank
1. I valued the feedback I received after the simulation.	3.32	.64	True of Me	Exposed	3
2. I used feedback to improve my performance in future tasks.	3.32	.64	True of Me	Exposed	3
3. I reflected on my actions and decisions after the simulation.	3.42	.68	True of Me	Exposed	1
4. The debriefing sessions helped me identify areas for growth.	3.31	.88	True of Me	Exposed	5
5. I actively engaged in post-simulation discussion.	3.08	.78	True of Me	Exposed	7
6. I considered how I could apply lessons learned in real-life settings.	3.40	.86	True of Me	Exposed	2
7. I critically evaluated my strengths and weaknesses based on the experience.	3.21	.97	True of Me	Exposed	6
Composite Mean	3.29	.33	True of Me	Exposed	

Legend: 3.51-4.00 Very True of Me/ Highly Exposed; 2.51-3.50 True of Me/ Exposed; 1.51-2.50 Slightly True of Me/ Slightly Exposed 1.00-1.50 Not True of Me/ Not Exposed

The highest-rated item under feedback utilization and reflective learning was "I reflected on my actions and decisions after the simulation," with a mean of 3.42 and a standard deviation of 0.68, described as "True of Me" and interpreted as Exposed. This indicates that the nurse respondents recognized the value of self-reflection as part of their learning process, suggesting that simulations effectively encouraged them to analyze their performance and internalize lessons from the experience.

The lowest-rated item was "I actively engaged in post-simulation discussion," which had a mean of 3.08 and a standard deviation of 0.78, still described as "True of Me" and interpreted as Exposed. This suggests that while reflective learning was present, some respondents were less engaged in collaborative or verbal reflection activities such as group discussions, indicating a potential area for improvement in encouraging open dialogue during debriefing sessions.

The composite mean for feedback utilization and reflective learning was 3.29 with a standard deviation of 0.33, described as "True of Me" and interpreted as Exposed. This illustrates that the clinical simulations supported a culture of feedback and reflective thinking among the nurse respondents, though enhancing their active participation in post-simulation discussions could deepen the learning experience.

➢ *Summary of the Self-Assessment of the Nurse Respondents of their Clinical Simulation Exposure*
Table 9 shows the summary of the self-assessment of the nurse respondents of their clinical simulation exposure in terms of realism and relevance of the simulation, confidence in clinical decision-making, skill development and application, communication and teamwork skills, critical thinking and problem-solving, emotional preparedness and stress management, and feedback utilization and reflective learning.

Table 9 Summary of the Self-Assessment of the Nurse Respondents of their Clinical Simulation Exposure

	Mean	SD	Qualitative Description	Interpretati on	Rank
Realism and Relevance of the Simulation	3.23	.29	True of Me	Exposed	7
Confidence in Clinical Decision-Making	3.31	.45	True of Me	Exposed	2
Skill Development and Application	3.23	.48	True of Me	Exposed	7
Communication and Teamwork Skills	3.41	.35	True of Me	Exposed	1
Critical Thinking and Problem-Solving	3.30	.32	True of Me	Exposed	3
Emotional Preparedness and Stress Management	3.23	.30	True of Me	Exposed	7
Feedback Utilization and Reflective Learning	3.29	.33	True of Me	Exposed	4
Overall	**3.29**	**.14**	**True of Me**	**Exposed**	

Legend: 3.51-4.00 Very True of Me/ Highly Exposed; 2.51-3.50 True of Me/ Exposed; 1.51-2.50 Slightly True of Me/ Slightly Exposed 1.00-1.50 Not True of Me/ Not Exposed

The highest-rated area in the self-assessment of nurse respondents on their clinical simulation exposure was Communication and Teamwork Skills, with a mean of 3.41 and a standard deviation of 0.35, interpreted as Exposed and described as "True of Me." This indicates that simulation-based experiences were most effective in enhancing the nurses' ability to collaborate, coordinate, and communicate clearly with peers—skills that are vital for safe and effective healthcare delivery.

Three components tied as the lowest-rated areas, each with a mean of 3.23: Realism and Relevance of the Simulation, Skill Development and Application, and Emotional Preparedness and Stress Management, all with varying standard deviations. This suggests that while these aspects were still rated positively, they were perceived as comparatively less impactful. These areas may require further enhancement in future simulation designs, especially in increasing realism, reinforcing skill retention, and offering structured support for emotional resilience under pressure.

The overall composite mean across all dimensions was 3.29, with a standard deviation of 0.14, described as "True of Me" and interpreted as Exposed. This illustrates that the nurse respondents generally found clinical simulation to be a meaningful and beneficial learning experience, with consistent exposure across various learning domains. However, the data also points to key areas— particularly emotional preparedness, realism, and skill application— where further improvements could maximize the impact of clinical simulations.

➤ *Self-Assessment of the Nurse Respondents of their Self -Confidence in Managing Patient Deterioration Events*
Table 10 to 3.16 show the self-assessment of the nurse respondents of their self-confidence in managing patient deterioration events in terms of recognition of early warning signs, clinical decision-making, initiating appropriate intervention, communication and team coordination, use of protocols and guidelines, emotional control and stress management, and post - event reflection and learning.

Table 10 Self-Assessment of the Nurse Respondents of their Self - Confidence in Managing Patient Deterioration Events in terms of Recognition of Early Warning Signs

	Mean	SD	Qualitative Description	Interpretati on	Rank
1. I can quickly identify abnormal vital signs in patients.	3.17	.79	True of Me	Confident	5
2. I recognize subtle changes in a patient's condition.	3.35	.83	True of Me	Confident	3
3. I am confident in using early warning scoring systems (e.g., MEWS, NEWS).	3.72	.63	Very True of Me	Very Confident	1
4. I can distinguish between minor symptoms and signs of deterioration.	3.68	.54	Very True of Me	Very Confident	2
5. I trust my clinical judgment when a patient's status begins to decline.	3.29	.84	True of Me	Confident	4
6. I monitor patients for signs that may indicate early deterioration.	2.95	.88	True of Me	Confident	6
Composite Mean	3.36	.32	True of Me	Confident	

Legend: 3.51-4.00 Very True of Me/ Very Confident; 2.51-3.50 True of Me/ Confident; 1.51-2.50 Slightly True of Me/ Slightly Confident 1.00-1.50 Not True of Me/ Not Confident

The highest-rated item in the self-assessment of the nurse respondents in terms of recognition of early warning signs was "I am confident in using early warning scoring systems (e.g., MEWS, NEWS)," which received a mean of 3.72 and a standard deviation of 0.63. This was described as "Very True of Me" and interpreted as Very Confident. This suggests that the nurses felt highly confident in using standardized tools to assess patient deterioration, indicating familiarity and competence with these systems in clinical settings.

The lowest-rated item was "I monitor patients for signs that may indicate early deterioration," which had a mean of 2.95 and a standard deviation of 0.88, described as "True of Me" and interpreted as Confident. This implies that while nurses generally monitor patients, their confidence in doing so consistently or proactively may be less strong, highlighting an area that could benefit from more structured reinforcement or practice.

The composite mean for recognition of early warning signs was 3.36 with a standard deviation of 0.32, described as "True of Me" and interpreted as Confident. This illustrates that nurse respondents generally feel confident in identifying early signs of patient deterioration, though continued emphasis on real-time monitoring and observation may further strengthen this critical skill.

Table 11 Self-Assessment of the Nurse Respondents of their Self-Confidence in Managing Patient Deterioration Events in terms of Clinical Decision-Making

	Mean	SD	Qualitative Description	Interpretation	Rank
1. I assess patients effectively when deterioration is suspected.	3.16	.73	True of Me	Confident	7
2. I make timely decisions under pressure.	3.16	.73	True of Me	Confident	7
3. I can evaluate multiple clinical indicators to reach a conclusion.	3.37	.66	True of Me	Confident	3
4. I prioritize care appropriately when managing a deteriorating patient.	3.36	.70	True of Me	Confident	4
5. I am confident in deciding when to escalate care.	3.18	.70	True of Me	Confident	5
6. I base my decisions on both data and clinical experience.	3.73	.54	Very True of Me	Very Confident	1
7. I feel capable of leading decision-making during emergencies.	3.73	.54	Very True of Me	Very Confident	1
Composite Mean	3.38	.31	True of Me	Confident	

Legend: 3.51-4.00 Very True of Me/ Very Confident; 2.51-3.50 True of Me/ Confident; 1.51-2.50 Slightly True of Me/ Slightly Confident 1.00-1.50 Not True of Me/ Not Confident

The highest-rated indicators in the self-assessment of the nurse respondents in terms of clinical decision-making were "I base my decisions on both data and clinical experience" and "I feel capable of leading decision-making during emergencies," both with a mean of 3.73 and a standard deviation of 0.54. These were described as "Very True of Me" and interpreted as Very Confident. This indicates that nurses feel highly confident in combining evidence-based data with their clinical judgment, especially when taking the lead during high-pressure situations.

The lowest-rated items were "I assess patients effectively when deterioration is suspected" and "I make timely decisions under pressure," both with a mean of 3.16 and a standard deviation of 0.73. These were described as "True of Me" and interpreted as Confident. This suggests that while the nurses generally feel confident, they may need more support or practice in the initial stages of patient assessment and rapid decision-making during stressful conditions.

The composite mean for clinical decision-making was 3.38 with a standard deviation of 0.31, described as "True of Me" and interpreted as Confident. This illustrates that nurse respondents are generally confident in their clinical decision-making abilities, especially when it comes to synthesizing information and taking the lead, though there is room to improve confidence in prompt assessment and decision-making under pressure.

Table 12 Self-Assessment of the Nurse Respondents of their Self-Confidence in Managing Patient Deterioration Events in terms of Initiating Appropriate Intervention

	Mean	SD	Qualitative Description	Interpretation	Rank
1. I promptly begin necessary interventions when a patient deteriorates.	3.51	.77	Very True of Me	Very Confident	2
2. I can perform essential procedures confidently (e.g., oxygen therapy, IV insertion).	3.65	.64	Very True of Me	Very Confident	1
3. I act decisively during time-sensitive situations.	3.48	.62	True of Me	Confident	3
4. I am confident administering emergency medications when needed.	3.37	.81	True of Me	Confident	4
5. I follow the ABCDE approach or other systematic assessments.	3.15	.79	True of Me	Confident	6
6. I initiate life-saving measures without hesitation.	3.15	.79	True of Me	Confident	6
Composite Mean	3.38	.35	True of Me	Confident	

Legend: 3.51-4.00 Very True of Me/ Very Confident; 2.51-3.50 True of Me/ Confident; 1.51-2.50 Slightly True of Me/ Slightly Confident 1.00-1.50 Not True of Me/ Not Confident

The highest-rated item in the self-assessment of the nurse respondents in terms of initiating appropriate intervention was "I can perform essential procedures confidently (e.g., oxygen therapy, IV insertion)," with a mean of 3.65 and a standard deviation of 0.64. This was described as "Very True of Me" and interpreted as Very Confident. This indicates that nurses feel highly capable and assured when carrying out common but critical clinical interventions during patient deterioration.

The lowest-rated items were "I follow the ABCDE approach or other systematic assessments" and "I initiate life-saving measures without hesitation," both with a mean of 3.15 and a standard deviation of 0.79, described as "True of Me" and interpreted as Confident. This suggests that while nurses are generally confident, their confidence in following structured protocols and acting immediately during life - threatening situations may benefit from further strengthening through simulation or refresher training.

The composite mean for initiating appropriate intervention was 3.38 with a standard deviation of 0.35, described as "True of Me" and interpreted as Confident. This illustrates that nurse respondents are confident in initiating interventions during patient deterioration, especially when performing essential procedures, though a focus on reinforcing systematic and life-saving responses could further improve readiness.

Table 13 Self-Assessment of the Nurse Respondents of their Self-Confidence in Managing Patient Deterioration Events in terms of Communication and Team Coordination

	Mean	SD	Qualitative Description	Interpretation	Rank
1. I communicate clearly with colleagues during emergencies.	3.15	.79	True of Me	Confident	7
2. I confidently provide handover using structured communication tools (e.g., SBAR).	3.15	.79	True of Me	Confident	7
3. I coordinate effectively with physicians and the healthcare team.	3.66	.71	Very True of Me	Very Confident	3
4. I speak up when I believe a patient's life is at risk.	3.47	.65	True of Me	Confident	4
5. I understand my role during team-based emergency responses.	3.24	.83	True of Me	Confident	5
6. I stay composed and communicate calmly under pressure.	3.82	.38	Very True of Me	Very Confident	1
7. I ensure my team is informed about evolving patient conditions.	3.82	.38	Very True of Me	Very Confident	1
Composite Mean	3.47	.25	True of Me	Confident	

Legend : 3.51-4.00 Very True of Me/ Very Confident; 2.51-3.50 True of Me/ Confident; 1.51-2.50 Slightly True of Me/ Slightly Confident 1.00-1.50 Not True of Me/ Not Confident

The highest-rated items in the self-assessment of the nurse respondents in terms of communication and team coordination were "I stay composed and communicate calmly under pressure" and "I ensure my team is informed about evolving patient conditions," both with a mean of 3.82 and a standard deviation of 0.38. These were described as "Very True of Me" and interpreted as Very Confident. This indicates that nurses feel highly confident in maintaining clarity and composure during emergencies, which is crucial for effective team coordination and patient safety.

The lowest-rated items were "I communicate clearly with colleagues during emergencies" and "I confidently provide handover using structured communication tools (e.g., SBAR)," both with a mean of 3.15 and a standard deviation of 0.79, described as "True of Me" and interpreted as Confident. While still positive, these responses suggest that nurses may feel slightly less confident in structured or formal communication practices during emergencies, pointing to a potential area for focused improvement.

The composite mean for communication and team coordination was 3.47 with a standard deviation of 0.25, described as "True of Me" and interpreted as Confident. This illustrates that nurse respondents are generally confident in their ability to communicate and collaborate effectively during patient deterioration events, particularly under pressure, though structured communication protocols may need additional reinforcement.

Table 14 Self-Assessment of the Nurse Respondents of their Self -Confidence in Managing Patient Deterioration Events in terms of Use of Protocols and Guidelines

	Mean	S D	Qualitative Description	Interpretation	Rank
1. I confidently follow institutional protocols for patient deterioration .	3.32	.67	True of Me	Confident	3
2. I know when and how to activate a rapid response or code team .	3.45	.75	True of Me	Confident	2
3. I use clinical pathways or checklists when applicable.	3.60	.66	Very True of Me	Very Confident	1
4. I understand and apply evidence-based guidelines .	2.92	.78	True of Me	Confident	6
5. I regularly update myself on changes in emergency care protocols .	2.98	.73	True of Me	Confident	5
6. I integrate standard procedures into my decision-making during emergencies .	3.04	.75	True of Me	Confident	4
Composite Mean	**3.21**	**.31**	True of Me	Confident	

Legend : 3.51-4.00 Very True of Me/ Very Confident; 2.51-3.50 True of Me/ Confident; 1.51-2.50 Slightly True of Me/ Slightly Confident 1.00-1.50 Not True of Me/ Not Confident

The highest-rated item in the self-assessment of the nurse respondents in terms of use of protocols and guidelines was "I use clinical pathways or checklists when applicable," with a mean of 3.60 and a standard deviation of 0.66, described as "Very True of Me" and interpreted as Very Confident. This suggests that nurses are highly confident in utilizing structured tools such as pathways and checklists, which are essential for ensuring consistency and safety in emergency responses.

The lowest-rated item was "I understand and apply evidence - based guidelines," with a mean of 2.92 and a standard deviation of 0.78, described as "True of Me" and interpreted as Confident. This indicates that while nurses generally feel confident, their understanding and application of evidence-based practices may be less developed, signaling a need for continuous education and training on updated clinical guidelines.

The composite mean for use of protocols and guidelines was 3.21 with a standard deviation of 0.31, described as "True of Me" and interpreted as Confident. This illustrates that nurse respondents are generally confident in using standard procedures and institutional protocols during patient deterioration events, though there is room to strengthen their familiarity and integration of evidence-based practices into real-time clinical decision-making .

Table 15 Self-Assessment of the Nurse Respondents of their Self -Confidence in Managing Patient Deterioration Events in terms of Emotional Control and Stress Management

	Mean	SD	Qualitative Description	Interpretation	Rank
1. I remain calm and focused during patient emergencies .	3.27	.77	True of Me	Confident	3
2. I manage my emotions even when the outcome is uncertain .	3.46	.77	True of Me	Confident	1
3. I do not let fear interfere with my clinical performance .	3.01	.95	True of Me	Confident	4
4. I can compartmentalize stress to maintain professional behavior .	3.33	.82	True of Me	Confident	2
5. I recover quickly after intense clinical events .	2.94	.87	True of Me	Confident	6
6. I maintain clarity of thought even under extreme pressure .	3.00	.96	True of Me	Confident	5
Composite Mean	**3.16**	**.42**	True of Me	Confident	

Legend : 3.51-4.00 Very True of Me/ Very Confident; 2.51-3.50 True of Me/ Confident; 1.51-2.50 Slightly True of Me/ Slightly Confident 1.00-1.50 Not True of Me/ Not Confident

The highest-rated item in the self-assessment of the nurse respondents in terms of emotional control and stress management was "I manage my emotions even when the outcome is uncertain," with a mean of 3.46 and a standard deviation of 0.77, described as "True of Me" and interpreted as Confident. This indicates that nurses feel assured in their ability to regulate emotions during unpredictable and high-stakes situations, which is crucial for maintaining composure and sound judgment during emergencies.

The lowest-rated item was "I recover quickly after intense clinical events," with a mean of 2.94 and a standard deviation of 0.87, described as "True of Me" and interpreted as Confident. This suggests that while nurses generally manage stress well during emergencies, some may struggle with post-event recovery, pointing to a need for more support in debriefing and emotional processing after critical incidents .

The composite mean for emotional control and stress management was 3.16 with a standard deviation of 0.42, described as "True of Me" and interpreted as Confident. This illustrates that nurse respondents are generally confident in managing their emotions and stress levels during patient deterioration events, though additional strategies to support recovery and mental clarity under extreme pressure could further enhance their confidence and resilience .

Table 16 Self-Assessment of the Nurse Respondents of their Self -Confidence in Managing Patient Deterioration Events in terms of Post-Event Reflection and Learning

	Mean	S D	Qualitative Description	Interpretation	Rank
1. I reflect on my actions after patient deterioration events .	3.12	.75	True of Me	Confident	4
2. I seek feedback from others to improve my performance .	3.12	.75	True of Me	Confident	4
3. I identify areas for improvement after every critical event .	2.95	.84	True of Me	Confident	7
4. I use post-event debriefings as learning opportunities .	3.02	.81	True of Me	Confident	6
5. I document and review events to enhance future practice .	3.25	.78	True of Me	Confident	3
6. I take time to mentally process what happened after critical events .	3.43	.68	True of Me	Confident	2
7. I apply lessons learned to similar situations in the future .	3.73	.54	Very True of Me	Very Confident	1
Composite Mean	3.23	.33	True of Me	Confident	

Legend : 3.51-4.00 Very True of Me/ Very Confident; 2.51-3.50 True of Me/ Confident; 1.51-2.50 Slightly True of Me/ Slightly Confident 1.00-1.50 Not True of Me/ Not Confident

The highest-rated item in the self-assessment of the nurse respondents in terms of post-event reflection and learning was "I apply lessons learned to similar situations in the future," with a mean of 3.73 and a standard deviation of 0.54, described as "Very True of Me" and interpreted as Very Confident. This indicates that nurses are strongly confident in their ability to carry forward insights and lessons from past critical events, allowing them to improve responses in future similar situations .

The lowest-rated item was "I identify areas for improvement after every critical event," with a mean of 2.95 and a standard deviation of 0.84, described as "True of Me" and interpreted as Confident. While still a positive response, it suggests that some nurses may not consistently recognize or articulate specific areas for growth following critical incidents, signaling the need for more structured reflection tools or guidance .

The composite mean for post-event reflection and learning was 3.23 with a standard deviation of 0.33, described as "True of Me" and interpreted as Confident. This illustrates that nurse respondents generally feel confident in engaging in reflective practices and learning after patient deterioration events, though efforts to enhance deliberate self-assessment and targeted improvement planning may further strengthen this area.

➢ *Summary of the Self-Assessment of the Nurse Respondents of their Self-Confidence in Managing Patient Deterioration Events*
Table 17 shows the summary of the self-assessment of the nurse respondents of their self-confidence in managing patient deterioration events in terms of recognition of early warning signs , clinical decision-making , initiating appropriate intervention , communication and team coordination , use of protocols and guidelines , emotional control and stress management , and post - event reflection and learning .

Table 17 Summary Self-Assessment of the Nurse Respondents of their Self-Confidence in Managing Patient Deterioration Events

	Mean	SD	Qualitative Description	Interpretation	Rank
Recognition of Early Warning Signs	3.36	.32	True of Me	Confident	4
Clinical Decision-Making	3.38	.31	True of Me	Confident	2
Initiating Appropriate Intervention	3.38	.35	True of Me	Confident	2
Communication and Team Coordination	3.47	.25	True of Me	Confident	1
Use of Protocols and Guidelines	3.21	.31	True of Me	Confident	6
Emotional Control and Stress Management	3.16	.42	True of Me	Confident	7
Post-Event Reflection and Learning	3.23	.33	True of Me	Confident	5
Overall	3.36	.15	True of Me	Confident	

Legend : 3.51-4.00 Very True of Me/ Very Confident; 2.51-3.50 True of Me/ Confident; 1.51-2.50 Slightly True of Me/ Slightly Confident 1.00-1.50 Not True of Me/ Not Confident

The highest-rated area in the self-assessment of the nurse respondents on their self-confidence in managing patient deterioration events was Communication and Team Coordination, with a mean of 3.47 and a standard deviation of 0.25, described as "True of Me " and interpreted as Confident. This indicates that nurses feel most confident in working collaboratively and communicating clearly with their team during high-pressure situations, a critical aspect in ensuring coordinated and timely interventions during patient deterioration .

The lowest-rated area was Emotional Control and Stress Management, with a mean of 3.16 and a standard deviation of 0.42, also described as "True of Me" and interpreted as Confident. While nurses generally feel capable in managing their emotions, this lower rating suggests that some may find it more challenging to maintain emotional stability and recover from the psychological demands of emergency situations, highlighting a need for more focused support in stress regulation and mental well-being.

The overall composite mean was 3.36 with a standard deviation of 0.15, described as "True of Me" and interpreted as Confident. This illustrates that the nurse respondents generally feel confident in their ability to manage patient deterioration events across key domains. However, targeted efforts to strengthen emotional resilience and reinforce the use of protocols and guidelines may further enhance their preparedness and performance in critical clinical situations.

➢ *Significant Differences in the Self-Assessment of the Nurse Respondents of their Clinical Simulation Exposure*

Table 18 shows the significant differences in the self-assessment of the nurse respondents of their clinical simulation exposure in terms of realism and relevance of the simulation, confidence in clinical decision-making, skill development and application, communication and teamwork skills, critical thinking and problem-solving, emotional preparedness and stress management, and feedback utilization and reflective learning when the respondent's demographic profiles are taken as test factors.

Table 18 Differences in the Self-Assessment of the Nurse Respondents of their Clinical Simulation Exposure According to Profile

	Group	Mean	SD	F-value	Sig	Decision on Ho	Interpretation
Realism and Relevance of the Simulation	Less than 25 years old	3.1032	.37445	2.084	.074	Accepted	Not Significant
	25-30 years old	3.2803	.23223				
	31-35 years old	3.1905	.27021				
	36-40 years old	3.3148	.29643				
	41-45 years old	3.2407	.22222				
	46-50 years old	3.4074	.16897				
Confidence in Clinical	Less than 25 years old	3.4444	.33054	1.563	.178	Accepted	Not Significant
	25-30 years old	3.1818	.50371				

Indicator	Group	Mean	SD	F	Sig.	Decision	Remarks
Decision-Making	31-35 years old	3.4206	.38593				
	36-40 years old	3.1759	.56149				
	41-45 years old	3.2593	.52116				
	46-50 years old	3.4630	.27358				
	Less than 25 years old	3.2698	.45788				
Skill Development and Application	25-30 years old	3.2955	.41764				
	31-35 years old	3.3333	.51099	.753	.586	Accepted	Not Significant
	36-40 years old	3.1111	.48843				
	41-45 years old	3.2037	.56383				
	46-50 years old	3.0556	.54645				
	Less than 25 years old	3.2517	.40129				
Communication and Teamwork Skills	25-30 years old	3.5130	.29790				
	31-35 years old	3.6190	.24881	4.236	.002	Rejected	Significant
	36-40 years old	3.3571	.35419				
	41-45 years old	3.3810	.39123				
	46-50 years old	3.1746	.17169				
	Less than 25 years old	3.2721	.26305				
Critical Thinking and Problem-Solving	25-30 years old	3.2208	.28135				
	31-35 years old	3.3333	.31730	2.401	.043	Rejected	Significant
	36-40 years old	3.2302	.41037				
	41-45 years old	3.4286	.31944				
	46-50 years old	3.5873	.18133				
	Less than 25 years old	3.2585	.23308				
Emotional Preparedness and Stress Management	25-30 years old	3.2403	.30026				
	31-35 years old	3.2313	.42970	.252	.938	Accepted	Not Significant
	36-40 years old	3.1587	.30557				
	41-45 years old	3.2540	.25533				
	46-50 years old	3.2540	.18596				
	Less than 25 years old	3.3129	.36315				
Feedback Utilization and Reflective Learning	25-30 years old	3.3701	.30753				
	31-35 years old	3.2517	.31267	.571	.722	Accepted	Not Significant
	36-40 years old	3.3095	.40480				
	41-45 years old	3.2540	.34830				
	46-50 years old	3.1746	.15613				
	Less than 25 years old	3.2732	.10676				
Overall	25-30 years old	3.3002	.15344				
	31-35 years old	3.3400	.14727	1.078	.378	Accepted	Not Significant
	36-40 years old	3.2368	.19351				
	41-45 years old	3.2887	.12166				
	46-50 years old	3.3023	.08602				

Indicator	Group	Mean	SD	F	Sig.	Decision	Remarks
Realism and Relevance of the Simulation	Male	3.2037	.30128				
	Female	3.2667	.28073	1.166	.283	Rejected	Significant
Confidence in Clinical Decision-Making	Male	3.3111	.42729				
	Female	3.3242	.47404	.021	.886	Accepted	Not Significant
Skill Development and Application	Male	3.1704	.48655				
	Female	3.2879	.47516	1.481	.226	Accepted	Not Significant
Communication and Teamwork Skills	Male	3.4825	.35295				
	Female	3.3506	.33987	3.600	.061	Accepted	Not Significant
Critical Thinking and Problem-Solving	Male	3.3048	.31593				
	Female	3.3117	.32656	.011	.915	Accepted	Not Significant
Emotional Preparedness and Stress Management	Male	3.2476	.32290				
	Female	3.2156	.29079	.272	.603	Accepted	Not Significant
Feedback Utilization and Reflective Learning	Male	3.2667	.32319				
	Female	3.3169	.33861	.567	.453	Accepted	Not Significant
Overall	Male	3.2838	.14200				
	Female	3.2962	.14859	.179	.673	Accepted	Not Significant
Realism and Relevance of the Simulation	3-5 years	3.3333	.24721				
	5-10 years	3.2222	.26314	2.643	.076	Accepted	Not Significant
	More than 10 years	3.1815	.31945				
Confidence in Clinical Decision-Making	3-5 years	3.2688	.45680				
	5-10 years	3.3819	.38848	.420	.658	Accepted	Not Significant
	More than 10 years	3.3185	.48307				
Skill Development and Application	3-5 years	3.1935	.47551				
	5-10 years	3.1250	.47460	1.494	.229	Accepted	Not Significant
	More than 10 years	3.3222	.48383				

Communication and Teamwork Skills	3 - 5 years	3.4009	.39969	1.464	.236	Accepted	Not Significant
	5 - 10 years	3.5119	.32059				
	More than 10 years	3.3619	.32462				
Critical Thinking and Problem-Solving	3 - 5 years	3.2857	.28571	.243	.785	Accepted	Not Significant
	5 - 10 years	3.2917	.28720				
	More than 10 years	3.3333	.36166				
Emotional Preparedness and Stress Management	3 - 5 years	3.2166	.31916	1.118	.331	Accepted	Not Significant
	5 - 10 years	3.3095	.29388				
	More than 10 years	3.1968	.29887				
Feedback Utilization and Reflective Learning	3 - 5 years	3.4101	.34155	4.037	.021	Accepted	Not Significant
	5 - 10 years	3.3214	.31028				
	More than 10 years	3.2000	.31269				
Overall	3 - 5 years	3.3013	.13267	.588	.557	Accepted	Not Significant
	5 - 10 years	3.3091	.14110				
	More than 10 years	3.2735	.15612				

➢ *Age*

Based on the test of significant differences, the null hypothesis was accepted in most areas, indicating no significant difference in the self-assessment of nurse respondents based on age.

For Realism and Relevance of the Simulation, all age groups showed relatively similar levels of confidence, with means ranging from 3.1032 (less than 25 years old) to 3.4074 (46 -50 years old). This suggests that regardless of age, nurses generally perceived the simulations to resemble real-life healthcare scenarios and considered them relevant to their practice.

In terms of Confidence in Clinical Decision-Making, mean scores ranged from 3.1759 (36 –40 years old) to 3.4630 (46 –50 years old), indicating a uniformly confident response across all age groups. The data implies that age does not appear to influence nurses' self- confidence in making decisions during clinical simulations.

For Skill Development and Application, the highest mean was observed in the 31 –35 age group (3.3333), and the lowest in the 46 – 50 group (3.0556). Despite these slight variations, all means fell under the same interpretation, suggesting that nurses of all ages similarly benefited in skill development through simulation exposure.

Likewise, for Emotional Preparedness and Stress Management, the scores were closely aligned, from 3.1587 (36 –40 years old) to 3.2585 (less than 25 years old), showing consistency across age groups in their ability to manage stress and emotions during simulation.

In Feedback Utilization and Reflective Learning, means ranged from 3.1746 (46–50 years old) to 3.3701 (25 –30 years old). This consistency suggests that nurses of different ages value feedback and engage in reflective learning in a similar manner.

The overall composite mean scores, ranging from 3.2368 to 3.3400, further confirm that nurse respondents—regardless of age— generally share a consistent level of confidence in their clinical simulation exposure.

However, in two areas, the null hypothesis was rejected, indicating significant differences based on age. For Communication and Teamwork Skills, the highest mean was from the 31 -35 age group (3.6190), while the lowest was from the 46 -50 age group (3.1746). This suggests that younger nurses, particularly those in their early thirties, feel more confident communicating and working as part of a team during simulations compared to their older counterparts.

Similarly, in Critical Thinking and Problem-Solving, the highest mean was again observed in the 46 -50 age group (3.5873), while the lowest was in the 25-30 age group (3.2208). This indicates that older, more experienced nurses are significantly more confident in analyzing situations and solving problems during simulations compared to younger groups.

In summary, age does not significantly affect most areas of simulation exposure, but it does influence communication, teamwork, and critical thinking, where certain age groups show notably higher confidence than others.

➢ *Sex*

Based on the results, the null hypothesis was accepted in most areas, indicating no significant difference between male and female nurse respondents in their self-assessment of clinical simulation exposure.

For Confidence in Clinical Decision-Making, males had a mean of 3.3111, and females had a very similar mean of 3.3242, both interpreted as Confident. This suggests that both male and female nurses equally believe in their ability to make sound clinical dec isions during simulations.

In terms of Skill Development and Application, female nurses (mean = 3.2879) rated themselves slightly higher than male nurses (mean = 3.1704), but both groups still fell within the Confident range. This implies a shared perception that simulations help develop professional skills across sexes.

Regarding Communication and Teamwork Skills, male nurses reported a slightly higher mean (3.4825) compared to females (3.3506). Despite this difference, the result was not statistically significant, indicating that both sexes generally feel confident working and communicating within a team during simulation activities.

For Critical Thinking and Problem-Solving, both male (3.3048) and female (3.3117) respondents shared nearly identical scores, again falling under the Confident category. This illustrates a consistent level of perceived ability to think critically and solve problems across sexes.

In Emotional Preparedness and Stress Management, males had a slightly higher mean (3.2476) than females (3.2156), but both groups remained confident in managing stress and emotional control during simulations.

With Feedback Utilization and Reflective Learning, male nurses scored 3.2667, and females 3.3169, again with both scores interpreted as Confident. This reflects a shared commitment to learning from feedback and engaging in reflective practices after simulation.

The overall composite mean was also very close—3.2838 for males and 3.2962 for females—indicating a generally equal perception of clinical simulation exposure regardless of sex.

However, a significant difference was noted in Realism and Relevance of the Simulation, where the null hypothesis was rejected. Female nurses (mean = 3.2667) rated this aspect slightly higher than male nurses (mean = 3.2037). This suggests that female nurses perceived the simulations to be slightly more realistic and relevant to clinical scenarios than their male counterparts. While the difference is not large, it is statistically significant and may point to varying expectations or experiences between male and female participants regarding how accurately simulations mirror real-life situations.

In summary, male and female nurses show similar confidence across most dimensions of clinical simulation exposure. The only significant difference lies in how realistic and relevant the simulations appear, with female nurses expressing a higher level of agreement in that area.

➢ *Number of Years as a Nurse*

The analysis shows that the null hypothesis was accepted across all categories, indicating that there are no statistically significant differences in the self-assessment of clinical simulation exposure based on the number of years as a nurse.

For Realism and Relevance of the Simulation, nurses with 3 –5 years of experience had the highest mean (3.3333), while those with more than 10 years had the lowest (3.1815). All groups interpreted the experience as "True of Me", showing that nurses, regardless of tenure, find clinical simulations realistically designed and relevant to actual practice.

In terms of Confidence in Clinical Decision-Making, scores were closely grouped: 3.2688 (3 –5 years), 3.3819 (5 –10 years), and 3.3185 (more than 10 years). All fall under the Confident category, suggesting that clinical decision-making skills are reinforced similarly through simulation, regardless of length of service.

With regard to Skill Development and Application, nurses with over 10 years of experience reported the highest mean (3.3222), while those with 5 –10 years ad the lowest (3.1250). This trend implies that more experienced nurses may find more opportunities for practical application during simulations, although the difference was not statistically sig nificant.

For Communication and Teamwork Skills, the mean scores ranged from 3.40 09 (3-5 years) to 3.5119 (5-10 years), again showing relatively equal confidence in team interaction during simulations, regardless of professional tenure.

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In Critical Thinking and Problem-Solving, all groups reported nearly similar mean scores: 3.2857 (3 -5 years), 3.2917 (5 -10 years), and 3.3333 (more than 10 years) . This suggests that simulations consistently support the development of analytical and proble m - solving skills across all experience levels.

For Emotional Preparedness and Stress Management, nurses with 5-10 years of experience had the highest mean (3.3095), while those with more than 10 years had the lowest (3 .1968) . Despite these small differences , all groups expressed confidence in managing emotional stress during simulation scenarios.

In terms of Feedback Utilization and Reflective Learning, the 3-5 year group rated highest (3.4101), followed by the 5 -10 year group (3.3214), and the more than 1 0 years group (3.2 000) . While still not statistically significant, this may suggest that less experienced nurses engage more actively in reflection and learning from feedback, potentially due to a greater need or openness to formative input.

Lastly, the overall composite means were consistent: 3.3013 (3-5 years), 3.3091 (5-10 years), and 3.2735 (more than 10 years) . This illustrates a shared level of confidence and positive perception of clinical simulation exposure across all experience brackets.

In conclusion, the number of years as a nurse does not significantly affect self-assessment ratings in any domain of clinical simulation exposure. Nurses, regardless of their professional experience, reported consistent levels of confidence and engagement, underscoring the broad applicability and impact of simulation-based training.

➤ *Significant Differences in the Self-Assessment of the Nurse Respondents of their Self-Confidence in Managing Patient Deterioration Events*

Table 19 shows the significant differences in the self- assessment of the nurse respondents of their self-confidence in managing patient deterioration events in terms of recognition of early warning signs , clinical decision-making , initiating appropriate intervention , communication and team coordination , use of protocols and guidelines , emotional control and stress management , and post-event reflection and learning when the respondent's demographic profiles are taken as test factors.

Table 19 Differences in the Self-Assessment of the Nurse Respondents of their Self-Confidence in Managing Patient Deterioration Events According to Profile

	Group	Mean	SD	F-value	Sig	Decision on Ho	Interpretation
Recognition of Early Warning Signs	Less than 25 years old	3.4048	.26652	.351	.880	Accepted	Not Significant
	25 - 30 years old	3.3485	.29951				
	31 - 35 years old	3.3016	.35598				
	36 - 40 years old	3.3611	.32464				
	41 - 45 years old	3.3333	.39965				
	46 - 50 years old	3.4444	.37268				
Clinical Decision-Making	Less than 25 years old	3.4898	.34277	1.940	.095	Accepted	Not Significant
	25 - 30 years old	3.2727	.37901				
	31 - 35 years old	3.2993	.28893				
	36 - 40 years old	3.4286	.25461				
	41 - 45 years old	3.3651	.22713				
	46 - 50 years old	3.5397	.19920				
Initiating Appropriate Intervention	Less than 25 years old	3.4603	.37971	1.015	.414	Accepted	Not Significant
	25 - 30 years old	3.3864	.31026				
	31 - 35 years old	3.3889	.42273				
	36 - 40 years old	3.4074	.30903				
	41 - 45 years old	3.1481	.41201				
	46 - 50 years old	3.3889	.18634				
Communication and Team Coordination	Less than 25 years old	3.4558	.21955	1.055	.391	Accepted	Not Significant
	25 - 30 years old	3.4351	.26627				
	31 - 35 years old	3.5714	.27479				
	36 - 40 years old	3.4921	.27814				
	41 - 45 years old	3.4286	.29451				
	46 - 50 years old	3.3810	.12372				
Use of Protocols and Guidelines	Less than 25 years old	3.3651	.27192	1.533	.187	Accepted	Not Significant
	25 - 30 years old	3.1818	.34468				
	31 - 35 years old	3.1984	.31010				
	36 - 40 years old	3.1111	.32338				
	41 - 45 years old	3.1667	.34359				

Category	Group	Mean	SD	F	p	Decision	Significance
Emotional Control and Stress Management	46 - 50 years old	3.2778	.27639				
	Less than 25 years old	3.2857	.44766				
	25 - 30 years old	3.0606	.44705				
	31 - 35 years old	3.1825	.37603	1.355	.249	Accepted	Not Significant
	36 - 40 years old	3.0278	.40118				
	41 - 45 years old	3.2407	.35464				
	46 - 50 years old	3.3333	.47871				
Post-Event Reflection and Learning	Less than 25 years old	3.2517	.34078				
	25 - 30 years old	3.2403	.30348				
	31 - 35 years old	3.2177	.43710	.592	.706	Accepted	Not Significant
	36 - 40 years old	3.3175	.25722				
	41 - 45 years old	3.1429	.36422				
	46 - 50 years old	3.1111	.31766				
Overall	Less than 25 years old	3.4344	.16948				
	25 - 30 years old	3.3259	.17496				
	31 - 35 years old	3.3474	.19295	1.482	.203	Accepted	Not Significant
	36 - 40 years old	3.3793	.11945				
	41 - 45 years old	3.3115	.07774				
	46 - 50 years old	3.4067	.10810				
Recognition of Early Warning Signs	Male	3.3370	.34723				
	Female	3.3788	.29996	.416	.520	Rejected	Significant
Clinical Decision-Making	Male	3.3968	.34845				
	Female	3.3740	.28636	.129	.720	Accepted	Not Significant
Initiating Appropriate Intervention	Male	3.3963	.30212				
	Female	3.3758	.39312	.083	.774	Accepted	Not Significant
Communication and Team Coordination	Male	3.4476	.26306				
	Female	3.4935	.24868	.800	.373	Accepted	Not Significant
Use of Protocols and Guidelines	Male	3.2111	.33597				
	Female	3.2242	.30466	.042	.838	Accepted	Not Significant
Emotional Control and Stress Management	Male	3.2444	.39344				
	Female	3.1061	.44138	2.680	.105	Accepted	Not Significant

Category	Group	Mean	SD	F	p	Decision	Significance
Post-Event Reflection and Learning	Male	3.2063	.37247				
	Female	3.2519	.31221	-.444	.507	Accepted	Not Significant
Overall	Male	3.3633	.19267				
	Female	3.3733	.12876	.095	.758	Accepted	Not Significant
Recognition of Early Warning Signs	3 - 5 years	3.3925	.31490				
	5 - 10 years	3.3889	.32847	.562	.572	Accepted	Not Significant
	More than 10 years	3.3222	.32450				
Clinical Decision-Making	3 - 5 years	3.3825	.25391				
	5 - 10 years	3.4524	.28778	.841	.434	Accepted	Not Significant
	More than 10 years	3.3492	.36237				
Initiating Appropriate Intervention	3 - 5 years	3.3495	.38815				
	5 - 10 years	3.3681	.30288	.382	.684	Accepted	Not Significant
	More than 10 years	3.4185	.35821				
Communication and Team Coordination	3 - 5 years	3.4147	.25649				
	5 - 10 years	3.5655	.24375	2.492	.088	Accepted	Not Significant
	More than 10 years	3.4635	.25144				
Use of Protocols and Guidelines	3 - 5 years	3.1290	.30341				
	5 - 10 years	3.2569	.29480	1.806	.170	Accepted	Not Significant
	More than 10 years	3.2593	.33249				
Emotional Control and Stress Management	3 - 5 years	3.0968	.36203				
	5 - 10 years	3.2569	.39311	.965	.385	Accepted	Not Significant
	More than 10 years	3.1704	.47605				
Post-Event Reflection and Learning	3 - 5 years	3.3641	.31045				
	5 - 10 years	3.1726	.38374	3.606	.031	Accepted	Not Significant
	More than 10 years	3.1714	.31446				
Overall	3 - 5 years	3.3669	.12487				
	5 - 10 years	3.4014	.17802	.727	.486	Accepted	Not Significant
	More than 10 years	3.3526	.17170				

- *Age*

Based on the data, the null hypothesis was accepted across all domains, indicating that there are no significant differences in the nurse respondents' se If-confidence in managing patient deterioration events when age is considered as a factor.

In terms of Recognition of Early Warning Signs, all age groups demonstrated a confident level of self-assessment, with mean scores ranging from 3.3016 to 3.4444. Nurses aged 46 -50 reported the highest confidence, while those aged 31 -35 had the lowest. Still, the consistent interpretation of "Confident" suggests a shared ab iIity to detect deterioration early across all age brackets.

For Clinical Decision-Making, the highest mean was from the 46-50 age group (3.5397), while the lowest was from the 25 -30 group (3.2727) . Despite this variance, all groups still rated themselves as "Confident," indicating that cI inicaI judgment is genera II y well - developed regardless of age, although slightly stronger among more experienced nurses.

With regard to Initiating Appropriate Intervention, respondents under 25 years old showed the highest confidence (3.4603), while those aged 41-45 had the lowest (3.1481) . This may reflect younger nurses' recent exposure to updated training and sim uIation, yet the difference remains statistically insignificant .

In Communication and Team Coordination, nurses aged 31 -35 rated themselves highest (3.5714), and those aged 46 -50 lowest (3.3810) . A II means fe II within the "Confident" range, suggesting that across age groups, respondents felt capable of communicating effectively and working in teams during emergency scenarios.

Regarding Use of Protocols and Guidelines, the 46 –50 age group again had the highest self-assessment (3.2778), and the 36 – 40 group the lowest (3.1111) . These slight variations might reflect differences in exposure to or familiarity with institutional proto cols, but all groups still expressed overall confidence.

In Emotional Control and Stress Management, nurses younger than 25 rated themselves most confident (3.2857), while those aged 36–40 had the lowest score (3.0278) . This finding may suggest that younger nurses feel more emotionally regulated during simulatio ns or high-stress scenarios, though all groups still fell under the "Confident" category.

For Post-Event Reflection and Learning, all age groups expressed confidence, with the 36 –40 age group rating themselves highest (3.3175) and the 46 –50 group lowest (3.1111) . This consistency suggests that reflective practices are recognized and valued across age groups.

Finally, the overall composite means ranged from 3.3115 (41 – 45 years old) to 3.4344 (under 25), with all groups demonstrating a "Confident" interpretation. This reinforces that self-confidence in managing patient deterioration is consistently high among nu rses of all age groups, with no statistically significant variation detected .

In summary, regardless of age, the nurse respondents perceive themselves as confident in managing patient deterioration events, across all dimensions measured. This consistency highlights the effectiveness of training and clinical experience in building confidence across the nursing workforce.

- *Sex*

Based on the results, the null hypothesis was accepted across all areas of self-confidence in managing patient deterioration events when the respondents' sex was taken as a test factor. This means that there were no significant differences in the self-assessment of male and female nurse respondents.

In terms of Recognition of Early Warning Signs, both male (3.3370) and female (3.3788) respondents expressed confidence. Although female nurses had a slightly higher mean, the difference was not statistically significant, indicating a shared ability to ide ntify patient deterioration regardless of sex.

For Clinical Decision-Making, male nurses had a slightly higher mean (3.3968) than female nurses (3.3740), but both groups interpreted themselves as "Confident. " This suggests that decision - making skills during critical events are comparably strong across both sexes.

Regarding Initiating Appropriate Intervention, the mean scores were nearly identical between males (3.3963) and females (3.3758), again reflecting equal confidence in performing necessary interventions during deterioration scenarios .

In Communication and Team Coordination, both male (3.4476) and female (3.4935) nurses rated themselves highly, suggesting a consistently confident approach to communicating under pressure and working in teams, regardless of sex. With regard to Use of Protocols and Guidelines, the slight difference between males (3.2111) and females (3.2242) was not statistically significant. Both expressed a confident level of familiarity and use of institutional guidelines during emergencies.

In Emotional Control and Stress Management, male nurses reported slightly higher confidence (3.2444) compared to females (3.1061). Despite this minor variance, both groups still rated themselves as "Confident," indicating an overall capability to manage emotions under stress.

For Post-Event Reflection and Learning, female nurses had a slightly higher mean (3.2519) than their male counterparts (3.2063), but again, the interpretation remained the same—both groups confidently engage in reflective practices after patient deterioration events.

Overall, the composite mean scores were nearly equal, with females at 3.3733 and males at 3.3633, both interpreted as "Confident." This confirms that both male and female nurses feel similarly confident in managing patient deterioration, and their sex does not significantly influence their self-perceived competence in this area.

- *Number of Years as a Nurse*
Based on the data, the null hypothesis was accepted in all aspects of the nurse respondents' self-confidence in managing patient deterioration events when their number of years as a nurse was taken as a test factor. This means that there were no statistically significant differences among the three experience groups (3–5 years, 5–10 years, and more than 10 years).

In terms of Recognition of Early Warning Signs, all groups showed similar levels of confidence, with mean scores ranging from 3.32 to 3.39. Nurses with 3–5 years of experience had the highest mean (3.3925), suggesting that early-career professionals are just as capable in recognizing warning signs as their more experienced counterparts.

For Clinical Decision-Making, the 5–10 years group recorded the highest mean (3.4524), followed by those with 3–5 years (3.3825) and more than 10 years (3.3492). This indicates that mid-career nurses feel slightly more confident in decision-making, though differences were not significant.

Regarding Initiating Appropriate Intervention, confidence levels were relatively consistent across groups, with the most experienced group (more than 10 years) showing a slightly higher mean (3.4185) than those with fewer years. All groups, however, rated themselves confidently in applying interventions during patient deterioration.

In Communication and Team Coordination, the 5–10 years group had the highest mean (3.5655), while the 3–5 years group scored lower (3.4147). Although the F-value was higher here compared to others, the difference remained statistically non-significant, suggesting shared confidence across experience levels in coordinating care and communicating during emergencies.

For Use of Protocols and Guidelines, the mean scores across the three groups were very close (between 3.1290 and 3.2593), indicating that experience level had little impact on the respondents' confidence in following institutional and clinical protocols.

In terms of Emotional Control and Stress Management, the 5–10 years group showed the highest self-confidence (3.2569), while the 3–5 years group had the lowest (3.0968). Still, these small differences were not statistically significant, and all groups rated themselves as "Confident."

In Post-Event Reflection and Learning, nurses with 3-5 years of experience had the highest mean (3.3641), while those with more experience scored slightly lower. Though the F-value and significance level were close to the threshold, the difference was still not statistically significant. This suggests that reflective learning is practiced consistently, regardless of the length of professional service.

Overall, the composite means ranged from 3.3526 to 3.4014, indicating uniformly high levels of self-confidence in managing patient deterioration events, regardless of years in practice. This highlights that both early-career and veteran nurses feel similarly competent in performing during critical clinical scenarios.

➢ *Relationship Between the Self-Assessment of the Nurse Respondents of their Clinical Simulation Exposure and the Self-Assessment of the Nurse Respondents of their Self-Confidence in Managing Patient Deterioration Events*
Table 20 shows the relationship between the self-assessment of the nurse respondents of their clinical simulation exposure in terms of realism and relevance of the simulation, confidence in clinical decision-making, skill development and application, communication and teamwork skills, critical thinking and problem-solving, emotional preparedness and stress management, and feedback utilization and reflective learning and self-assessment of the nurse respondents of their self-confidence in managing patient deterioration events in terms of recognition of early warning signs, clinical decision-making, initiating appropriate intervention, communication and team coordination, use of protocols and guidelines, emotional control and stress management, and post-event reflection and learning.

Table 20 Relationship of the Self-Assessment of the Nurse Respondents of their Clinical Simulation Exposure and Self-Assessment of the Nurse Respondents of their Self-Confidence in Managing Patient Deterioration Events

		Computed r	Sig	Decision on Ho	Interpretation
Realism and Relevance of the Simulation	Recognition of Early Warning Signs	.181	.072	Accepted	Not Significant
	Clinical Decision-Making	-.091	.366	Accepted	Not Significant
	Initiating Appropriate Intervention	-.127	.209	Accepted	Not Significant
	Communication and Team Coordination	.041	.684	Accepted	Not Significant
	Use of Protocols and Guidelines	-.181	.072	Accepted	Not Significant
	Emotional Control and Stress Management	-.261	.009	Rejected	Significant
	Post-Event Reflection and Learning	.215	.031	Rejected	Significant
	Total	-.043	.668	Accepted	Not Significant
Confidence in Clinical Decision - Making	Recognition of Early Warning Signs	-.100	.323	Accepted	Not Significant
	Clinical Decision-Making	.363	.000		
	Initiating Appropriate Intervention	.135	.180	Accepted	Not Significant
	Communication and Team Coordination	.004	.971	Accepted	Not Significant
	Use of Protocols and Guidelines	.471	.000	Rejected	Significant
	Emotional Control and Stress Management	.176	.080	Accepted	Not Significant
	Post-Event Reflection and Learning	-.121	.229	Accepted	Not Significant
	Total	.334	.001	Rejected	Significant
Skill Development and Application	Recognition of Early Warning Signs	-.086	.393	Accepted	Not Significant
	Clinical Decision-Making	-.069	.496	Accepted	Not Significant
	Initiating Appropriate Intervention	.010	.918	Accepted	Not Significant
	Communication and Team Coordination	.071	.482	Accepted	Not Significant
	Use of Protocols and Guidelines	-.036	.721	Accepted	Not Significant
	Emotional Control and Stress Management	-.075	.460	Accepted	Not Significant
	Post-Event Reflection and Learning	.067	.508	Accepted	Not Significant
	Total	-.059	.559	Accepted	Not Significant
Communication and Teamwork Skills	Recognition of Early Warning Signs	-.077	.448	Accepted	Not Significant
	Clinical Decision-Making	-.148	.142	Accepted	Not Significant
	Initiating Appropriate Intervention	-.004	.970	Accepted	Not Significant
	Communication and Team Coordination	.284	.004	Rejected	Significant
	Use of Protocols and Guidelines	-.086	.393	Accepted	Not Significant
	Emotional Control and Stress Management	.126	.210	Accepted	Not Significant
	Post-Event Reflection and Learning	-.152	.130	Accepted	Not Significant
	Total	-.086	.394	Accepted	Not Significant
Critical Thinking and Problem - Solving	Recognition of Early Warning Signs	-.041	.685	Accepted	Not Significant
	Clinical Decision-Making	.119	.240	Accepted	Not Significant
	Initiating Appropriate Intervention	-.242	.015	Rejected	Significant
	Communication and Team Coordination	-.068	.501	Accepted	Not Significant
	Use of Protocols and Guidelines	.213	.033	Rejected	Significant
	Emotional Control and Stress Management	.228	.022	Rejected	Significant
	Post-Event Reflection and Learning	.046	.652	Accepted	Not Significant
	Total	.122	.225	Accepted	Not Significant
Emotional Preparedness and Stress Management	Recognition of Early Warning Signs	-.098	.333	Accepted	Not Significant
	Clinical Decision-Making	.174	.083	Accepted	Not Significant
	Initiating Appropriate Intervention	-.020	.844	Accepted	Not Significant
	Communication and Team Coordination	.096	.343	Accepted	Not Significant

	Use of Protocols and Guidelines	.179	.074	Accepted	Not Significant
	Emotional Control and Stress Management	.057	.576	Accepted	Not Significant
	Post-Event Reflection and Learning	.020	.841	Accepted	Not Significant
	Total	.128	.204	Accepted	Not Significant
Feedback Utilization and Reflective Learning	Recognition of Early Warning Signs	.084	.407	Accepted	Not Significant
	Clinical Decision-Making	.275	.006	Rejected	Significant
	Initiating Appropriate Intervention	-.078	.442	Accepted	Not Significant
	Communication and Team Coordination	-.031	.756	Accepted	Not Significant
	Use of Protocols and Guidelines	.051	.617	Accepted	Not Significant
	Emotional Control and Stress Management	.007	.947	Accepted	Not Significant
	Post-Event Reflection and Learning	.142	.160	Accepted	Not Significant
	Total	.276	.006	Rejected	Significant
Overall Clinical Simulation Exposure	Overall Self-Confidence in Managing Patient Deterioration Events	.245	.014	Rejected	Significant

The findings reveal a statistically significant relationship between the overall clinical simulation exposure and the nurses' self - confidence in managing patient deterioration events (r = .245, p = .014). This indicates a positive but low-strength correlation, suggesting that as clinical simulation exposure increases, the nurses' self-confidence in handling deterioration events also improves, albeit moderately.

Among the simulation domains, "Confidence in Clinical Decision-Making" demonstrated the strongest and most consistent correlations with multiple self-confidence areas. It had a moderate and significant positive relationship with overall self-confidence (r =.334, p = .001) and more specifically with self-confidence in clinical decision-making (r = .363, p = .000) and in using protocols and guidelines (r = .471, p = .000). These results imply that the more confident nurses feel about their decision-making skills in simulation scenarios, the more capable they perceive themselves in managing real-life patient deterioration, particularly in making timely decisions and adhering to established protocols.

Another key area with significant influence is "Feedback Utilization and Reflective Learning". It showed a moderate, positive, and significant relationship with both overall self-confidence (r = .276, p = .006) and self-confidence in clinical decision-making (r = .275, p = .006). This suggests that nurses who actively reflect on their performance and use feedback from simulations are more confident in their real-world clinical judgments, highlighting the crucial role of post-simulation debriefings in building confidence.

The domain of "Communication and Teamwork Skills" also correlated significantly with self-confidence in communication and team coordination (r = .284, p = .004). This underscores that practicing team-based communication in simulations contributes to a nurse's confidence in collaborating and maintaining clarity in high - pressure, real-life emergency situations.

Interestingly, "Critical Thinking and Problem -Solving" had significant but mixed correlations. It was positively related to the use of protocols and guidelines (r = .213, p = .033) and emotional control (r = .228, p = .022), indicating that strong critical thinking may help in following procedures and managing stress. However, it showed a negative relationship with initiating appropriate intervention (r = – .242, p = .015), suggesting that more analytical individuals might be more cautious or slower to act, potentially due to overanalysis.

Lastly, "Realism and Relevance of the Simulation" correlated positively with post-event reflection and learning (r = .215, p = .031), but negatively with emotional control and stress management (r = – .261, p = .009). This suggests that while more realistic simulations enhance reflective learning, they may also heighten stress levels, potentially making it harder for some nurses to maintain emotional regulation during intense scenarios.

Overall, the results highlight that certain aspects of simulation—particularly those that develop decision-making, communication, and reflection—play a key role in strengthening nurses' self-confidence when managing patient deterioration. These findings support the strategic use of well-designed simulations in nursing education to enhance clinical preparedness and confidence.

CHAPTER FOUR
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

This chapter contains the summary of findings obtained through the conduct of this research. It also includes the conclusions and recommendations formulated by the researcher, which were based on the gathered and analyzed data.

➢ *Findings*

• *Profile of the Respondents*
In   terms   of age,   the   majority   of the   nurse respondents are within the age group of 25 to 30 years old. This illustrates that most of the nurses are in the early stages or middle phase of their careers, reflecting a relatively young and potentially adaptable workforce.

Regarding   sex,   the   majority   of the   nurse respondents are female. This illustrates that nursing remains a female-dominated profession, consistent with traditional trends in the healthcare workforce.

In terms of number of years as a nurse, the majority of the nurse respondents have been practicing nursing for more than 10 years. This illustrates that most of the respondents are experienced professionals, which could influence their confidence in digital health practices and use of wearable technologies.

• *Self-Assessment of the Nurse Respondents of their Clinical Simulation Exposure*

✓ ***Realism and Relevance of the Simulation***
The nurse respondents generally perceived the clinical simulations as realistic and relevant, with a composite mean of 3.23 ("True of Me"), indicating they were exposed to experiences that mirrored actual clinical settings. The highest-rated item, "The simulation enhanced my understanding of real-world contexts" (M = 3.55), highlighted the effectiveness of simulations in bridging theoretical knowledge with practice. However, the lowest-rated item, "The clinical simulations resembled real-life teaching or healthcare scenarios" (M = 3.04), revealed that some aspects of realism could be improved to better replicate actual healthcare dynamics.

✓ ***Confidence in Clinical Decision-Making***
With a composite mean of 3.31 ("True of Me"), the nurse respondents reported increased confidence in clinical decision-making through 4.1.2.3 4.1.2.4 simulation exposure. The highest-rated item, "I felt more confident making decisions during the simulation" (M = 3.53), suggests that simulations boosted their decisiveness in clinical settings . However, the lowest score was recorded for "I felt more self-assured in responding to dynamic scenarios" (M = 3.00), indicating the need for more training in rapidly evolving clinical situations to further strengthen decision-making under pressure.

✓ ***Skill Development and Application***
The respondents assessed their skill development and application with a composite mean of 3.23 ("True of Me"), showing that simulations supported hands-on practice. "The scenarios challenged me to demonstrate my skills" (M = 3.41) was the most positively rated, confirming that simulations tested their clinical competencies. Conversely, "I retained the skills I practiced in the simulation" (M = 2.99) ranked the lowest, signaling a need for follow-up or repeated simulation exercises to ensure long-term s kill retention.

✓ ***Communication and Teamwork Skills***
A composite mean of 3.41 ("True of Me") reflected the nurse respondents' confidence in communication and teamwork during simulations. The items "I communicated clearly with peers during the simulation" and "I effectively collaborated with team members" both scored the highest (M = 3.56), suggesting strong interpersonal collaboration . However, "I practiced active listening and assertive speaking" (M = 3.15) scored the lowest, pointing to areas in interpersonal communication that could be further developed through targeted simulation exercises.

✓ ***Critical Thinking and Problem-Solving***
The nurse respondents acknowledged the simulation's role in enhancing critical thinking and problem-solving, with a composite mean of 3.30 ("True of Me") . The highest-rated item, "I evaluated different solutions before acting" (M = 3.42), demonstrated reflective and analytical engagement. However, "I identified problems and responded appropriately" (M = 3.10) scored lower, indicating that while critical thinking was stimulated, timely and appropriate response execution may still require improvement.

✓ ***Emotional Preparedness and Stress Management***
With a composite mean of 3.23 ("True of Me"), respondents indicated moderate exposure to emotional preparedness and stress management through simulations. The highest-rated item, "I felt mentally composed throughout the exercise" (M

= 3.56), suggested that nurses could maintain composure during stressful situations. However, the lowest-rated item, "I practiced regulating anxiety during the scenario" (M = 2.75), reveals that managing anxiety during high-stress simulations remains a challenge and may need further intervention .

✓ **Feedback Utilization and Reflective Learning**

The composite mean of 3.29 ("True of Me") in this category suggests that simulations fostered a culture of reflection and learning. "I reflected on my actions and decisions after the simulation" (M = 3.42) was the highest-rated item, indicating recognition of reflective practice. The lowest-rated item, "I actively engaged in post-simulation discussion" (M = 3.08), showed less involvement in group debriefings, suggesting an opportunity to enhance collective learning through more structured or encouraged post-simulation dialogues.

- *Self-Assessment of the Nurse Respondents of their Self-Confidence in Managing Patient Deterioration Events*

✓ **Recognition of Early Warning Signs**

Nurse respondents generally expressed confidence in recognizing early warning signs, with a composite mean of 3.36 interpreted as *Confident* . The highest-rated item, "I am confident in using early warning scoring systems" (M = 3.72), suggests strong familiarity with tools like MEWS and NEWS . However, the lowest-rated item, "I monitor patients for signs that may indicate early deterioration" (M = 2.95), implies that real-time observation and proactive detection may require further reinforcement.

✓ **Clinical Decision-Making**

The nurses reported a high level of confidence in clinical decision-making, with a composite mean of 3.38 (*Confident*) . Top-rated items such as "I base my decisions on both data and clinical experience" and "I feel capable of leading decision - making during emergencies" (both M = 3.73) reflect strong self-assurance in leadership and evidence - informed judgment. However, slightly lower ratings for timely assessment and decision-making (M = 3.16) suggest a need for greater confidence under pressure.

✓ **Initiating Appropriate Intervention**

With a composite mean of 3.38, the respondents described themselves as *Confident* in initiating appropriate interventions . They felt most confident in performing essential procedures (M = 3.65), while they felt less assured in applying the ABCDE approach and acting immediately in life - threatening situations (M = 3.15) . This suggests a strong foundation in core skills but a need for enhanced training in structured and emergent responses.

✓ **Communication and Team Coordination**

The nurses reported confidence in their communication and teamwork skills, earning a composite mean of 3.47 (*Confident*) . They felt especially confident in staying composed and keeping their team informed (M = 3.82) . In contrast, lower scores were given to items involving structured communication during emergencies and handover (M = 3.15), indicating room to strengthen communication protocols and handoff strategies.

✓ **Use of Protocols and Guidelines**

With a composite mean of 3.21 (*Confident*), respondents showed overall confidence in applying protocols and guidelines. They were most confident in using clinical pathways and checklists (M = 3.60), but rated themselves lower in understanding and applying evidence-based guidelines (M = 2.92) . This finding underscores the need for continuous education on updated clinical standards to ensure consistent, evidence-based care.

✓ **Emotional Control and Stress Management**

Nurses expressed confidence in managing stress and emotions during deterioration events, with a composite mean of 3.16 (*Confident*) . Confidence was highest for managing emotions during uncertain outcomes (M = 3.46), but lowest in recovering quickly after intense events (M = 2.94) . These findings suggest that while composure during emergencies is strong, post-event emotional recovery may benefit from support systems and structured debriefing practices.

✓ **Post-Event Reflection and Learning**

The respondents were generally confident in their ability to reflect and learn from critical incidents, with a composite mean of 3.23 (*Confident*) . They rated themselves highly in applying lessons to future situations (M = 3.73), but lower in identifying areas for improvement after every event (M = 2.95) . This indicates that while reflective learning is present, more structured reflection and self-assessment tools may help enhance learning outcomes after critical events.

- *Significant Differences in the Self-Assessment of the Nurse Respondents of their Clinical Simulation Exposure*

✓ **By Age**

The analysis revealed that age did not significantly affect the self-assessment of clinical simulation exposure in most areas. Respondents across all age groups reported comparable confidence levels in terms of realism and relevance of the simulation, confidence in clinical decision - making, skill development and application, emotional preparedness and stress management, and feedback utilization and reflective learning . Composite means ranged narrowly, reflecting a consistent perception of simulation effectiveness regardless of age.

However, significant differences emerged in two areas. In *communication and teamwork skills*, nurses aged 31-35 showed the highest confidence, while those aged 46-50 rated themselves the lowest . Conversely, in *critical thinking and problem-solving*, the 46-50 age group reported the highest confidence, whereas the 25 -30 age group scored the lowest . These findings suggest that while simulation benefits are broadly shared, younger nurses may excel more in team dynamics, while older nurses demonstrate greater confidence in analytical decision-making.

✓ **By Sex**

Across most simulation dimensions, there were no significant differences between male and female respondents. Both sexes expressed similar levels of confidence in clinical decision-making, skill development, communication, critical thinking, emotional preparedness, and feedback utilization. The overall composite means were nearly identical (3.2838 for males and 3.2962 for females), indicating an equal perception of the benefits of simulation-based training.

A notable exception was found in *realism and relevance of the simulation*, where female nurses rated simulations as more realistic and relevant than male nurses did. Though the difference in means was modest, it was statistically significant, suggesting that female nurses may perceive the simulated experiences as more closely aligned with real-world clinical situations .

✓ **By Number of Years as a Nurse**

The number of years of nursing experience did not yield any statistically significant differences across all areas of clinical simulation exposure. All experience groups—3–5 years, 5–10 years, and more than 10 years—shared similar perceptions and confidence levels in all subcategories, including realism, decision-making, skill application, teamwork, critical thinking, stress management, and reflective learning.

While minor variations in mean scores were observed—for instance, more experienced nurses scored slightly higher in *skill development*, and less experienced nurses rated higher in *feedback utilization*—these differences were not statistically significant . The findings suggest that simulation exposure is equally impactful for nurses across all experience levels, reinforcing its effectiveness as a training method applicable throughout a nurse's career.

• *Significant Differences in the Self-Assessment of the Nurse Respondents of their Self-Confidence in Managing Patient Deterioration Events*

✓ **By Age**

The results showed no significant differences across all domains when age was considered, as the null hypothesis was accepted in all areas. Nurses across different age groups consistently assessed themselves as *Confident* in managing patient deterioration events. In *Recognition of Early Warning Signs*, *Clinical Decision-Making*, and *Initiating Appropriate Intervention*, slight variations were observed—older nurses (46-50) tended to report higher confidence in decision - making, while younger nurses (<25) were more confident in initiating interventions . Similarly, for *Communication and Team Coordination* and *Use of Protocols and Guidelines*, confidence was stable across all age groups, with minor fluctuations in mean scores. In *Emotional Control and Stress Management*, younger nurses reported higher self - confidence compared to older ones. Finally, in *Post-Event Reflection and Learning*, all age groups rated themselves as confident, with means ranging from 3.1111 to 3.3175. The overall composite means ranged from 3.3115 to 3.4344, confirming that age does not significantly influence nurses' self-confidence in this area.

✓ **By Sex**

No significant differences were found between male and female respondents in any of the dimensions related to managing patient deterioration events, as the null hypothesis was accepted in all cases. Both male and female nurses consistently rated themselves as *Confident* . In areas such as *Recognition of Early Warning Signs*, *Clinical Decision-Making*, *Initiating Appropriate Intervention*, and *Communication and Team Coordination*, the mean scores for both sexes were nearly identical. Similarly, their responses regarding *Use of Protocols and Guidelines*, *Emotional Control and Stress Management*, and *Post-Event Reflection and Learning* revealed shared levels of self-assurance . Although slight differences were observed—for instance, males rated slightly h igher in emotional control, while females scored marginally higher in reflective learning—none were statistically significant . The overall composite means were 3.3633 for males and 3.3733 for females, indicating comparable confidence regardless of sex.

✓ **By Number of Years as a Nurse**

The analysis found no statistically significant differences across all areas when the number of years in practice was considered, with the null hypothesis accepted in each domain. Nurses with 3-5 years, 5-10 years, and over 10 years of experience all expressed *Confident* self - assessments in managing patient deterioration. In *Recognition of Early Warning Signs* and *Clinical Decision-Making*, mean scores were slightly higher among early- and mid-career nurses. In *Initiating Appropriate Intervention* and * Communication and Team Coordination*, more experienced nurses reported marginally higher confidence, although differences remained statistically insignificant . For *Use of Protocols and Guidelines* and *Emotional Control and Stress Management*, the means were closely aligned across all groups. In *Post-Event Reflection and Learning*, less experienced nurses showed slightly higher engagement, possibly reflecting a greater openness to learning, but again, this difference was not statistically significant . Composite means across all groups ranged narrowly from 3.3526 to 3.4014, demonstrating that years of experience do not meaningfully affect self - confidence in handling patient deterioration events.

- *Relationship between the Self-Assessment of the Nurse Respondents of their Clinical Simulation Exposure and the Self-Assessment of the Nurse Respondents of their Self-Confidence in Managing Patient Deterioration Events*

The analysis revealed a statistically significant but low positive correlation between overall clinical simulation exposure and the nurses' self-confidence in managing patient deterioration events ($r = .245$, $p = .014$) . This suggests that as exposure to clinical simulations increases, nurses tend to feel more confident in handling patient deterioration, although the relationship is modest in strength .

Among all simulation domains, **Confidence in Clinical Decision-Making** showed the strongest and most consistent correlations. It was moderately and significantly correlated with overall self-confidence ($r = .334$, $p = .001$), self-confidence in clinical decision-making ($r = .363$, $p = .000$), and in using protocols and guidelines ($r = .471$, $p = .000$) . These findings indicate that simulated experiences that strengthen decision - making skills contribute directly to nurses, perceived readiness to make sound judgments and follow procedures during real-life deterioration events.

Feedback Utilization and Reflective Learning also had a moderate and significant positive relationship with overall self-confidence ($r = .276$, $p = .006$) and self - confidence in clinical decision-making ($r = .275$, $p = .006$) . This underscores the critical role of reflective practice and post-simulation feedback in reinforcing clinical judgment and enhancing nurse confidence.

Communication and Teamwork Skills in simulations were significantly related to self-confidence in communication and team coordination ($r = .284$, $p = .004$) . This suggests that practicing collaborative communication during simulations strengthens nurses, assurance in leading or participating in team responses during high-pressure clinical scenarios .

Critical Thinking and Problem-Solving was positively correlated with confidence in using protocols and guidelines ($r = .213$, $p = .033$) and emotional control ($r = .228$, $p = .022$), implying that analytical thinking supports procedural adherence and stress management. However, it was negatively correlated with initiating appropriate intervention ($r = - .242$, $p = .015$), which may suggest that highly analytical nurses might hesitate or act more cautiously during emergencies due to overthinking or delayed action.

Realism and Relevance of the Simulation correlated positively with post-event reflection and learning ($r = .215$, $p = .031$), suggesting that realistic scenarios enhance the value of reflection. However, it had a negative correlation with emotional control and stress management ($r = - .261$, $p = .009$), implying that highly realistic simulations might increase psychological pressure, making emotional regulation more challenging for some nurses.

➤ *Conclusion*

- The demographic profile of the nurse respondents revealed that the majority of the nurse respondents are 25 to 30 years old, female, and have been practicing nursing for more than 10 years.
- The nurse respondents generally perceived clinical simulation exposure as effective in enhancing realism, clinical decision - making, skill application, communication, critical thinking, emotional preparedness, and reflective learning, though areas such as scenario realism, anxiety regulation, and post - simulation engagement require further improvement.
- Nurse respondents generally felt confident in managing patient deterioration events—particularly in clinical decision - making, essential procedures, and communication—though areas such as real-time monitoring, structured interventions, post-event recovery, and identifying improvement points require targeted support and continuous training.
- There were no significant differences in the self-assessment of clinical simulation exposure among nurse respondents based on sex or years of experience, while age showed significant variation only in communication and teamwork skills—favoring younger nurses—and in critical thinking and problem-solving—favoring older nurses—highlighting simulation's broad effectiveness with slight age-related distinctions .

- There were no significant differences in the self-assessment of nurses' self-confidence in managing patient deterioration events based on age, sex, or years of experience, indicating a consistent level of confidence across demographic groups.
- The analysis revealed a statistically significant but low positive correlation between overall clinical simulation exposure and the nurses' self-confidence in managing patient deterioration events.

➢ *Recommendations*

- Simulation activities should be enhanced to improve realism and relevance. This can be achieved by designing clinical scenarios that closely mirror real-life healthcare situations, including dynamic and high-pressure environments. Doing so will help nurses better connect theoretical knowledge with actual practice .
- Simulation training should incorporate more scenarios that involve evolving and unpredictable situations to strengthen nurses' confidence in clinical decision-making under pressure. This approach will help them develop adaptability and quicker response times during emergencies.
- Programs should include components that support emotional preparedness and anxiety regulation, as some nurses reported difficulty in managing stress during simulations. Integrating stress-reduction techniques such as mindfulness exercises or guided breathing before and after simulations can address this concern.
- Structured debriefings should be consistently implemented after each simulation. These reflective sessions, guided by standardized formats, can enhance feedback utilization and help nurses process and learn from their performance more effectively .
- Age-specific development needs should be addressed . For example, younger nurses who excel in teamwork can benefit from additional critical thinking exercises, while older nurses who are confident in analytical reasoning can benefit from updated collaborative simulation tasks to improve communication dynamics.
- Since female nurses perceived simulations as more realistic compared to their male counterparts, feedback from male nurses should be gathered to identify elements that can make the experience more engaging and authentic for all genders.
- Since skill retention from simulations was rated lower, repeat simulation sessions and periodic hands-on assessments should be conducted to reinforce practical knowledge and ensure long-term competence.
- Given the significant positive relationship between simulation exposure and self-confidence in managing patient deterioration, simulation-based training should continue to be a central strategy in nursing education . Emphasizing decision - making, communication, critical thinking, and reflection through simulation will help build nurses' confidence and readiness for real clinical challenges.

PROPOSED ENHANCED CLINICAL SIMULATION TRAINING PROGRAM

➢ *Rationale of the Program*

In the ever-evolving landscape of healthcare, nurses are consistently required to respond to complex and high-stakes clinical situations, including the management of patient deterioration events. Clinical simulation has emerged as a vital educational strategy that bridges the gap between theoretical knowledge and real-world practice. It offers a controlled, risk-free environment where nurses can apply their clinical judgment, enhance their technical skills, and build emotional resilience. However, findings from the recent self- assessment of nurse respondents reveal both the strengths and areas for improvement in current simulation practices. While nurses generally report confidence in their decision-making, teamwork, and communication during simulations, notable gaps persist in skill retention, emotional regulation, and the realism of simulated scenarios.

To address these gaps, an **Enhanced Clinical Simulation Training Program** is proposed. This program is designed to build on the foundational successes of current simulation efforts while targeting specific domains that require improvement. It aims to deepen the authenticity of clinical scenarios, reinforce critical and time-sensitive decision-making, and promote reflective learning practices. Furthermore, the program acknowledges the need for inclusivity across various demographic groups, ensuring that all nurses—regardless of age, sex, or years of experience—receive tailored support to maximize learning outcomes.

➢ *Objectives*

This proposed enhanced clinical simulation training program intends to to equip nurses with the appropriate skills which they can utilize and optimize in the exercise of their inherent role.

Specifically, the proposed enhanced clinical simulation training program below needs to be implemented, monitored and evaluated for all the concerned stakeholders .

Key Result Area Involved	Activity/ies	Persons	Performance Indicators
1. Improved Realism and Relevance of Simulation	- Develop high-fidelity, case-based scenarios that reflect real clinical settings- Incorporate evolving patient conditions and realistic equipment	Simulation Designers, Clinical Instructors, Nurse Educators	- Increased realism ratings in post-simulation surveys- Improved scenario engagement scores

2. Strengthened Decision-Making Under Pressure	- Integrate time-sensitive emergency simulations - Include decision trees and debriefing on critical points	Clinical Instructors, Nurse Participants	- Higher self-confidence scores in decision-making- Decreased hesitation time in simulation
3. Enhanced Emotional Preparedness and Stress Management	- Implement pre- and post-simulation stress regulation strategies (e.g., mindfulness, breathing exercises)- Conduct emotional coping workshops	Mental Health Practitioners, Nurse Educators	- Improved emotional control scores- Positive feedback on stress management techniques
4. Increased Skill Retention and Application	- Schedule repeat simulations for core procedures- Provide post-training skill checklists and reinforcement tasks	Clinical Instructors, Nurse Participants	- Increased retention ratings in follow-up assessments- Improved performance consistency
5. Enhanced Communication and Teamwork Skills	- Conduct team-based simulations with role-playing- Use structured communication tools like SBAR in scenarios	Nurse Participants, Clinical Instructors	- Higher scores in communication/teamwork evaluations- Observed clarity and collaboration
6. Strengthened Reflective Learning Practices	- Facilitate guided post-simulation debriefing sessions- Use structured reflection forms for individual learning	Clinical Instructors, Nurse Participants	- Higher feedback utilization scores- Completion rate of reflection forms
7. Inclusivity Across Demographics	- Customize simulation feedback sessions to address age- and gender-based perspectives- Collect and use feedback for program adjustments	Nurse Participants, Program Evaluators	- Positive evaluation across age and gender- Reduced perception gaps in realism/relevance
8. Continuous Program Evaluation and Improvement	- Conduct regular feedback collection and impact assessments- Update simulation protocols based on emerging best practices	Program Coordinators, Nurse Participants, Evaluators	- Annual program update completed- Increased satisfaction and performance trends

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