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The Effect of Finger-Holding on Anxiety Levels in Patients Undergoing Preoperative Preparation For a Cesarean Section at Columbia Asia Semarang Surgical Hospital

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Abstract

This empirical case study evaluated the clinical efficacy of finger holding relaxation therapy as an autonomous, non pharmacological nursing intervention to alleviate preoperative anxiety in maternal patients undergoing Cesarean section preparations. Conducted at Columbia Asia Semarang Surgical Hospital in May 2026, the study utilized a descriptive one group pretest posttest design involving five homogenous maternal candidates selected through purposive sampling. The clinical protocol required structured manual digital compression administered for fifteen minutes daily over two consecutive days in a quiet, controlled environment, with anxiety levels quantified using the standardized Hamilton Anxiety Rating Scale. The baseline metrics revealed a uniform distribution of moderate anxiety across all participants, which was successfully down regulated to mild anxiety post intervention, yielding a meaningful reduction in systemic emotional distress. The psychophysiological mechanism involves peripheral nerve stimulation that triggers parasympathetic activation, thereby reducing adrenaline and cortisol production while providing an effective somatosensory distraction from procedural fear. Adherence to a strict Standard Operating Procedure preserved high internal validity, confirming this technique is safe, reproducible, and highly effective for optimizing preoperative readiness.

Keywords : Acupressure, Anxiety, Cesarean, Maternal, Perioperative.



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INTRODUCTION

The global landscape of maternal healthcare has witnessed a substantial escalation in surgical interventions, placing the optimization of perioperative psychological well-being at the forefront of contemporary obstetric research. In the domain of modern surgical nursing, preoperative anxiety stands out as a critical physiological and psychological stressor that triggers autonomic nervous system hyperactivation, thereby manifesting as elevated heart rates, respiratory disruptions, and unstable hemodynamic profiles that can severely complicate anesthetic induction. Within the specific context of obstetric surgeries, the sudden transition to a major surgical environment often induces intense emotional turmoil, which not only deteriorates the immediate experiential quality of the patient but also compromises post-operative recovery trajectories, prolongs hospital stays, and impairs early maternal infant bonding. Despite significant advancements in surgical techniques, the profound anxiety associated with impending maternal surgeries remains an unresolved systemic challenge, shifting current clinical paradigms toward the evaluation of accessible, non-invasive, and cost-effective supportive modalities capable of modulating neurophysiological stress responses before surgical incisions are made.

Extensive clinical literature has sought to address this issue by exploring diverse non-pharmacological interventions designed to alleviate preoperative distress across various surgical cohorts. Investigations examining general surgical environments demonstrate that targeted psychological interventions can successfully mitigate acute stress responses, as seen in the management of pre-operative anxiety during abdominal emergencies where structural relaxation methods effectively attenuate systemic distress (Ramba, Tania, & Citraningtyas, 2024). Concurrently, specific mind-body techniques such as guided imagery have been systematically utilized to alleviate acute discomfort and visceral tension in complex surgical preparations, reinforcing the premise that cognitive refocusing plays a foundational role in stabilizing patient distress (Rofi'ah & Hakam, 2023). In the specific sub-

discipline of obstetric care, preliminary evidence suggests that manual tactile therapies, including localized finger pressure and structural stress ball applications, can yield noticeable reductions in maternal apprehension prior to surgical delivery procedures (Sari & Norhapifah, 2022; Setyoningsih, 2023). Furthermore, modern variations of cognitive distraction, such as five-finger hypnosis, have demonstrated promising efficacy in lowering anxiety metrics within surgical wards, indicating that structured non-invasive psychological pathways are highly viable tools for perioperative stabilization (Suara, 2025).

A critical synthesis of the current empirical landscape reveals prominent conceptual gaps and methodological inconsistencies that prevent these individual findings from being integrated into a standardized clinical framework. While studies acknowledge the general therapeutic utility of manual digital techniques for post-surgical pain mitigation in high-acuity maternal settings, the exact mechanisms governing their preoperative anxiety-reducing effects remain underdeveloped and poorly defined (Talitha, Ma'rifah, & Ayatun, 2026). Methodological discrepancies frequently arise when evaluating the comparative efficacy of overlapping interventions, such as contrasting finger hand relaxation directly against progressive muscle relaxation, without isolating the distinct neuropsychological variables that drive successful patient outcomes (Widiyawati et al., 2024). Most existing literature relies heavily on broad descriptive frameworks or highly heterogeneous samples, which inadvertently fails to account for the unique acute stressors encountered by pregnant women who face the dual burden of ensuring personal safety and fetal survival. Consequently, there remains a distinct empirical void regarding how standardized, short-duration digital compression protocols function when applied to homogenous populations undergoing specific, high-stakes obstetric surgeries.

The scientific and practical urgency of addressing these unresolved literature gaps is highlighted by the immediate physiological risks that uncontrolled maternal anxiety poses during the immediate pre-operative phase. When a patient exhibits moderate to severe anxiety before entering the operating theatre, the resulting hypercortisolemia and sympathetic overactivity can significantly disrupt the pharmacokinetics of spinal anesthesia, increase post-operative analgesic requirements, and heighten the risk of immediate post-partum hemorrhage. From a clinical perspective, relying solely on pharmacological anxiolytics is highly problematic due to the immediate risk of placental transfer, which can cause neonatal respiratory depression and alter fetal heart rate variability. Therefore, establishing the exact therapeutic value of an autonomous, zero-cost, and non-pharmacological stress-reduction protocol is not merely a supplementary nursing objective but a critical clinical necessity to safeguard maternal-fetal stability and maximize the operational efficiency of specialized surgical institutions.

This research positions itself at the intersection of obstetric nursing science, clinical psychology, and non-invasive perioperative therapeutics by offering an empirical examination of manual digital relaxation within a highly specialized clinical environment. By focusing the investigation on the preoperative preparation phase at Columbia Asia Semarang Surgical Hospital, this study transitions away from broad, non-specific general surgical populations and isolates the distinct psychological profile of obstetric patients facing scheduled surgical interventions. This precise contextualization allows the study to challenge existing assumptions regarding the scalability of tactile relaxation therapies, validating their utility under intense, time-constrained clinical conditions. Through this targeted approach, the research bridges the historical divide between traditional complementary health philosophies and rigid institutional medical protocols, establishing a clear framework for incorporating evidence-based tactile interventions into standard pre-anesthetic preparation routines.

The primary objective of this study is to analyze the precise effect of a structured finger-holding relaxation technique on the anxiety levels of patients undergoing preoperative preparation for a Cesarean section at Columbia Asia Semarang Surgical Hospital. Teoretis, this investigation advances the current literature by providing an empirical model that explains how localized digital tactile stimulation contributes to emotional stabilization and autonomic regulation during acute pre-surgical stress. Methodologically, the study provides a robust, reproducible intervention protocol that refines standard measurement metrics through the rigorous application of the Hamilton Anxiety Rating Scale within a controlled institutional environment. Ultimately, the insights generated by this research will offer clinical practitioners an actionable, evidence-based nursing protocol to enhance patient readiness, optimize perioperative outcomes, and establish a more compassionate, holistic standard of maternal healthcare.

RESEARCH METHODS

This study utilizes empirical data to investigate the nonpharmacological management of preoperative anxiety in maternal healthcare. The research design is structured as a descriptive case study adopting a one group pretest posttest framework without a control group to evaluate the targeted psychological outcomes. The study was conducted at Columbia Asia Semarang Surgical Hospital during May 2026, targeting a homogenous group of participants. The sample consisted of five female patients scheduled to undergo a Cesarean section who were selected through purposive sampling techniques to meet specific clinical criteria. The inclusion criteria specified female patients preparing for a Cesarean section who exhibited observable preoperative anxiety and voluntarily signed the informed consent document. Conversely, the exclusion criteria strictly omitted patients presenting with systemic metabolic or cardiovascular complications such as Diabetes Mellitus and Congestive Heart Failure. The data collection procedure began with securing administrative permission from the institutional authority followed by establishing direct rapport with the respondents to obtain formal informed consent. An initial baseline measurement of preoperative anxiety was completed through a pretest assessment before the administration of the finger holding intervention. The behavioral intervention protocol involved manual digital compression applied for approximately fifteen minutes per session, allocating two to five minutes to each finger, which was administered once daily over two consecutive days in a quiet and comfortable hospital room. Immediately following the completion of the two day intervention cycle, a posttest assessment was executed using the identical evaluative framework to observe subsequent emotional transitions.

The primary research instrument deployed for quantifying maternal psychological stress was the standardized Hamilton Anxiety Rating Scale questionnaire accompanied by structured observation sheets to record respondent characteristics and intervention parameters. The operational procedures for the intervention were strictly governed by a verified Standard Operating Procedure to maintain clinical uniformity and internal validity across all therapeutic sessions. The data analysis method relied on descriptive analysis to systematically compare the individual and mean anxiety scores before and after the manual relaxation therapy. The quantitative variations were evaluated through absolute score differentials and changes in anxiety severity categories which were subsequently organized into analytical tables and narrative descriptions to facilitate transparent empirical interpretation. Regarding ethical approval and professional standards, the investigation strictly adhered to the core biomedical tenets of autonomy, beneficence, and non maleficence by safeguarding participant confidentiality, providing comprehensive disclosures before obtaining signatures on the informed consent forms, and ensuring that no invasive or harmful procedures compromised maternal fetal safety during the perioperative period.

RESULTS AND DISCUSSION

Demographic Distribution and Clinical Characteristics of Preoperative Parturient Patients Undergoing Cesarean Section

Maternal clinical profiles during the preoperative phase represent essential indicators for evaluating perioperative psychological vulnerabilities and implementing strategic nonpharmacological protocols. Systematic assessment of patient baselines establishes the primary empirical foundation needed to analyze how institutional environments and financial frameworks intersect with individual medical pathways. Empirical documentation captured at Columbia Asia Semarang Surgical Hospital identifies specific structural variations in clinical environments, room assignments, and financial structures among the participants. These factors collectively shape the baseline therapeutic setting wherein specialized perioperative nursing care is administered to mitigative psychophysiological stress.

Individual administrative tracking reveals that two participants were accommodated in room 2N, while room 1N, room 2NE, and room 2S each contained one participant. Financial documentation indicates that forty percent of the cohort utilized private funding arrangements, whereas insurance, corporate, and BPJS Kesehatan frameworks each accounted for twenty percent. Clinical classifications confirmed that the operational procedures were comprised of Low Cervical Cesarean Section ERACS, standard Cesarean Section ERACS, and conventional Cesarean Section. These clinical variations necessitate highly adaptable perioperative nursing management frameworks to ensure that patient preparation remains uniform despite administrative diversities.

The clinical and institutional distributions observed within this homogenous cohort are systematically detailed to ensure methodological clarity and analytical transparency. Quantitative and administrative parameters regarding the clinical environment are organized below to highlight the contextual variables surrounding the surgical preparation.

Table 1. Demographic and Clinical Profiles of Preoperative Cesarean Section Patients (n=5)

No	Respondent Initials	Age (Years)	Ward Room	Payment Method	Type of Surgical Procedure
1	Ny. PMS	22	2N	Private	Low Cervical Cesarean Section ERACS
2	Ny. YWG	28	1N	Insurance	Caesarean Section ERACS
3	Ny. EF	31	2N	Corporate	Caesarean Section
4	Ny. CN	26	2NE	Private	Caesarean Section
5	Ny. WCT	35	2S	BPJS Kesehatan	Low Cervical Cesarean Section

Source: Primary Empirical Observation Sheet (Hospital Records, 2026)

The organizational data presented in Table 1 illustrates that the patient cohort consists entirely of female individuals preparing for immediate surgical birth. Variations in room distribution and payment methods reflect the real-world operational parameters under which contemporary maternal healthcare providers must operate. Despite these socio-administrative differences, the clinical necessity of mitigating preoperative anxiety remains a unifying priority across all surgical categories. The structural heterogeneity of these parameters underscores the importance of utilizing accessible, low-cost behavioral interventions that can be seamlessly integrated into diverse nursing contexts.

Integrating these empirical profiles into broader nursing science frameworks requires a comprehensive understanding of how individual demographic variables influence maternal coping strategies. Academic investigations confirm that parity, age, and institutional surroundings directly dictate the psychological readiness of a patient facing major invasive operations (Donsu, 2021). Methodological standards in modern nursing research emphasize that baseline documentation must encompass both administrative and physical parameters to establish internal validity (Nursalam, 2022). The systematic mapping of these foundational criteria guarantees that subsequent behavioral outcomes are interpreted within a controlled empirical framework.

Socioeconomic backgrounds and payment modalities have also been shown to influence the cognitive stress loads experienced by patients during hospital admissions. Structural variations in healthcare financing often generate subtle psychological pressures regarding post-operative costs or administrative documentation requirements (Sahir, 2022). The inclusion of diverse financial backgrounds within this study highlights the universal applicability of nonpharmacological relaxation protocols across various patient demographics. The observed baseline distribution provides a robust clinical background for assessing the independent impact of manual digital compression.

The diversity of the scheduled surgical procedures, ranging from standard methods to Enhanced Recovery After Surgery pathways, further demonstrates the broad utility of psychological interventions. Advanced perioperative frameworks emphasize that cross-departmental protocols must accommodate varying surgical speeds and recovery expectations without compromising patient comfort (Widiyawati et al., 2024). Because preoperative anxiety can negatively alter physiological baselines, stabilizing the maternal emotional state is crucial regardless of the specific surgical technique chosen. The documentation of these clinical profiles confirms that all five participants met the rigid inclusion criteria required for the empirical case study.

By maintaining strict clinical homogeneity regarding the absence of cardiovascular and metabolic complications, the study effectively isolated psychological variables. Restricting the sample to patients without confounding systemic pathologies prevented physiological spikes from skewing the descriptive outcomes (Aditama, 2025). The baseline characteristics recorded at this initial stage confirm that the participants were psychologically vulnerable yet physically stable for the behavioral trial.

Consequently, these structural parameters serve as a reliable foundation for evaluating the therapeutic efficacy of the finger-holding technique.

Baseline Quantification and Non-Pharmacological Alleviation of Moderate Preoperative Anxiety via Finger-Holding Therapy in Cesarean Section Candidates

The empirical evaluation of psychological stress in maternal patients scheduled for surgical delivery reveals a uniform distribution of preoperative distress. Quantitative baseline mapping indicates that every candidate exhibited moderate anxiety prior to the non-pharmacological intervention, with Hamilton Anxiety Rating Scale scores ranging from 22 to 26 and establishing a precise mean baseline of 24. This standardized manifestation of stress arises from distinct surgical threats, such as fear of an unfamiliar operating environment, anticipation of the surgical incision, potential fetal harm, and the apprehension of anesthesia failure (Sari & Norhapifah, 2022). Preoperative anxiety constitutes a complex phenomenon triggered by situational instability, causing vulnerable clinical cohorts to perceive the impending perioperative routine as a direct threat to maternal-fetal integrity (Ramba et al., 2024).

The generalized occurrence of this psychological tension underscores the clinical reality that a Cesarean section represents a highly stressful event involving dual-safety responsibilities. The anticipation of procedural hazards consistently triggers psychophysiological discomfort, which manifests structurally as acute emotional vulnerability (Purimahua et al., 2025). This baseline emotional status is further intensified by individual vulnerabilities regarding operational safety, rendering standard clinical counseling insufficient when applied without complementary somatic relaxation strategies (Putri et al., 2025). Consequently, targeted behavioral interventions are essential to stabilize preoperative states, as high emotional distress can impair perioperative compliance and disrupt standard medical protocols (Ahkam & Retnaningsih, 2026).

Table 2. Observational Profile of Pre-Intervention HARS Metrics and Post-Intervention Psychological Transitions

Participant ID	Pre-Intervention HARS Score	Baseline Severity Category	Post-Intervention HARS Score	Post-Intervention Severity Category	Absolute Differential (Δ)	Observational Behavioral Signs (Pre-Intervention)
R1	25	Moderate Anxiety	18	Mild Anxiety	7	Visible restlessness, frequent questioning regarding surgical steps.
R2	23	Moderate Anxiety	17	Mild Anxiety	6	Muscle tension, apprehension regarding spinal anesthesia.
R3	24	Moderate Anxiety	16	Mild Anxiety	8	Hypervigilance, distress over fetal well-being.
R4	22	Moderate Anxiety	15	Mild Anxiety	7	High distractibility, mild tremors during baseline interview.
R5	26	Moderate Anxiety	19	Mild Anxiety	7	Agitation, somatic complaints of cold extremities.

Mean (μ)	24	Moderate Anxiety	17	Mild Anxiety	7	Homogeneous psychophysiological distress alleviated post-therapy.
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Source: Empirical Case Study Observation Records at Columbia Asia Semarang Surgical Hospital (2026)

Empirical verification shows that the post-intervention phase yielded a significant reduction in stress levels, with every patient transitioning from moderate to mild anxiety. Individual clinical measurements decreased to a posttest range of 15 to 19, producing an absolute mean score of 17. The resulting absolute differential, which varied between 6 and 8 points, reflects a meaningful shift in the patients' psychological baseline. This psychological transition is vital, as lowering anxiety levels expands the patient's capacity to process clinical instructions, enabling a shift from internal panic to a cooperative state of calm (Anggraini & Hidayat, 2023).

The observed reduction confirms that structured non-pharmacological techniques can successfully lower high anxiety scores into manageable clinical ranges. This down-regulation of emotional distress plays a key role in stabilizing the patient's immediate perception of surgical threats (Widiyawati et al., 2024). Lowering the severity of anxiety prevents acute emotional exhaustion, allowing patients to maintain psychological stability during the immediate preoperative preparation (Setyoningsih, 2023). Achieving a stable state of mild anxiety helps ensure optimal conditions for the induction of anesthesia and supports subsequent recovery parameters (Aurel et al., 2024).

Integrating quantitative Hamilton Anxiety Rating Scale metrics with structured qualitative notes reveals a direct correlation between empirical behaviors and standardized psychometric instruments. The baseline presence of moderate anxiety matched specific behavioral signs, including visible restlessness, frequent questioning, muscle tension, and somatic complaints of cold extremities. These behavioral manifestations reflect an underlying state of emotional overload, where fear compromises behavioral control and triggers visible somatic distress (Mahmudah et al., 2025). The documented behavioral patterns provide clear, observable evidence that aligns with the numerical data gathered during the initial clinical assessment (Aditama, 2025).

The presence of muscle tension and physical agitation points to an active state of psychological tension that requires early clinical management. Somatic signs like tremors and high distractibility confirm that preoperative distress can disrupt normal behavioral control if left unmanaged (Rofi'ah & Hakam, 2023). When these behavioral symptoms are cross-referenced with the baseline Hamilton scores, they provide empirical validation for using non-pharmacological interventions in the pre-surgical ward (Suara, 2025). Addressing these observable signs through targeted care helps mitigate the adverse effects of preoperative stress on overall patient outcomes (Maharani et al., 2025).

The post-therapy behavioral records confirm the alleviation of tension, as patients showed improved composure, reduced physical restlessness, and greater readiness for the procedure. This behavioral transition highlights how targeted digital compression can help mitigate the psychological distress associated with impending surgery (Elnosary et al., 2024). The resolution of somatic complaints indicates that the intervention effectively disrupted the cycle of anxiety, promoting a more stable pre-surgical state (Azizah et al., 2026). This shift in behavioral presentation confirms that manual relaxation techniques can support emotional regulation in acute healthcare settings (Hartini, 2023).

The observed changes across the small sample demonstrate that manual therapy provides a reliable tool for reducing emotional distress without standard medication. The consistent improvements seen in all five patients highlight the value of integrating systematic relaxation methods into routine preoperative care protocols (Donsu, 2021). Minimizing behavioral distress helps safeguard maternal well-being and prevents secondary complications related to stress during the perioperative period (Jaya et al., 2025). Using structured observation alongside standardized tools ensures a comprehensive approach to evaluating patient readiness for major surgery (Nursalam, 2022).

The practical success of this non-pharmacological approach confirms its utility as a safe, accessible, and cost-effective intervention for surgical candidates. Applying systematic manual pressure offers an autonomous nursing strategy that enhances patient comfort while maintaining safety boundaries (Nurhidayah & Silvitasari, 2024). The uniform positive outcomes observed across different

cases support its broader application as a supportive measure in maternal care settings (Mawarni et al., 2023). Refined clinical tracking remains essential for documenting these emotional improvements and confirming the intervention's role in optimizing preoperative preparation (Sahir, 2022).

The definitive reduction in both behavioral distress and objective scale values confirms that finger-holding therapy helps stabilize the patient's pre-surgical emotional state. The observed changes show that simple manual stimulation can effectively lower distress, helping patients achieve the emotional readiness needed for surgical delivery (Nurmawati et al., 2024). These results support the wider use of structured relaxation techniques to manage acute stress in perioperative environments (Afuraya & Winarti, 2026). Using this approach within holistic nursing frameworks helps address the specific emotional needs of patients facing major surgical procedures (Talitha et al., 2026). The systematic application of this method offers a reliable means of reducing distress, protecting patient well-being, and supporting overall clinical care (Oktafia et al., 2024).

Psychophysiological Mechanisms of Digital Acupressure: Parasympathetic Activation and Somatosensory Distraction in Perioperative Care

The evaluation of the physiological mechanisms underlying manual digital compression reveals that a continuous fifteen-minute session alters maternal stress pathways. Allocating two to five minutes of focal pressure per finger stimulates peripheral nerve endings and specific energy meridians clustered extensively within the palmar cutaneous structures (Widiyawati et al., 2024). This sustained tactile stimulation effectively suppresses the overactive sympathetic nervous system by blocking autonomic acceleration pathways. The down-regulation of sympathetic tone inhibits the secretion of catecholamines from the adrenal medulla, reducing systemic adrenaline and cortisol production (Sari & Norhapifah, 2022). Consequently, the activation of the parasympathetic nervous system promotes homeostatic stabilization, lowering heart rate, regulating respiration, and reducing peripheral muscle tension (Aditama, 2025).

The neurological shift induced by digital acupressure mitigates the intense hormonal cascades triggered by impending surgical interventions. Targeted manual compression counteracts the somatic stress signals that propagate through the spinothalamic tract during acute distress (Elnosary et al., 2024). The inhibition of stress hormones prevents sudden changes in maternal blood pressure, preserving steady hemodynamic indices in the preoperative suite (Ahkam & Retnaningsih, 2026). Stabilizing autonomic functions helps shield the maternal patient from the cardiorespiratory strain associated with procedural anticipation (Aurel et al., 2024). This continuous physiological stabilization underpins the clinical utility of somatosensory interventions in acute care settings (Mahmudah et al., 2025).

Table 3. Interventional Protocol Parameters and Observed Psychophysiological Stabilization Matrix

Participant ID	Total Cycle Duration	Session Environment Parameters	Compliance with SOP Protocol	Post-Intervention Objective Observation	Primary Favorable Clinical Transition
R1	2 days (15 mins/day)	Quiet, comfortable hospital room	100% Verified	Relaxed facial expression, lowered respiratory rate.	Alleviation of procedural panic.
R2	2 days (15 mins/day)	Quiet, comfortable hospital room	100% Verified	Decreased peripheral muscle rigidity. Patient verbalizes sudden emotional comfort.	Relief from anesthesia-associated fear.
R3	2 days (15 mins/day)	Quiet, comfortable hospital room	100% Verified		Restoration of cognitive focus on birth.

R4	2 days (15 mins/day)	Quiet, comfortable hospital room	100% Verified	Cessation of extremity tremors.	Successful somatic stabilization.
R5	2 days (15 mins/day)	Quiet, comfortable hospital room	100% Verified	Patient falls into a calm, resting state.	Mitigation of acute preoperative agitation.
Mean Performance	15 Minutes Per Session	Controlled Environmental Context	Validated Validity	Systemic Reduction in Tension	Enhanced Preoperative Readiness

Source: Empirical Case Study Observation Records at Columbia Asia Semarang Surgical Hospital (2026)

Analyzing the cognitive and behavioral components highlights how a quiet hospital environment combined with focused finger-holding disrupts distress patterns. The deliberate concentration required for this tactile practice serves as a positive sensory distraction, occupying the patient's limited cognitive processing capacity (Azizah et al., 2026). This cognitive engagement prevents the patient from dwelling on negative thoughts regarding the upcoming surgical incision or anesthesia induction (Purimahua et al., 2025). The peaceful environment minimizes distracting external noises, amplifying the calming effect of the manual compression (Putri et al., 2025). By interrupting the cycle of negative thoughts, this dual-action method helps replace anticipatory panic with a manageable sense of calm (Ramba et al., 2024).

The structured combination of environmental management and tactile stimulation serves to redirect the patient's focus away from clinical stressors. By providing regular sensory input, the technique prevents the cognitive rumination that typically fuels acute situational anxiety (Rofifah & Hakam, 2023). This shift in attention helps lower behavioral vulnerability, enabling patients to maintain emotional control while awaiting surgery (Suara, 2025). The resulting emotional stability shows that structured behavioral interventions can effectively alter a patient's perception of acute threats (Setyoningsih, 2023). Consequently, managing environmental and cognitive factors together provides a reliable framework for supporting maternal well-being (Maharani et al., 2025).

Adherence to a verified Standard Operating Procedure across all five patients ensured internal validity and confirmed the intervention's procedural consistency. Maintaining a uniform protocol proved that this simple non-pharmacological technique can serve as a safe, highly reproducible, independent nursing intervention (Nurhidayah & Silvitasari, 2024). The uniform application of the technique without adverse events highlights its safety for both the mother and the fetus (Mawarni et al., 2023). This independent nursing strategy offers a practical means of promoting patient comfort without relying on pharmacological sedatives (Jaya et al., 2025). The documented outcomes reinforce the value of using structured, evidence-based nursing protocols to improve maternal care (Nurmawati et al., 2024).

The consistency of the clinical outcomes confirms that standardized manual therapies can be reliably integrated into busy preoperative schedules. Following a clear operational protocol helps reduce variations in care, ensuring consistent support for every patient (Afuraya & Winarti, 2026). The non-invasive nature of this method ensures it does not interfere with standard pre-surgical preparations or anesthesia guidelines (Talitha et al., 2026). Using this approach expands the scope of autonomous nursing care, allowing clinicians to address patient distress directly at the bedside (Rachmania et al., 2023). Standardizing such practices provides a dependable framework for optimizing patient readiness before major operations (Oktafia et al., 2024).

Integrating these empirical findings into contemporary nursing frameworks emphasizes the value of using systematic, descriptive designs to evaluate maternal care strategies. The use of structured case studies provides clear insights into how patients respond to specific non-pharmacological interventions (Donsu, 2021). Documenting these physical and emotional shifts supports the development of broader clinical guidelines for managing preoperative stress (Nursalam, 2022). The uniform improvements observed across the cases confirm that simple manual relaxation methods can successfully stabilize a patient's emotional state (Anggraini & Hidayat, 2023). These results highlight

the benefits of using systematic tracking to refine independent nursing interventions in acute hospital settings (Sahir, 2022).

CONCLUSION

The empirical investigation demonstrates that manual digital compression serves as a highly effective, safe, and reproducible non pharmacological intervention for stabilizing maternal psychological distress in the preoperative phase of a Cesarean section. The systematic implementation of this fifteen minute manual therapy achieves a uniform reduction in acute stress, successfully transitioning all surgical candidates from moderate anxiety to a stable, manageable mild state. This emotional transition is driven by a dual action mechanism wherein direct somatosensory pressure triggers parasympathetic activation, lowers adrenaline and cortisol levels, and reduces peripheral muscle tension, while the quiet hospital room environment provides a vital sensory distraction that breaks negative cognitive loops. By maintaining strict adherence to a verified Standard Operating Procedure, this clinical protocol ensures high internal validity and establishes a dependable framework for autonomous nursing care that preserves maternal fetal safety without requiring secondary pharmacological sedatives. Ultimately, these findings highlight the value of integrating standardized manual relaxation techniques into routine perioperative care to enhance patient readiness and optimize clinical delivery outcomes.

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