

Preoperative and Postoperative Comprehensive Nursing Care versus Conventional Nursing Care: A Comparative Study

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Abstract:

Background: The above factors of surgical procedures are a significant burden to a patient, and the final outcomes will also depend not only on the extent of the skills of a surgeon but also on the quality of perioperative nursing services. The use of comprehensive nursing care (CNC) encompassing physical, psychological and educational support has resulted in becoming a way of enhancing patient recovery as opposed to the traditional nursing care (CoNC).

Aim: The purpose of the study is to compare the efficacy of preoperative and postoperative comprehensive nursing care with that of the conventional nursing care to determine the enhancement of surgical recovery, psychological well-being, and patient satisfaction.

Methodology: A comparative observational study has been done on 90 surgical patients, the Department of General Surgery, Netaji Subhas Medical College and Hospital, Jamshedpur, Jharkhand, India. The groups of patients were equally split into CoNC and CNC. The SPSS v27.0 was used to analyze the data of recovery rate, anxiety, depression, complications, and satisfaction.

Results: CNC patients had significantly reduced hospital stay (7.6 vs. 10.2 days), less anxiety and depression, less postoperative pain and complications, quicker ambulation and greater patient satisfaction ($p < 0.05$).

Conclusion: Comprehensive nursing care substantially improves surgical recovery, psychological stability, and overall satisfaction. Its integration into perioperative practice enhances holistic healing and should be prioritized in modern surgical care.

Keywords: Comprehensive Nursing Care, Conventional Nursing Care, Perioperative Management, Surgical Outcomes, Patient Satisfaction.

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Introduction

Any kind of surgery, no matter how complicated it is, is a significant physiological and psychological impediment to the patient [1]. Not only the capabilities of a surgeon or technical excellence of the surgery, but also heavily the quality of nursing care before and after performance determine the outcome of any surgery. Perioperative process involves nursing care in both the preoperative and postoperative stages that directly affect the patient recovery, complication rate, length of stay at the hospital and their satisfaction [2]. The conventional nursing care has traditionally been founded on the basic surveillance and procedural assistance and in most instances, has focused on the physical recovery parameters. However, with the increased attention to the concept of holistic healthcare and the patient-centered outcome, the total nursing services (including physical, psychological, social, and educational services) have become a factor that determines positive outcomes of the surgical outcome. Hence, the comparative analysis of the preoperative and postoperative

comprehensive nursing care and the conventional nursing care is inexplicably significant in modern clinical practice.

Preoperative care is very critical in the preparation of patients both physically and mentally before surgery [3]. It involves checking of vital signs, medication, care of hygiene and giving of instructions on fasting and anesthesia. Nevertheless, in addition to these well-known routine activities, the extensive preoperative nursing care is also related to psychological counseling, educating patients, and developing risk-reduction plans. Fear and anxiety are typical emotional reactions of surgical patients and were reported to have an adverse impact on the postoperative recovery due to the changes in physiological functions, i.e. increased heart rate and blood pressure [4]. Broad-based preoperative nursing attention seeks to curb such stressors with the help of patient counseling, effective communication about the operation procedures, and personalized health

education. This will not only increase patient compliance levels but will also increase preoperative stability and hence the chance of avoiding intraoperative complications is also increased [5]. Moreover, preoperative comprehensive care means that patients have all the information about the postoperative expectations, wound management, mobility activities, and lifestyle change when they recover, which makes the recovery process easier.

Traditional preoperative nursing care, in its turn, tends to be task based, dedicating the primary attention to the procedural checklists and preparation of the operative area without much consideration to the psychological and educative needs of the patient. This approach can result in anxiety, lack of adherence to postoperative instructions, as well as slow recovery time [6]. Research has shown that those patients who get poor preoperative education tend to have worse outcomes in the postoperative period including infection, wound dehiscence or long-term immobilization. Thus, holistic preoperative nursing involves the development of staffing care as a mechanical approach to a holistic approach, which is in line with the current focus on evidence-based nursing interventions and patient-centered practice.

The postoperative nursing care is also very vital in defining the outcome of surgery. The period after the surgery is marked by an increase in vulnerability as patients are getting ready to be back on their feet after undergoing anesthesia, pain, and physiological stress of the surgery process [7]. Postoperative nursing care is far more than the routine and administration of medications as it constitutes pain management, wound evaluation, early mobilization, nutrition, counseling, and emotional support of a patient [8]. Postoperative nursing interventions are effective in the identification of possible complications at the earliest stages, wound healing, functional independence, and adherence to the rehabilitation measures. In addition to this, the role of continuity of care in comprehensive postoperative care is in that patient should be trailed through recovery to the time of discharge and beyond in some cases through advice about the home-based care and the follow up schedules. Such a holistic practice not only reduces the re-admission rates but also creates a feeling of trust and satisfaction in the patients.

Traditional postoperative care on the other hand tends to reduce its services to physical aspects of recovery such as checking the vital signs and wound dressing, the utilization of less psychological reassurance and educating them about the modifications of the postoperative lifestyle. Such a narrow coverage may result in a delayed recovery process, the rise of the number of cases of postoperative complications, and the decline of patient satisfaction. The increasing body of literature about the significance of emotional and educational support in promoting postoperative recovery underlines the

ineffectiveness of the old-fashioned approaches to providing the surgery patients with the range of requirements. Thus, the comparative studies of the two models of nursing care may provide basic data on their relative effectiveness and the prospect of the improvement of patient outcomes with the assistance of the sophisticated nursing practice.

The introduction of the inclusive nursing care as practice is aligned with the global healthcare reorganization that advocates quality improvement, patient safety, and holistic cure. In this approach compassionate communication is combined with evidence-based interventions, which will reinforce the formation of a nurse-patient relationship in the favor of therapy. It encourages the empowerment of patients since individuals are not inactive recipients who lack the power to influence their care and make rational choices and adhere to recovery plans. Moreover, the holistic nursing services assist in reducing the length of the hospitalization period, cost of healthcare through prevention of complications, and quality-of-care provision. Having these multifaceted advantages, the total nursing care has taken on the role of an important component of the modern surgical nursing practice.

Methodology

Study Design: This study adopted a comparative observational design to evaluate the effectiveness of preoperative and postoperative comprehensive nursing care (CNC) versus conventional nursing care (CoNC) in improving surgical outcomes, patient satisfaction, and recovery parameters. Participants were allocated into two groups based on the type of nursing care received. The study aimed to compare physiological stability, postoperative complications, psychological well-being, and overall quality of life between the two groups.

Study Area: The study was conducted in the Department of General Surgery, Netaji Subhas Medical College and Hospital, Jamshedpur, Jharkhand, India for six months

Study Participants: Patients admitted for elective or emergency surgical procedures in the Department of General Surgery were enrolled in the study after screening for eligibility.

Inclusion Criteria

- Patients aged 18 years and above undergoing elective or emergency surgery.
- Patients who consented to participate in the study.
- Patients fit for both preoperative and postoperative nursing interventions.

Exclusion Criteria

- Patients with incomplete medical records or missing essential preoperative/postoperative data.
- Patients with severe comorbidities such as end-stage renal or hepatic failure.
- Patients unwilling to participate or who withdrew consent during the study period.
- Patients admitted for minor outpatient surgical procedures.

Sample Size: A total of 90 patients were included in the study. Among them, 45 patients received comprehensive nursing care (CNC group), while the remaining 45 patients received conventional nursing care (CoNC group). The sample size was determined based on the average monthly surgical admissions and the feasibility of follow-up within the study period.

Procedure: On admission, the patients were grouped into two based on the nursing protocol used.

Prior to the operation, the Comprehensive Nursing Care (CNC) group preoperative care comprised of the detailed health education sessions, psychological counseling, surgical environment orientation, and dietary and hygiene education. The nurses were also used to offer emotional support to eliminate the anxiety and fear of surgery. The vital parameters were regularly checked, and preoperative preparation was performed closely. Follow-up treatment was provided to the patients to constantly evaluate their pain, wound state, and vital signs. Patients and nurses were in active communication that allowed nurses to educate patients about postoperative exercises, nutrition, and medication compliance, as well as counsel them to deal with anxiety or depressive symptoms.

Recommendations were also provided on the early ambulation and the prevention of postoperative complications including infection and thrombosis. Conversely, the Conventional Nursing Care (CoNC) group was given regular preoperative education, vital signs measurements, and postoperative care but not the extra education or psychological support.

Nursing services were restricted to normal hospital procedures (monitors of fluid balance, dressing change, and medication administration). Structured observation checklists and patient feedback forms were used to gather data and measured recovery rate, postoperative complications, anxiety and depression level (based on the Zung Self-Rating Scales) and overall satisfaction with the care.

Statistical Analysis: Data were tabulated and analyzed using SPSS version 27.0 (IBM Corp., Armonk, NY, USA). Continuous variables were presented as mean \pm standard deviation (SD), and categorical variables were expressed as frequencies and percentages. Normality of data was tested using the Kolmogorov–Smirnov test. Comparisons between groups were made using the independent sample t-test for continuous variables and the Chi-square test for categorical variables. Analysis of Variance (ANOVA) was employed for comparing means where applicable. A p-value < 0.05 was considered statistically significant.

Result

Table 1 illustrates the distribution of the patients on the basis of their demographic features. The average age of the patients in the group of comprehensive nursing care was 43.8 ± 12.6 years, and in the group of conventional nursing care 44.5 ± 11.9 years, which turned out not to differ significantly between both groups ($p = 0.78$). Out of the total 90 patients, the proportion of males was 57.8 percent and that of females was 42.2 percent with almost equal gender representation in both groups ($p = 0.66$). Elective surgeries prevailed over emergency ones in both groups with 65.6 out of 100 surgeries being elective with no statistically significant difference being made between the types of surgeries ($p = 0.49$). Nonetheless, it was found that hospital stay was significantly different with patients who were subjected to comprehensive nursing care having shorter mean stay (7.6 ± 2.1 days) than those who received conventional care (10.2 ± 3.5 days) ($p = 0.001$), which means that comprehensive nursing care is more effective in shortening hospitalization time.

Variables	Comprehensive Nursing Care (n = 45)	Conventional Nursing Care (n = 45)	Total (n = 90)	p-value
Age (years)	43.8 ± 12.6	44.5 ± 11.9	44.1 ± 12.2	0.78
Gender				
Male	27 (60.0%)	25 (55.6%)	52 (57.8%)	0.66
Female	18 (40.0%)	20 (44.4%)	38 (42.2%)	
Type of Surgery				
Elective	31 (68.9%)	28 (62.2%)	59 (65.6%)	0.49
Emergency	14 (31.1%)	17 (37.8%)	31 (34.4%)	
Duration of Hospital Stay (days)	7.6 ± 2.1	10.2 ± 3.5	—	0.001

Table 2 displays a comparative study of preoperative psychological parameters in patients who are

provided with comprehensive nursing care and those provided with a conventional nursing care. The

results show that the preoperative anxiety and depression scores in the comprehensive nursing care unit were significantly low as compared to the conventional nurse care group where the mean scores are 42.3 ± 6.5 and 39.6 ± 5.8 respectively ($p = 0.000$ and $p = 0.0001$). In addition, the level of patient confidence was significantly greater in patients who are

provided with detailed nursing attention (8.4 ± 1.2) compared with conventional care patients (5.9 ± 1.4) with a statistically significant difference ($p = 0.0001$). The findings indicate that broad nursing care is effective in the reduction of preoperative anxiety and depression and increases patient confidence prior to surgery.

Table 2: Comparison of Preoperative Psychological Parameters

Parameter	Comprehensive Nursing Care (Mean \pm SD)	Conventional Nursing Care (Mean \pm SD)	p-value
Preoperative Anxiety Score (Zung Scale)	42.3 ± 6.5	57.8 ± 7.9	0.000
Preoperative Depression Score (Zung Scale)	39.6 ± 5.8	54.5 ± 6.7	0.0001
Patient Confidence Level (Self-rated, 0–10 scale)	8.4 ± 1.2	5.9 ± 1.4	0.0001

Table 3 illustrates the high level of improvement in postoperative recovery outcomes among patients who experienced comprehensive nursing care as opposed to their counterparts who experienced the conventional nursing care. The pain scores at the postoperative phase showed that the comprehensive care group (3.1 ± 1.4) had a significantly lower average postoperative pain score in comparison with the conventional group (5.8 ± 1.7), which means that pain was better managed ($p = 0.0001$). On the same note, wound infection (4.4% vs. 15.6, $p = 0.04$), and postoperative nausea or vomiting (8.9% vs. 22.2, $p =$

0.03) were significantly lower in case of comprehensive care. In addition, a much greater percentage of patients in comprehensive care group experienced early ambulation in 24 hours (82.2% vs. 51.1% $p = 0.002$). The average duration of the return of bowel sounds was also less in the comprehensive care group (17.8 ± 3.5 hours) than in the conventional care group (24.5 ± 4.7 hours, $p = 0.0001$). All the above findings indicate that holistic nursing care facilitates a quicker recovery time and reduced postoperative complications.

Table 3: Comparison of Postoperative Recovery and Complications

Parameter	Comprehensive Nursing Care (n = 45)	Conventional Nursing Care (n = 45)	p-value
Postoperative Pain (VAS Score)	3.1 ± 1.4	5.8 ± 1.7	0.0001
Wound Infection Rate (%)	2 (4.4%)	7 (15.6%)	0.04
Postoperative Nausea/Vomiting (%)	4 (8.9%)	10 (22.2%)	0.03
Early Ambulation within 24 hrs (%)	37 (82.2%)	23 (51.1%)	0.002
Mean Time to Return of Bowel Sounds (hours)	17.8 ± 3.5	24.5 ± 4.7	0.0001

Table 4 illustrates that there was a marked improvement in the psychological functioning and general quality of life of patients who went through the comprehensive nursing care than the patients who went through standard nursing care. The average postoperative anxiety and depression scores in the comprehensive care group (35.4 ± 6.2 and 34.1 ± 5.5 , respectively) considerably decreased compared to the conventional group (49.8 ± 8.1 and 47.6 ± 7.2), meaning that the group had less psychological distress. On the same note, the quality of life, as the

SF-36 total score indicates, was significantly better in the comprehensive nursing care group (86.7 ± 8.9) than conventional care group (69.4 ± 10.8). The same was true of emotional well-being, with the comprehensive care (84.2 ± 9.1) having a higher score when compared to the conventional (65.7 ± 11.2) group. The statistically significant difference was observed on all the parameters ($p = 0.0001$) to demonstrate the beneficial effect of the comprehensive nursing care on the mental health and the quality of life of patients after the surgery.

Table 4: Postoperative Psychological and Quality of Life Scores

Parameter	Comprehensive Nursing Care (Mean \pm SD)	Conventional Nursing Care (Mean \pm SD)	p-value
Postoperative Anxiety Score (Zung)	35.4 ± 6.2	49.8 ± 8.1	0.0001
Postoperative Depression Score (Zung)	34.1 ± 5.5	47.6 ± 7.2	0.0001
Quality of Life (SF-36 total score)	86.7 ± 8.9	69.4 ± 10.8	0.0001
Emotional Well-being (0–100 scale)	84.2 ± 9.1	65.7 ± 11.2	0.0001

Table 5 shows a comparison of the levels of patient satisfaction between patients who were provided with comprehensive nursing and those who received conventional nursing treatment. The findings have revealed that patients who were provided with extensive nursing attention were much more satisfied. None of these patients was entirely dissatisfied and only 6.7% were less satisfied in comparison to 4.4 and 20.0 percent in the conventional care group. The proportion of patients who perceived care as fully satisfied was higher in the comprehensive care

group (62.2%) than it is in the conventional group (28.9) and this indicates that there was a significant improvement in the quality of care perceived. It was also observed that the mean score of satisfaction in the comprehensive nursing care group (2.55 ± 0.52) was significantly greater than the conventional group (1.99 ± 0.67) and their difference was statistically significant ($p = 0.001$), which means that overall patient satisfaction was much higher in the comprehensive nursing care group compared to the conventional one.

Table 5. Comparison of Patient Satisfaction Levels

Satisfaction Parameter	Comprehensive Nursing Care (n = 45)	Conventional Nursing Care (n = 45)	p-value
Completely Dissatisfied (Score 0)	0 (0%)	2 (4.4%)	—
Less Satisfied (Score 1)	3 (6.7%)	9 (20.0%)	—
Satisfied (Score 2)	14 (31.1%)	21 (46.7%)	—
Fully Satisfied (Score 3)	28 (62.2%)	13 (28.9%)	0.003
Mean Satisfaction Score (0–3)	2.55 ± 0.52	1.99 ± 0.67	0.001

Discussion

The evidence of the current research supports the ever-increasing evidence that comprehensive nursing care can produce a substantial positive impact on patient outcomes at the preoperative, intraoperative, and postoperative stages. The fact that patients who received total nursing care experienced a decrease in the number of hospitalizations and an increase in recovery is consistent with the results reported by Yuan et al. (2022) [9] who discovered that structured perioperative nursing interventions resulted in faster wound healing, early ambulation, and fewer postoperative complications in patients with hepatocellular carcinoma. Likewise, Yuli et al. (2019) [10] discovered that holistic nursing interventions in interventional treatment reduced the negative impacts and enhanced physical stability through the lenses of personalized attention and prompt rehabilitation. All these studies reinforce the idea that multidisciplinary care with its proactive attitude and constant monitoring is what promotes the best postoperative care and clinical effectiveness.

In this study, preoperative psychological preparation became a major factor that predetermined the well-being of the patients because those who were given thorough care were less anxious and depressed. Similar findings were provided by Zhang et al. (2020) [11] whose meta-analysis showed that exhaustive nursing interventions were effective to reduce the prevalence of anxiety and depressive symptoms by 25–30 percent in comparison with traditional care. The results of this study support the significance of comprehensive care paradigms incorporating psychological counseling, patient education, and sensitive communication into the preoperative practices. Graf and Stengel (2021) [12] also noted that psycho-oncological interventions, including emotional interventions, can alleviate pre-surgical stress and

enhance the adherence to treatment, which is why the universal applicability of emotional support can be noted in relation to different surgical fields. On the contrary, Wang et al. (2022) [13] reported that anxiety persisted in the postoperative patients with minimal nursing instructions, which shows that a lack of complex psychological support is one of the factors contributing to the duration of the emotional state.

The effectiveness of a holistic nursing care was also witnessed by the postoperative outcomes as the intensity of pain, as well as the number of complications, including wound infection, nausea, and vomiting, were lower in this study. Li and Wang (2016) [14] suggested the same results because they found that the rate of postoperative pain was reduced by a quarter in patients who received structured postoperative nursing care and reported a significant drop in infections postoperative care [14]. The latter findings are justified by the retrospective study conducted by Pearson et al. (2018) [15] that found that intensive nursing interventions reduce the postoperative fatigue rate and enhance physical recovery, including early mobilisation and nutritional education. On the other hand, a small-scaled observational study by Chen et al. (2021) [16] found conflicting information on pain management outcomes, probably owing to the limitation of the sample size and variability in the intensity of interventions, indicating that the advantages of comprehensive care could be different depending on the type of patients and operations.

The results of the present study are supported by psychological well-being and general quality of life (QoL) improvement, which Yang et al. (2022) [17] revealed through their comprehensive neurological nursing intervention study on stroke patients, which showed that emotional well-being and daily

functioning in stroke patients had been improved. Similarly, Lurje et al. (2019) [18] stated that multidisciplinary and holistic care enhances the QoL scores, which is achieved through combining the presence of physical rehabilitation and psychosocial care. It can be explained by the fact that patients are constantly involved in their recovery, which makes them more confident and hopeful. Also, Yuan et al. (2022) [9] emphasized that the application of cognitive behavioral counseling and supportive education in a context of comprehensive nursing is a significant factor of improved postoperative emotional recovery and social inclusion.

The increased rates of satisfaction reported among the comprehensive nursing group in the current research are echoed by other previous studies by Yuli et al. (2019) [10] and Wang et al. (2022) [13], who reported that comprehensive perioperative care can help to increase the levels of patient trust, communication, and comfort. These enhancements of satisfaction are paramount, as they directly affect the compliance with postoperative instructions and attendance of follow-up. Moreover, Keating et al. (2013) [19] noticed that the satisfaction rates of patients have a tendency to increase in the medical facilities where the multidisciplinary teamwork and holistic communication strategies are prioritized as one of the main elements of holistic nursing paradigms. On the contrary, traditional nursing care (which can be characterized by the presence of routine and limited emotional interaction) was linked to decreased levels of satisfaction and worse long-term outcomes.

One of the most significant observations of this paper was that postoperative complications were almost reduced, and the restoration of physiological functions like bowel movements was quicker among the patients under the comprehensive nursing care group. Patients undergoing this type of care had sooner recovery of gastrointestinal functions and their occurrence of the postoperative discomforts such as nausea and vomiting were reduced in frequency. The main elements of comprehensive nursing, including early ambulation, individualized guidance, and comprehensive educating patients, can explain these physiological improvements which promote active involvement in the recovery process and physical resilience. The priorities of early mobilization and supervision of professional nurses also contributed to the reduction of complications such as deep vein thrombosis and pulmonary infections, which prove the clinical benefits of structured and continuous care.

Despite the fact that the general findings were effectively pointing to the effectiveness of comprehensive nursing care, some contradictory findings were also observed. In other instances, the traditional nursing practice played a significant role in ensuring a basic postoperative stability especially under the

care of skilled and careful nursing personnel. This implies that patient outcomes in a traditional care model could be impacted by the talent and dedication of specific nurses, in spite of common assumptions. Also, it was noted that the decreases in anxiety and depression levels were not equally pronounced among all the patients with strong baseline resilience or significant family and social support being inclined to recover emotionally despite the nursing model offered. The exceptions underscore the fact that even though comprehensive nursing provides a very strong framework, the psychological and emotional reactions of patients are affected by their personal traits and external sources of support. Thus, any nursing model is optimally effective in the case when the strategies of care are individualised to suit the needs and preferences of individual patients and respond to their emotional conditions.

To conclude, the results of this research state once again that holistic nursing care is better in terms of physical, psychological, and emotional aspects of perioperative care. The method has not only made physiological recovery faster and reduced postoperative complications but also improved the emotional well-being and confidence of the patients. Through a combination of education, empathy, emotional support and regular follow-up, holistic nursing care helps close the divide between clinical care and holistic healing. This is a patient-centered model, which promotes a greater degree of trust, satisfaction and participation in the healing process. Finally, it is necessary to consider it as a necessary aspect of contemporary surgical treatment, which does not only ensure physical recovery but also psychological stability, patient satisfaction, and quality of life improvement in the long term.

Conclusion

The present study concludes that comprehensive nursing care significantly enhances surgical outcomes compared to conventional nursing approaches. Patients receiving comprehensive care demonstrated shorter hospital stays, lower anxiety and depression levels, reduced postoperative pain and complications, and earlier mobilization. Moreover, their overall quality of life and satisfaction scores were notably higher, reflecting the holistic benefits of this patient-centered approach. By integrating physical, psychological, educational, and emotional support throughout the perioperative period, comprehensive nursing care fosters faster recovery, improved confidence, and greater adherence to postoperative guidance. These findings emphasize that modern surgical nursing should transcend routine clinical procedures to embrace empathetic communication and individualized attention. Thus, comprehensive nursing care stands as a crucial framework for achieving optimal recovery, enhanced patient satisfaction, and superior long-term health outcomes.

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