Assessment of Attitude and Satisfaction on Patient's Acuity Level Care Assignment among Registered Nurses - A Descriptive Study from Selected Indian Hospital

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Abstract: *Nurses encounter numerous healthcare challenges, including high turnover, heavy workloads, and unfair assignments, which ultimately result in their dissatisfaction. This research aims to evaluate the attitude and satisfaction towards patient acuity level care assignment (PALCA). This study employed a descriptive research design, with 100 registered nurses selected through consecutive sampling. The data collection tools consisted of a demographic variables proforma and a rating scale to assess attitude and satisfaction regarding PALCA. The study findings indicated that a majority of the staff nurses (90%) expressed high satisfaction levels and 85% exhibited a positive attitude towards patient acuity level care assignment. Consequently, implementing standardized nurse - patient assignments can alleviate workload burdens, thereby positively impacting nurse satisfaction, patient experience, and outcomes.*

Keywords: Patient Acuity, Patient care assignment, Nursing Satisfaction, Nurse workload and Hospital staffing.

1. Introduction

"Nurses dispense comfort, compassion and caring without even a prescription"

- Val Saintsbury

Nurses encounter numerous healthcare obstacles, including but not limited to high turnover rates, heavy workloads, and unjust task allocations, all of which contribute to their dissatisfaction. By establishing a connection between nursing shift assignments and patients' acuity scores, it is possible to enhance the balance of workloads, thereby achieving fair nursing assignments and ultimately increasing nurses' satisfaction.

Acuity level refers to the degree of medically related support required by an individual, as assessed using the Direct Nursing Services Criteria (ANA, 2018). The classification of patients according to their nursing intensity is known as acuity. Acuity, which represents the specific nursing care needs of each patient, can provide valuable insights into the level of care required, nurse staffing, and nurse - to - patient assignments. The electronic health record contains nurse - generated data that can be extracted and analysed to provide decision support.

Allen et al (2019) delved into the topic of nurse - patient assignments and examined their impact on job satisfaction. This highlights the necessity for a standardized and objective approach in this process.97% of the nurses surveyed, daily assignments significantly contribute to their overall job satisfaction. The Patient Acuity System ensures the delivery of safe and effective patient care by adhering to established standards of care and practice. It assesses the number and skill mix of staff required to provide high - quality patient care. The system provides data for each patient care unit, guiding staffing decisions and supporting staff satisfaction by creating a stress - free work environment. It categorizes patients based on their specific needs and the time and skill required to meet those needs. Additionally, it determines the workload and nursing care requirements for optimal patient care.

Bedside nurses in the nursing field face new challenges every day as the profession continues to evolve. One common issue that nurses often express dissatisfaction with is their workload, which is often affected by the unfair distribution of patient assignments (Al - Dweik & Ahmad, 2019). According to a study conducted by Sir et al. (2015), workload is defined as the relationship between the number of resources required for a task and the number of resources available to complete it.

Al - Dweik and Ahmad (2020) explain that nurse workload is greatly influenced by the acuity of patients. When patient acuity and nurse workload are appropriately balanced, it leads to increased nurse satisfaction, improved patient safety, and better quality of care. To achieve this balance, the nursing agenda must determine the appropriate number of nursing staff required to provide safe care and achieve positive patient outcomes. This involves classifying and categorizing patients based on an analysis of their nursing care needs and demands, which is commonly referred to as a patient acuity tool or PAT.

Despite the extensive research conducted on hospital staffing models to address cost reduction, patient outcomes improvement, and co - worker satisfaction enhancement, these models do not provide sufficient support to unit leaders in distributing workload among nurses. Many hospitals determine the number of nurses based on the current and projected occupancy of beds for each shift (Ayan & Turkmen, 2019). However, this approach may overlook the individual needs of patients and the varying skill levels of nurses when making decisions regarding patient assignments. While nurse

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scheduling and budgeting to reduce costs, enhance the working environment, and improve patient outcomes are common priorities for hospital administration, the assignment of nurses to patients has not received adequate attention in the operations research literature (Sir et al., 2015). This highlights the need for "nurse - patient assignment models" as tools to facilitate daily decision - making in units with constantly changing patient census and acuity levels.

By measuring patient acuity, hospitals can make staffing adjustments to achieve a balance between workload and available nursing staff, as well as effectively plan discharges and distribute patients across units (Perroca, 2011). A survey revealed that 83% of participating nurses agreed that improving the work environment and workload could enhance nurse retention (Sir et al., 2015). The implementation of the patient acuity tool has been studied in other countries to assess its effectiveness in various aspects. However, its introduction in the Apollo Cancer Centre has sparked the interest of researchers in analysing the attitudes and satisfaction levels of staff nurses working under this model. Understanding nurse satisfaction with patient acuity level care assignments is critical for improving staffing policies, optimizing resource allocation, and enhancing overall patient care outcomes. This study aims to examine the attitudes and satisfaction of registered nurses regarding patient acuity level care assignment, emphasizing its impact on workload management and nurse well – being

2. Materials and Methods

This study among the registered nurses working in the hospital adopting PALCA was conducted using a descriptive design. Data were collected from a sample of 100 registered nurses, selected through convenience sampling based on predefined inclusion criteria. An e - survey was conducted via Google Forms and shared through WhatsApp after an overview of the study's objectives was provided. The study took place between February 2023 and April 2023.

Instruments
The researcher developed the data collection instruments by conducting a thorough literature review and consulting with experts. The instruments utilized in this study included a demographic variables proforma, a 5 - point Likert scale (ranging from Highly satisfied to Highly dissatisfied) consisting of 20 items to measure the satisfaction of registered nurses on PALCA, and a 3 - point Likert scale (ranging from Agree to Disagree) comprising of 15 statements to assess the attitude towards PALCA. Experts in nursing management and research validated the instruments. Reliability was confirmed through the test - retest method, with a correlation coefficient of r =0.84. "The research design, data collection, and analysis approach are appropriate. No major methodological flaws were detected.

Ethical Consideration
The study received ethical approval from the institutional ethical committee at Apollo College of Nursing, Chennai. The

purpose of the study was explained to the registered nurses, and they provided informed consent through Google forms. Participants were reassured that the information collected during the study would remain confidential and anonymous, and would only be used for research purposes.

3. Results and Discussion

Table 1: Frequency and Percentage Distribution of Background Variables (N=100)

| Background variables	f	%
Age		
18 - 29	94	94
30 - 39	4	4
40 - 49	1	1
>50	1	1
Gender		
Male	14	14
Female	86	86
Marital status		
Single	90	90
Married	9	9
Separated	1	1
Divorced		
Educational qualification		
Diploma	9	9
B. Sc Nursing	89	89
M. Sc Nursing	2	2
Others		
Years of experience		
< 1 year	44	44
1 - 5 years	57	57
6 - 10 years	4	4
11 - 15 years	3	3
> 15 years	2	2
Designation		
Nurse associate	16	16
Registered nurse	71	71
Senior registered nurse	10	10
In - charge nurse	1	1
Nursing officer	2	2
Area of working		
OPD/Day care	3	3
ICU	20	20
OT	2	2
Emergency	15	15
Others	50	50
Monthly income in Rupees		
10000 - 20000	84	84
21000 - 30000	12	12
>30000	4	4
Working hours/day		
6 hours	3	3
7 - 8 hours	62	62
>8 hours	35	35
Previous working experience in this model		
Yes		
No	15	15
If yes, specify	85	85
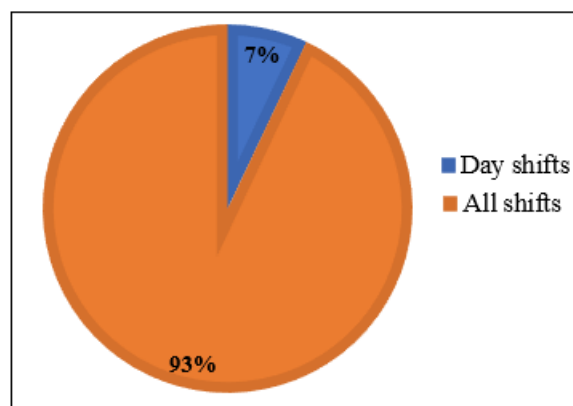
Figure 1: Percentage Distribution of Working Shift among Nurses.
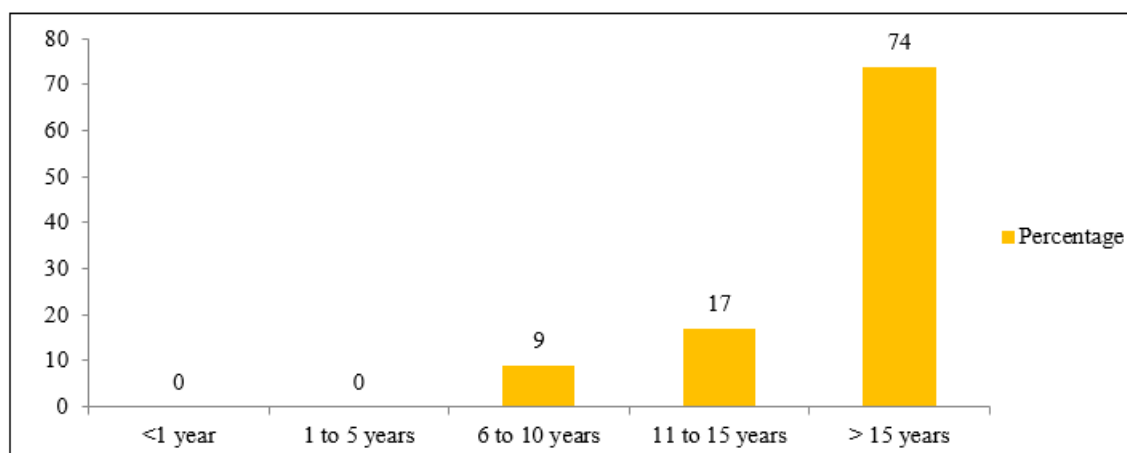

Figure 2: Percentage Distribution of Years of Experience among Staff Nurses

Table 1, Fig 1 & 2 reveals that majority of the registered nurses (94%) were aged between 18 - 29 years, with most being female (86%) and single (90%).74 % of registered nurses had more than 15 years of experience. Majority of the nurses were registered nurse (71%) and more than half of them working in other areas (50%) like wards (70%). Most of them had monthly income of 10000 - 20000 (84%) and more than half of them were working 7 - 8 hours (62%) in all shifts (93%).

Hemanathan, R et al. (2017) conducted a study on the quality of work life among nurses in a tertiary care hospital, and their findings were similar to previous studies. The dimensions of quality of nursing work life were assessed, and the highest mean score was observed in work design, followed by work life/home life, work context, and the lowest mean score in the work world dimension. The study also found significant associations between socio - demographic variables such as younger age group, education, living area, marital status, and the quality of nursing work life. In terms of work - related characteristics, years of experience (1 - 3), number of night duties (5 - 7 days), number of overtime duties (3 - 4 days), working on off days, and taking breaks on time were significantly associated with the quality of nursing work life. The majority of nurses in the study had a moderate quality of nursing work life. It is crucial to have a high - quality work life and the commitment of nurses in order to achieve a high level of care.
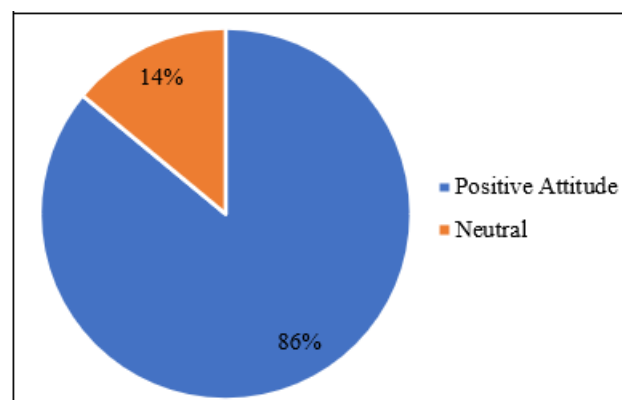

Figure 3: Percentage Distribution of Attitude on Patient's Acuity Level Care Assignment among Nursing Officers

Nurses' perception on patient acuity level assignment: All staff nurses unanimously agreed that the assignment of patient acuity levels has significantly enhanced their competence, patient care, staffing planning, allocation of nursing resources, staffing based on experience and competence, as well as the achievement of organizational and individual goals. However, 65% of them acknowledged that it has also reduced their stress and burnout, despite the ongoing shortage of staff. Furthermore, 86% of the staff nurses displayed a positive attitude towards the patient acuity level care assignment.

According to a study conducted by Al - Dweik et al. (2020), the implementation of the Patient Acuity Tool (PAT) in Medical/Surgical wards has had a positive impact on nursing

satisfaction and work efficiency. This has consequently mitigated the detrimental effects of excessive workload and burnout, ultimately promoting quality care, improving patient outcomes, and enhancing patient satisfaction. However, a more comprehensive long - term study with a longitudinal research design is required to thoroughly evaluate the overall effects of PAT.

In another study by Meyer et al. (2020) on the development of a nursing assignment tool using workload acuity scores, it was found that the workload scores varied significantly across different hospital units. To ensure consistency throughout the institution, unit - specific nurse - to - patient ratios were taken into account when determining workload measurement scores for assignments. By combining objective, electronically generated nursing workload scores with traditional nurse - to - patient ratios, accurate real - time nurse staffing needs can be determined, thereby informing best practices in staffing. Successful implementation necessitates the confirmation of individual patient workload scores and a thorough understanding of the complexities associated with electronic health record vendor rules. Automation plays a crucial role in ensuring patient safety, staff satisfaction, and optimal resource allocation.

The relationship between the intention to stay in a nursing position and a positive work environment has been established in previous studies (Diclemente, 2018; Dorigan & de Brito Guirardello, 2017; Georgiou et al., 2018; Lu et al., 2019). The nursing work environment is highly complex, involving various tasks and coordination with interdisciplinary departments. The ability to adapt and complete tasks effectively contributes to nursing stress, patient outcomes, and the overall quality of care. Workload and patient acuity levels have a direct impact on stress levels and are influenced by the skill level of the staff and their perception of having sufficient support (Winsett et al., 2016).

A healthy work environment not only promotes quality care for patients but also provides a sense of fulfilment for nurses. Patient conditions and acuity levels constantly change from one shift to another. Acuity tools are used to adjust scores based on the current patient status and have proven to be effective and practical in various healthcare settings (Amenduzie et al., 2017; Georgiou et al., 2018). The Synergy Model ensures that a competent nurse is assigned to an appropriate patient (Amenudzie et al., 2017; Georgiou et al., 2018).

Nursing experience varies among different units, with each nurse possessing different levels of expertise. Less experienced nurses may not be as proficient in caring for patients with higher acuity levels. Acuity tools provide valuable insights into the resources required to deliver high - quality care. The patient census on the unit often determines the staffing requirements for each shift. Acuity tools help justify the need for additional staff members to manage the fluctuating acuity levels on the nursing unit.
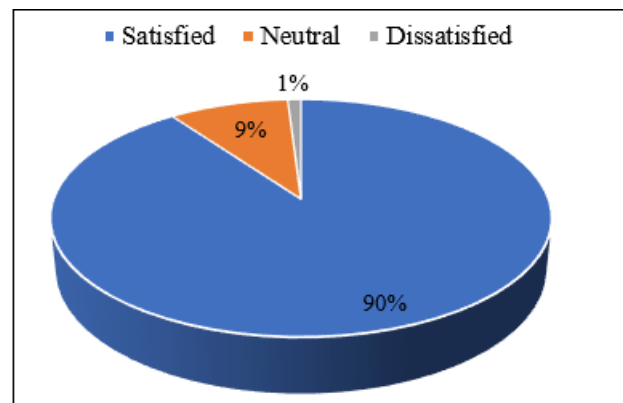

Figure 4: Percentage Distribution of Satisfaction Level on Patient Acuity Level Assignment

The satisfaction level among staff nurses regarding patient acuity level care assignment is as follows: 90% were satisfied, 9% were neutral, and only 1% were dissatisfied. When analysing nurses' satisfaction with patient acuity level assignment, it was found that 95% of staff nurses were satisfied with it helping them understand the severity of the patient's condition. Additionally, 93% were satisfied with how it improved their alertness and strengthened the nurse - patient relationship. Furthermore, 92% were satisfied with how patient acuity assignment helped provide efficient patient care, prioritize patient care needs, maximize patient outcomes, and improve confidence levels. Lastly, 91% were satisfied with how this method improved decision making and created an excellent work environment. The mean and standard deviation for the components of satisfaction with patient care acuity assignment were as follows: organization factors (29.64+3.41) and personal factors (50.81+5.64).

A similar study conducted by Ageiz, M. H., et. al (2020)., reported similar findings, stating that a new patient acuity tool effectively improved nurses' satisfaction with assignment. The study also found no statistically significant difference between nurses' satisfaction in the experimental group and their personal data, except for educational level and years of experience. Additionally, the majority of first - line managers agreed with all statements related to the implementation of the patient acuity tool, although they were unsure if its utilization enhanced the quality of care provided to patients on the unit. Another qualitative study conducted by Al - Dweik, G et al (2020)., in 2020 found that the utilization of the PAT in Medical/Surgical wards had positive influences on nursing satisfaction and work efficiency. It also helped reduce the negative impacts of overwork and burnout, ultimately promoting quality of care, improving patient outcomes, and increasing patient satisfaction.

The research conducted by Vortherms et al. supports the idea that clear communication, fair distribution, and transparency in assigning patient acuity are crucial for increasing nurses' satisfaction. Similarly, Thomasos et al. found that implementing acuity - based staffing improves workload balance, satisfaction, and employee engagement. Al - Dweik and Ahmad's (2019 study also concluded that using a patient acuity tool effectively considers the complexity of patients and their care, leading to equitable shift assignments and increased job satisfaction among nurses.

These findings align with a study by David et al. (2021) among nursing students, which showed that factors such as requiring factors, motivating factors, and working welfare were rated higher in overall satisfaction when utilizing a Patient Acuity Tool. However, there were no significant differences in mean satisfaction based on specific indicators or overall satisfaction.

Perceived workload and nursing satisfaction can be improved by implementing an objective tool to measure patient acuity and make assignments. Equitable distribution of workload can enhance nursing care and promote teamwork. Long - term benefits may include increased staff retention and reduced turnover. However, it is important to address challenges such as resistance to change and ensure buy - in and compliance from nursing staff during the implementation process.

There was no significant correlation found between background variables such as gender, working hours, and years of experience in relation to patient care assignment satisfaction in the selected hospital at a significance level of P<0.05. Similarly, there was no significant association observed between background variables like gender, working hours, and years of experience in relation to the attitude of staff nurses towards the acuity level of patient care assignment at a significance level of P<0.05. As a result, the null hypothesis H01, which states that there will be no significant association between the selected background variables and the level of attitude and satisfaction of staff nurses at a significance level of P<0.05, was accepted.

These findings align with a study conducted by Kari et al. in 2023. The study involved the participation of 22 out of 33 registered nurses (66.6%) who completed the PAT questionnaire, which measured nurse acceptability of the PAT assessment process. The study revealed statistically significant differences in two out of eight variables before and after the intervention. These variables were "the way we currently evaluate patient acuity assists the charge nurse in making nurse - patient assignments" (t 3.070, df 22, P =.006) and "the way we currently evaluate patient acuity is an accurate assessment of acuity" (t 2.390, df 22, P =.026). It is important for acuity tools to be specific to each nursing unit and adaptable to staffing and patient needs, including changes in a patient's condition, unexpected discharges and/or admissions, and psychosocial components.

Implication For Practice

The integration of the patient acuity tool in different nursing units will facilitate improved allocation of nursing shift assignments and enhance the quality of care provided. This should be especially appealing to individuals in positions of authority, such as nurse managers, administrators, and hospital decision makers. Implementing strategies that improve patient care and nurse satisfaction enhances service quality and benefits the organization financially. Furthermore, by incorporating the acuity tool into the electronic health record (EHR) and refining it through targeted focus group initiatives, a more streamlined, simplified, and objective approach to patient acuity assessment can be achieved.

4. Conclusion

Standardizing the process of assigning nurses to patients using a patient acuity tool can help ensure that patient acuity is evenly distributed among nurses and reduce their workload. This positively impacts nurse satisfaction, patient experience, and health outcomes. It is important to recognize that nurse workload can affect the nurse - patient relationship and the quality of care provided, making patients important stakeholders in this project as well. Implementing standardized patient acuity tools in nurse assignments improves workload distribution, reduces stress, and enhances job satisfaction. The study findings indicate that most registered nurses had a positive attitude and high satisfaction toward PALCA. Effective staffing policies using these tools can improve nurse well - being, patient outcomes, and overall hospital efficiency

Declaration of Conflict of Interest
The authors declare no conflicts of Interest

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