

# ASSESS KNOWLEDGE ON NATIONAL EARLY WARNING SCORE (NEWS) AMONG BSC NURSING STUDENTS IN A COLLEGE OF NURSING.

**Mr.Saikrishna Jana**

MSc.Nursing First Year Student, MGM New Bombay College of Nursing, Navi Mumbai, India

**Dr.Trupti Mhatre**

Associate Professor, MGM New Bombay College of Nursing, Navi Mumbai, India

## ABSTRACT

A study to assess the knowledge on National Early Warning Score (NEWS) among B.Sc Nursing students in a selected College of Nursing.

### Objectives Primary objective

1. To assess the knowledge of Bsc Nursing students regarding the National Early Score in a nursing institution.

### Secondary Objective

1. To categorize the level of Knowledge of Bsc Nursing students regarding National Early Warning Score (NEWS) as adequate, moderately and inadequate.

2. To determine the association between knowledge regarding National Early Warning Score (NEWS) and selected demographic variable such as age, year of study clinical exposure and previous training.

### 3. Introduction:

The National Early Warning Score (NEWS) is an essential clinical tool that supports early detection of patient deterioration and improves patient safety. Its effective use depends on the knowledge and competence of healthcare professionals, particularly nurses. Assessing the knowledge of B.Sc Nursing students regarding NEWS is crucial for identifying gaps, improving educational strategies, and ensuring better preparedness for clinical practice. This, in turn, contributes to enhanced patient care and safety outcomes. Methodology: Students from third and fourth year Bsc nursing was used for data collection. Google form was prepared on NEWS score and circulated. Data analyzed using descriptive and inferential statistics. Result: The study assessed the knowledge of 110 B.Sc. Nursing students regarding NEWS. Most students had average knowledge, while a significant number had poor knowledge and none demonstrated good knowledge. Students were familiar with basic concepts but lacked skills in scoring, interpretation, and clinical decision-making

### Conclusion:

A significant association was found with year of study, source of information, and clinical observation. The findings highlight the need for improved ii training and practical exposure to enhance clinical application of NEWS. The study concludes that B.Sc. Nursing students possess basic knowledge of NEWS but lack adequate competency in its application, including scoring and clinical interpretation. There is a clear need for structured training programs, practical exposure, and skill-based learning to improve their clinical decision-making abilities. Strengthening education and hands-on experience will help enhance effective utilization of NEWS in patient care.

**Keywords:** NEWS score , Bsc nursing students

## I.INTRODUCTION

Patient safety is a fundamental component of healthcare delivery and has gained increasing attention globally due to the rising incidence of preventable adverse events in hospitals. One of the most critical aspects of ensuring patient safety is the early identification of clinical deterioration. Clinical deterioration

refers to the gradual or sudden worsening of a patient's physiological condition, which, if not recognized promptly, can lead to serious consequences such as cardiac arrest, organ failure, unplanned intensive care unit (ICU) admissions, and even death.<sup>1</sup>

Healthcare systems today are complex, dynamic, and often burdened with high patient loads. In such environments, subtle changes in a patient's physiological parameters may go unnoticed, especially in general wards where continuous monitoring is not always feasible. Research has shown that most patients who experience adverse events exhibit abnormal vital signs hours before the event occurs.<sup>2</sup> These early warning signs, if detected and managed appropriately, can significantly reduce morbidity and mortality. Therefore, systematic monitoring and timely recognition of deterioration are essential components of high-quality healthcare. Nurses play a central role in patient monitoring, as they are the primary caregivers who interact with patients continuously. Their ability to assess, interpret, and act upon changes in vital signs is crucial in preventing clinical deterioration. However, traditional methods of monitoring often rely on individual clinical judgment, which can vary depending on experience, workload, and environmental factors.<sup>3</sup> This variability can lead to delayed recognition of deterioration and inconsistent patient care. To address these challenges, standardized tools such as Early Warning Scores (EWS) have been developed. These tools provide a structured approach to assessing patients by assigning scores to physiological parameters. Among these tools, the National Early Warning Score (NEWS) has emerged as one of the most widely used and validated systems. Developed by the Royal College of Physicians in the United Kingdom, NEWS aims to standardize the assessment of acute illness severity and improve the detection of patient deterioration.<sup>4</sup>

The NEWS system is based on six key physiological parameters: respiratory rate, oxygen saturation, systolic blood pressure, pulse rate, level of consciousness, and temperature. Each parameter is scored based on the degree of deviation from the normal range, and the total score indicates the patient's clinical risk. Higher scores correspond to greater severity and the need for urgent medical intervention. The simplicity and effectiveness of NEWS make it a valuable tool in various healthcare settings, including emergency departments, general wards, and critical care units.

One of the significant advantages of NEWS is its ability to provide an objective and standardized method for patient assessment. By using a scoring system, it reduces reliance on subjective judgment and ensures that all healthcare providers interpret patient data consistently. This standardization also enhances communication among healthcare teams, as the NEWS score provides a common language for describing patient condition.<sup>5</sup> For example, a high NEWS score immediately signals the need for escalation of care, enabling prompt intervention.

The implementation of NEWS has been associated with improved clinical outcomes. Studies have demonstrated that the use of NEWS facilitates early detection of deterioration, timely escalation of care, and reduction in hospital mortality rates.<sup>6</sup> It also supports decision-making processes by providing clear guidelines for clinical actions based on the score. As a result, NEWS has been widely adopted in many countries and is considered a key component of patient safety initiatives.

Despite its effectiveness, the successful use of NEWS depends largely on the knowledge and competence of healthcare professionals. Proper understanding of the scoring system, interpretation of results, and appropriate clinical response are essential for maximizing its benefits. Inadequate knowledge or incorrect use of NEWS can lead to misinterpretation of patient condition and delayed intervention.<sup>7</sup> Therefore, education and training play a vital role in ensuring the effective implementation of this tool.

Nursing education aims to prepare students with the knowledge, skills, and attitudes required for safe and effective patient care. B.Sc Nursing students undergo both theoretical and clinical training, which equips them to handle real-life healthcare situations. However, the integration of standardized tools like NEWS into nursing education may vary across institutions. In some cases, students may have limited exposure to such tools, which can affect their ability to apply them in clinical practice.

The transition from student to professional nurse is a critical phase, during which individuals are expected to assume responsibility for patient care. During this transition, the ability to recognize early signs of

deterioration becomes particularly important. Nursing students who are well-versed in tools like NEWS are more likely to demonstrate confidence, accuracy, and efficiency in patient assessment. Conversely, lack of knowledge can lead to uncertainty, errors, and compromised patient safety.<sup>8</sup>

Another important aspect to consider is the increasing emphasis on evidence-based practice in healthcare. Evidence-based practice involves integrating the best available research evidence with clinical expertise and patient preferences. The use of standardized tools such as NEWS is an example of evidence-based practice, as it is supported by extensive research and clinical validation. Therefore, it is essential for nursing students to be familiar with such tools and incorporate them into their clinical practice.

### **Need for the Study**

The healthcare system is undergoing rapid transformation with increasing patient complexity, technological advancements, and heightened expectations for quality care. In such a dynamic environment, early recognition of patient deterioration has become a critical aspect of ensuring patient safety. Clinical deterioration is often a gradual process marked by subtle physiological changes, which, if not identified in time, can lead to severe complications such as cardiac arrest, unplanned intensive care unit (ICU) admissions, and increased mortality.<sup>9</sup> The ability to detect these changes at an early stage is essential for timely intervention and improved patient outcomes.

Despite advancements in healthcare, failure to recognize and respond to early signs of deterioration remains a significant challenge. Studies have indicated that deterioration is frequently preceded by measurable abnormalities in vital signs, yet these warning signs are often missed or misinterpreted in routine clinical practice.<sup>10</sup> This issue is further compounded by factors such as high workload, inadequate staffing, and reliance on subjective clinical judgment, which may vary among healthcare providers. As a result, there is a growing need for structured and standardized tools that can assist in the early identification of at-risk patients.

The National Early Warning Score (NEWS) has been developed as a reliable and standardized tool to address this challenge. It enables healthcare professionals to systematically assess physiological parameters and assign scores that reflect the severity of a patient's condition. This structured approach helps reduce variability in patient assessment and supports timely clinical decision-making.<sup>11</sup> The use of NEWS has been widely recommended in clinical practice due to its effectiveness in identifying patients at risk of deterioration and facilitating early intervention.

However, the successful implementation of NEWS depends largely on the knowledge and competence of healthcare providers. Nurses play a central role in patient monitoring, as they are responsible for continuous observation and recording of vital signs. Their ability to interpret these findings accurately and take appropriate action is crucial in preventing adverse outcomes. Research has shown that inadequate knowledge and understanding of early warning scoring systems can lead to errors in assessment and delayed response to patient deterioration.<sup>12</sup>

Nursing students, particularly those enrolled in B.Sc Nursing programs, are future healthcare professionals who will be directly involved in patient care. Their education should equip them with the necessary knowledge and skills to use tools like NEWS effectively. However, in many educational settings, there is a gap between theoretical knowledge and clinical practice. Students may be aware of the importance of patient monitoring but may lack practical exposure to standardized tools used in real clinical environments.<sup>13</sup> This gap can affect their confidence and ability to perform effectively in clinical situations.

The transition from student to professional nurse is a crucial phase that requires strong clinical judgment and decision-making abilities. During this period, the ability to recognize early signs of deterioration becomes particularly important. Nursing students who are familiar with NEWS are more likely to demonstrate improved clinical reasoning and provide timely interventions. Conversely, lack of knowledge may result in delayed recognition of patient deterioration, thereby compromising patient safety.<sup>14</sup>

Another important factor contributing to the need for this study is the increasing emphasis on evidence-based practice in healthcare. Evidence-based practice involves integrating research evidence with clinical expertise

to provide high- quality care. NEWS is supported by extensive research and has been widely implemented across healthcare systems as a standard tool for patient assessment. Therefore, it is essential for nursing students to be knowledgeable about such tools and incorporate them into their clinical practice.

In addition, effective communication among healthcare professionals is vital for ensuring coordinated patient care. NEWS provides a standardized method of communicating patient condition, which enhances teamwork and facilitates prompt decision-making. A high NEWS score can act as an early alert, enabling healthcare teams to respond quickly and prevent further deterioration<sup>15</sup>. Thus, knowledge of NEWS not only improves individual clinical performance but also strengthens interprofessional collaboration.

## II. MATERIAL AND METHOD OBJECTIVE OF THE STUDY

### Primary objective

1. To assess the knowledge of Bsc Nursing students regarding the National Early Score in a nursing institution.

### Secondary Objective

1. To categorize the level of Knowledge of Bsc Nursing students regarding National Early Warning Score (NEWS) as adequate, moderately and inadequate.

2. To determine the association between knowledge regarding National Early Warning Score (NEWS) and selected demographic variable such as age, year of study clinical exposure and previous training.

### Research Question

What is the level of knowledge regarding National Early Warning Score (NEWS) among B.Sc Nursing students?

## OPERATIONAL DEFINITION

### Knowledge

Knowledge refers to the level of understanding and awareness among B.Sc Nursing students regarding the concept, components, scoring system, interpretation, and clinical application of the National Early Warning Score (NEWS).

### National Early Warning Score (NEWS)

NEWS is a standardized clinical assessment tool used to monitor physiological parameters such as respiratory rate, oxygen saturation, systolic blood pressure, pulse rate, level of consciousness, and temperature to identify early signs of patient deterioration.

### B.Sc Nursing Students

Students who are enrolled in the Bachelor of Science in Nursing program in a selected College of Nursing.

### College of Nursing

An educational institution that provides professional education and clinical training in nursing.

## RESEARCH HYPOTHESIS

H0: There is no significant association between the knowledge of NEWS and selected demographic variables among B.Sc Nursing students.

H1: There is a significant association between the knowledge of NEWS and selected demographic variables among B.Sc Nursing students.

### Delimitation

The study is delimited to:

- B.Sc Nursing students of a selected College of Nursing
- Students who are present during the data collection period
- Students who are willing to participate in the study

**Research Approach** :Quantitative research approach

**Research Design** :Descriptive cross sectional resaerch design

**Research Variable** : Bsc Nursing students and knowledge regarding NEWS score

**Population**

**Target Population** :Students studying in third and fourth year Bsc nursing

**Accessible population** :Third and fourth year students who are available at the time of data collection

**Sample**

**Sample size** 108

**Sampling Technique** :Purposive sampling technique

**Inclusion Criteria**

BSc. Nursing students who are:

1. Present at the time of data collection
2. Willing to participate in the study.
3. Students studying in Third and fourth year.
4. Students able to read and understand English

**Exclusion Criteria**

BSc Nursing students who are

1. Absent during data collection
2. Not willing to participate
3. First and second year students

**Description of Tool**

Part 1 Demographic data

Part 2 Multiple choice questionnaire regarding NEWS score.

Part 3 Multiple choice question based on knowledge regarding application of NEWS score. Part 4 Multiple choice question on clinical judgment and interpretation of NEWS score.

In this study data collection instrument prepared is a structured multiple choice questionnaire on knowledge regarding National Early Warning Score to assess the level of knowledge among nursing students in a selected college of Nursing. Validity was done by eight experts from the research methodology. By using Test retest Karl Pearson correlation coefficient calculation was used. The reliability of the tool was 0.84.

**IV. ANALYSIS SECTION 4.1**

**Description of samples (Bsc nursing students ) based on their personal characteristics in terms of frequency and percentage.**

**N=110**

<b>Demographic variable</b>	<b>Freq</b>	<b>%</b>
<b>Age</b>		
19–20 years	52	47.3%
21–22 years	56	50.9%
≥23 years	2	1.8%
<b>Gender</b>		
Male	25	22.7%
Female	85	77.3%
<b>Year of BSC nursing course</b>		
III Year	85	77.3%
IV Year	25	22.7%
<b>Previous Knowledge about NEWS score?</b>		
Yes	84	76.4%
No	26	23.6%
<b>Source of information</b>		

Classroom teaching	55	50.0%
Clinical posting	22	20.0%
Books / Journals	3	2.7%
Internet / Online resources	30	27.3%
<b>Clinical posting in critical care</b>		
Yes	104	94.5%
No	6	5.5%
<b>Area of clinical exposure</b>		
Medical ward	18	16.4%
Surgical ward	17	15.5%
ICU	51	46.4%
Emergency department	24	21.8%
<b>Attendance in training /workshops on NEWS</b>		
Yes	24	21.8%
No	86	78.2%
<b>Have you been taught about patient deterioration assessment in the curriculum</b>		
Yes	57	51.8%
No	53	48.2%
<b>Have you ever observed the use of an early warning scoring system in hospital</b>		
Yes	38	34.5%
No	72	65.5%

**Table 4.1** shows the demographic characteristics of BSc nursing students (N=110). Most students were aged 21–22 years (50.9%), female (77.3%), and from III year BSc Nursing (77.3%). Majority had previous knowledge about NEWS score (76.4%) mainly through classroom teaching, and most had clinical exposure in ICU settings. Only a few students had attended NEWS training workshops (21.8%).

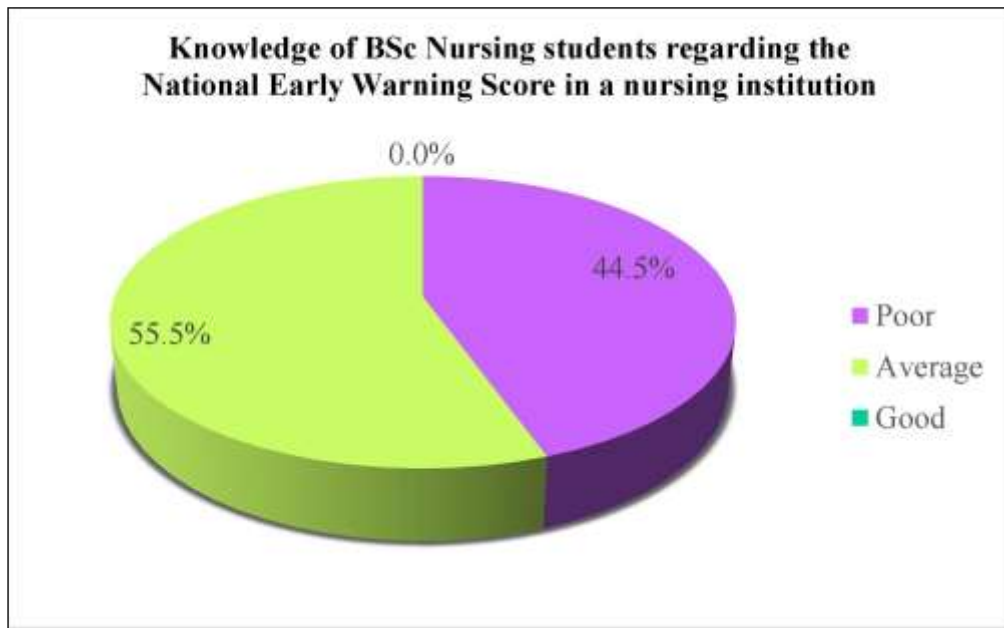
## Section 4.2

### Analysis of data related to knowledge of BSc Nursing students regarding the National Early Warning Score in a nursing institution

Table 2: Knowledge of BSc Nursing students regarding the National Early Warning Score in a nursing institution

N=110		
<b>Knowledge</b>	<b>Freq</b>	<b>%</b>
Poor	49	44.5%
Average	61	55.5%
Good	0	0.0%

Figure 4.2 shows 44.5% of the B.Sc. nursing students had poor knowledge and 55.5% of them had



average knowledge regarding the National Early Warning Score in a nursing institution.

### SECTION 4.3

Analysis of data related to association between knowledge regarding National Early Warning Score (NEWS) among B.Sc. nursing students and selected demographic variable.

Table 4: Fisher’s exact test for the association between knowledge regarding National Early Warning Score (NEWS) among B.Sc. nursing students and selected demographic variable.

Demographic variable			Knowledge		p-value
			Poor	Average	
Age	19–20 years		19	33	0.434
	21–22 years		29	27	
	≥23 years		1	1	
Gender	Male		11	14	1.000
	Female		38	47	
Year of BSC nursing course	III Year		33	52	0.039
	IV Year		16	9	
Previous Knowledge about NEWS score?	Yes		33	51	0.070
	No		16	10	
Source of information	Classroom teaching		31	24	0.020
	Clinical posting		10	12	
	Books / Journals		0	3	
	Internet / Online resources		8	22	
Clinical posting in critical care	Yes		47	57	0.690
	No		2	4	
Area of clinical exposure	Medical ward		9	9	0.594
	Surgical ward		5	12	
	ICU		24	27	
	Emergency department		11	13	
Attendance in training /workshops on NEWS	Yes		11	13	1.000
	No		38	48	
Have you been taught about patient deterioration assessment in the curriculum	Yes		28	29	0.343
	No		21	32	
Have you ever observed the use of an early warning scoring system in hospital	Yes		30	8	0.000
	No		19	53	

Since p-values corresponding to Year of BSC nursing course, Source of information and ever observed the use of an early warning scoring system in hospital were small (less than 0.05), the demographic variables to Year of BSC nursing course, Source of information and ever observed the use of an early warning scoring system in hospital were found to have significant association with the knowledge among nursing students regarding National Early Warning Score (NEWS).

## DISCUSSION

The study found a statistically significant association between knowledge and variable such as year of the study, source of information, and observation of NEWS in hospital. Students in higher years of the study had better knowledge, which may be increased academic exposure and clinical experience. Similarly, students who gained knowledge through multiple sources, especially practical exposure, demonstrated better understanding. Observation of NEWS in hospital setting had a strong association with knowledge

learning. On the other hand no significant association between knowledge and variable such as age, gender, previous knowledge, clinical exposure and training. This suggests that mere exposure or attendance is not sufficient unless accompanied by active learning and practical application.

## CONCLUSION

The majority of B.Sc. Nursing students had average knowledge regarding the National Early Warning Score (NEWS), while a considerable proportion had poor knowledge, and none demonstrated good knowledge. Students had adequate theoretical understanding of basic concepts such as purpose and parameters of NEWS, but showed poor knowledge in clinical exposure, practical application of knowledge was inadequate, indicating a gap between theory and practice.

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**Conflict of the Interest :** None

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