

# “EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING GUILLAIN BARRE SYNDROME AMONG STAFF NURSES IN SELECTED HOSPITALS OF KAMRUP, ASSAM: A QUASI-EXPERIMENTAL STUDY.”

## *Structured teaching programme on knowledge regarding Guillain Barre Syndrome among staff nurses*

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### ABSTRACT

**Background:** Guillain Barre Syndrome (GBS) is a rare but serious autoimmune neurological disorder. Kar P (2023) indicates that around two-thirds of patients experience a triggering event, most often a respiratory or gastrointestinal infection, within one to six weeks before the onset of neurological symptoms.

**Objectives of the study:** To assess the knowledge before and after administration of the structured teaching programme, to assess the effectiveness of the structured teaching programme on knowledge and to find out the association of pre-test level of knowledge regarding Guillain Barre Syndrome among staff nurses in selected hospitals of Kamrup, Assam, with their selected demographic variables.

**Methods & Materials:** A Quasi experimental one group pre-test post-test research design using convenience sampling technique to select 80 Staff Nurses on the basis of inclusion criteria. Pre-test Knowledge was checked using self-structured Knowledge questionnaire.

**Results:** In the pre-test, (83.75%) Staff Nurses had inadequate Knowledge and (16.25%) had moderate Knowledge regarding Guillain Barre Syndrome. After the intervention, (57.5%) Staff Nurses had adequate Knowledge and (42.5%) had moderate Knowledge regarding Guillain Barre Syndrome. In the pre-test mean Knowledge score was 7.95 (SD  $\pm$ 3.81) whereas in post-test, the mean Knowledge score was 18.81 (SD  $\pm$ 3.29). It was observed that the demographic variable years of experience ( $p=0.032$ ) and current area of work ( $p=0.034$ ) had statistically significant association with the pre-test level of knowledge regarding Guillain Barre Syndrome among staff nurses at  $p<0.05$  level.

**Conclusion:** Based on the analysis of the findings of the study, there was evident increase in Knowledge after administration of Structured Teaching Programme regarding Guillain Barre Syndrome (GBS).

**Keywords:** Structured Teaching Programme, Knowledge, Guillain Barre Syndrome, Staff Nurses, Hospitals.

### INTRODUCTION

The present study investigates Guillain Barre Syndrome (GBS) which is a rare but serious autoimmune neurological disorder that has significant implications for healthcare systems worldwide. Though its incidence is low, ranging from approximately 0.4 to 2 cases per 100,000 individuals, annually the clinical severity and rapid progression of the syndrome make early diagnosis and effective nursing management critically important.<sup>[1]</sup>

GBS is classified as an acute, immune-mediated polyneuropathy, and most cases are considered to be post-infectious in origin. Kar P (2023) indicates that around two-thirds of patients experience a triggering event, most often a respiratory or gastrointestinal infection, within one to six weeks before the onset of neurological symptoms. One of the most commonly associated pathogens is *Campylobacter jejuni*, a bacterium known for causing gastrointestinal illness.<sup>[2]</sup>

In light of these concerns, the current study seeks to evaluate the knowledge of staff nurses regarding Guillain Barre Syndrome. By identifying existing gaps in understanding, this research aims to inform the development of targeted educational interventions and training programs that can enhance the quality of care delivered to patients suffering from this potentially life-threatening disorder.

## NEED OF THE STUDY

According to the World Health Organization (WHO) 2016, the global incidence of GBS ranges from approximately 0.4 to 4 cases per 100,000 population per year. Despite advances in medical management, about 3–5% of affected individuals may die due to complications. Early diagnosis and prompt initiation of treatment are crucial for improving patient outcomes. The condition is reported to occur more frequently in males than females, and individuals above 50 years of age appear to have a higher risk. The symptoms may progress rapidly, with nearly 80% of cases worsening within hours to weeks, necessitating immediate hospitalization and intensive medical care. Therefore, increasing awareness and knowledge regarding GBS among healthcare professionals is essential for early recognition and timely management, ultimately improving patient prognosis.<sup>[2]</sup>

In India, a study conducted at National Institute of Mental Health and Neurosciences (NIMHANS), as reported in The Hindu Times on January 30, 2025, revealed that approximately 79.3% of patients with Guillain Barre Syndrome (GBS) had evidence of a preceding infection. Among these patients, about 32% tested positive for infection with *Campylobacter jejuni*, which is considered one of the most common triggers associated with the development of GBS. Interestingly, co-infection with multiple pathogens was observed in nearly 65% of the patients, suggesting that exposure to more than one infectious agent may play a significant role in the pathogenesis of the disorder.<sup>[3]</sup>

In Pune, Maharashtra the first reported case of Guillain-Barre Syndrome (GBS) in 2025 was identified on January 9. By January 28, a total of 111 cases and one death had been reported, indicating a concerning rise in the number of cases. The incidence of GBS in Pune has been considered alarming, as previous outbreaks have rarely exceeded three-digit case numbers except during a few earlier instances. This rise highlights the need for increased surveillance and awareness regarding the condition.<sup>[3]</sup>

The recent outbreak of Guillain Barre syndrome (GBS), a rare neurological condition in Pune, Maharashtra, has led to panic among the public in Maharashtra and other parts of India. Although conditions resembling GBS have been described in medical literature for centuries, the term itself was first introduced in 1916. A notably large outbreak of GBS occurred in Peru between May 20 and July 27, 2019, during which 683 cases were reported over a little more than two months.

Furthermore, there is limited research evidence regarding the level of knowledge among staff nurses about Guillain Barre Syndrome, particularly in the context of Indian healthcare settings. Assessing the knowledge of staff nurses is therefore essential in order to identify existing knowledge gaps and develop targeted educational interventions, such as in-service education programs and continuing nursing education initiatives.

In the North-east, recently, in Assam, the first death related to GBS in 2025 was reported in February. The victim was a 17-year-old girl who passed away at Pratiksha Hospital in Guwahati. This marked the first reported GBS-related death in the state during the current season. Subsequently, another case of GBS was reported in Assam, where a 17-year-old patient required critical care management at Apollo Hospitals.<sup>[4]</sup> Reports indicate that cases of GBS are increasing in several parts of India, with experts cautioning about the possibility of additional cases in the near future. These developments further emphasize the importance of enhancing awareness and clinical preparedness among healthcare professionals, particularly nurses who are directly involved in patient care.<sup>[5]</sup>

This study aims to bridge the knowledge gap and ultimately contribute to improved patient outcomes by ensuring that nurses are well-prepared to handle cases of Guillain-Barre Syndrome.

## OBJECTIVES OF THE STUDY

1. To assess the knowledge regarding Guillain Barre Syndrome among staff nurses in selected hospitals of Kamrup, Assam, before and after administration of the structured teaching programme.
2. To assess the effectiveness of the structured teaching programme on knowledge regarding Guillain Barre Syndrome among staff nurses in selected hospitals of Kamrup, Assam.
3. To find out the association of pre-test level of knowledge regarding Guillain Barre Syndrome among staff nurses in selected hospitals of Kamrup, Assam, with their selected demographic variables.

## SCOPE OF THE STUDY

- 1) This study is focused on assessing the existing knowledge of staff nurses regarding Guillain Barre Syndrome (GBS) in selected hospital settings.

- 2) The scope includes evaluating nurses understanding of the etiology, clinical features, diagnostic procedures, management and complications of Guillain Barre Syndrome (GBS)
- 3) The findings of this study will help identify knowledge gaps among the staff nurses
- 4) The findings of the study will help the hospital authorities to plan educational programmes among staff nurses
- 5) The information that will be provided to the staff nurses will help them in taking care of critically ill patients and make them competent.

## DELIMITATION

This study is delimited to staff nurses who are working in selected hospitals of Kamrup, Assam only.

## HYPOTHESIS

H1: There is significant difference between pre-test and post-test knowledge scores among staff nurses regarding Guillain Barre syndrome

H2: There is significant association between pre-test knowledge level with selected demographic variables among staff nurses.

### 3.1 Population and sample

In this study population comprises of staff nurses (80), who are working in hospitals of Kamrup, Assam. In this study accessible population were staff nurses who are working in selected hospitals of Kamrup, Assam who fulfils the inclusion criteria. Using Cochran's formula:  $N = Z^2 pq / e^2$

A non-probability convenience sampling technique was used to select the hospitals and staff nurses will be selected based on their availability and consent to participate in the study.

### 3.2 Data and sources of data

To ensure the content validity, problem statement, objectives of the study, operational definitions, demographic data, self-structured questionnaire on knowledge regarding Guillain Barre syndrome, Structured teaching programme content scoring key was given to as follows:

- 1 medical expert in the field of Neurology
- 5 nursing experts in the field of Medical Surgical Nursing
- 1 Nursing Superintendent expert in the field of Clinical Nursing

The experts were requested to provide their valuable suggestion in the remarks for the relevancy, clarity and appropriateness of the content

Modification was done and tool was reframed according to various experts and consulting with the guide.

For the present study, reliability of the tool was done by Split half method using Spearman Brown's formula

Reliability of self- structured knowledge questionnaire for Guillain Barre Syndrome was 0.79. Thus, it was found to be statistically reliable to proceed with the main study.

The data collection process was scheduled from 11.08.2025 to 06.09.2025. A formal written application was obtained from the respective Human Resource Department, the Medical Superintendent and Nursing Superintendent of the selected hospitals for conducting the research study by the investigator before the collection of the data.

### 3.3 Theoretical Framework

In the context of the present study, the General System Theory provides a framework to understand how various inputs are processed within the educational or clinical environment to produce desired outcomes related to the variables under investigation.

The following elements are common in system:

**Input:** In this study, the input refers to demographic variables like age, gender, educational qualification, years of experience, current area of work and previous experience of taking care of Guillain Barre Syndrome (GBS) patient.

**Throughput:** In this study the throughput refers to pre-test assessment was done by knowledge questionnaire regarding Guillain Barre Syndrome (GBS), the Structured Teaching Programme (STP) regarding Guillain Barre Syndrome (GBS) and Post-test assessment of Guillain Barre Syndrome (GBS)-Knowledge questionnaire to assess the knowledge.

**Output:** In this study the output refers to the level of knowledge of staff nurses which will be assess after the Structured Teaching Programme using the same tools and technique.

**Feedback:** It is the process whereby the output of the system is redirected as a part of the same system. In this system if there is inadequate increase in the level of Knowledge then the staff nurses can be again given the information by throughput. Thus, it is a continuous process, which takes place in the system, and this in turn helps to gain adequate Knowledge.

## RESEARCH METHODOLOGY

**Research approach-** Quantitative research approach

**Research design-** Quasi experimental design (one group pre-test post-test research design)

**Variables:** Variables included in this study were

- **Dependent variable-** In this study, level of Knowledge of staff nurses regarding Guillain Barre Syndrome is the dependent variable.
- **Independent variable-** In this study, Structured Teaching Programme is the independent variable.
- **Demographic variables-** In this study, demographic variables are age, gender, educational qualification, years of clinical experience, current area of work, previous experience of taking care of Guillain Barre Syndrome (GBS) patient.

**Setting of the study-** The study was conducted in selected hospitals of Kamrup, Assam.

**Population-** The population in this study referred to Staff Nurses.

**Target population-** In this study, target population were staff nurses who are working in hospitals of Kamrup, Assam.

**Accessible population-** In this study accessible population were staff nurses who are working in selected hospitals of Kamrup, Assam. who fulfils the inclusion criteria **Sample-** In this study, samples were the staff nurses who are working in selected hospitals of Kamrup, Assam.

**Sample size-** The sample size consisted of 80 staff nurses.

**Sample technique-**The sampling technique was non probability convenience sampling technique

## TOOLS AND TECHNIQUES

### Tools:

Demographic Performa of the staff nurses

Self-structured Knowledge questionnaire to assess the knowledge of the staff nurses regarding Guillain Barre Syndrome

Structure teaching plan

**Technique-**The Self-reporting technique

## DATA ANALYSIS

The data collected were analyzed using descriptive and inferential statistical measures and presented in the form of tables and graphs.

## Results and discussion

The major findings of the study were as follows:

### SECTION-I: DEMOGRAPHIC DATA

1. **Age:** The study showed that out of 80 staff nurses, majority 68(85%) staff nurses belong to 21-30 years of age, 8(10%) staff nurses belong to 31-40 years of age and the rest 4(5%) staff nurses belongs to  $\geq 40$  years of age.
2. **Gender:** The study showed that out of 80 staff nurses, majority 73(91.3%) staff nurses were females and 7(8.7%) staff nurses were males.
3. **Educational qualification:** The study showed that out of 80 staff nurses, majority of staff nurses 59(74%) were from GNM and 2(26%) staff nurses were from BSc (N).
4. **Years of clinical experience:** The study showed that out of 80 staff nurses, majority of staff nurses 37(44.3%) were having clinical experience of 1-3 years, 19(23.7%) were having clinical experience of less than 1 year, 15(18.7%) were having clinical experience of 4-6 years and 9(11.3%) were having clinical experience of more than 6 years.
5. **Current area of work:** The study showed that out of 80 staff nurses, majority of staff nurses 48(60%) were working in ICU, 13(16.3%) were working in Medical ward, 14(17.5%) were working in Emergency ward and 2(2.5%) were working in Neurology unit, 2(2.5%) were working in SICU and 1(1.25%) were working in OBG wards.

6. **Previous experience of taking care of Guillain Barre Syndrome (GBS) patient:** The present study showed that out of 80 staff nurses, majority of staff nurses 68 (85%) were not having previous experience of taking care of Guillain Barre Syndrome (GBS) patient and 12(15%) were having previous experience of taking care of Guillain Barre Syndrome (GBS) patient

**TABLES AND FIGURES**

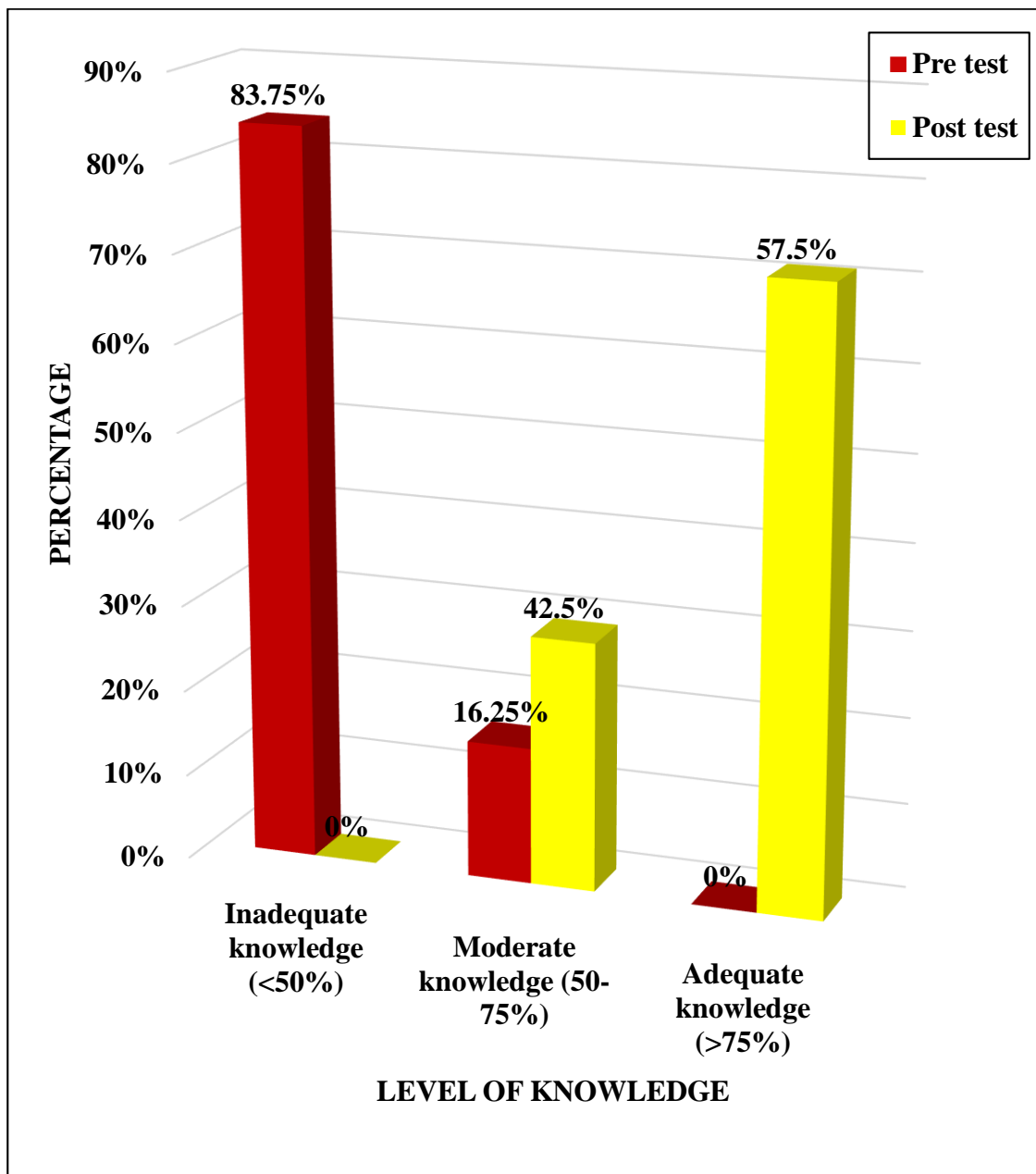
**SECTION-II**

**TABLE-I: FREQUENCY & PERCENTAGE DISTRIBUTION OF PRE TEST AND POST TEST LEVEL OF KNOWLEDGE REGARDING GUILLAIN BARRE SYNDROME AMONG STAFF NURSES**

**n=80**

Level of Knowledge	Pre test		Post test	
	Frequency (f)	Percentage %	Frequency (f)	Percentage %
Inadequate knowledge <50% (<12 marks)	67	83.75%	0	0
Moderate knowledge 50-75% (12-18 marks)	13	16.25%	34	42.5%
Adequate Knowledge >75% (>18 marks)	0	0	46	57.5%

Table I: The data presented in table I depicts that, in the pre-test, 67(83.75%) staff nurses had inadequate Knowledge, 13(16.25%) staff nurses had moderate knowledge regarding Guillain Barre Syndrome and after intervention, 46(57.5%) staff nurses had adequate Knowledge and 34(42.5%) staff nurses had moderate Knowledge regarding Guillain Barre Syndrome. Data were presented in bar diagram in Figure I.



**FIGURE I: BAR DIAGRAM SHOWING PERCENTAGE DISTRIBUTION OF PRE-TEST AND POST TEST LEVEL OF KNOWLEDGE REGARDING GUILLAIN BARRE SYNDROME AMONG STAFF NURSES**

**TABLE-II: EFFECTIVENESS OF STP ON KNOWLEDGE REGARDING GUILLAIN BARRE SYNDROME AMONG STAFF NURSES**

**H<sub>01</sub>:** There is no significant difference between the mean pre-test knowledge and mean post-test Knowledge score among Staff Nurses regarding Guillain Barre Syndrome at <0.05 level of significance (p<0.05)

**H<sub>1</sub>:** There is significant difference between the mean pre-test knowledge and mean post-test knowledge score among Staff Nurses regarding Guillain Barre Syndrome at <0.05 level of significance (p<0.05)

n=80

Knowledge	Mean	SD	Range of score	Mean difference	Paired “t” test & p-value
Pre-test	7.95	±3.81	1-16	<b>10.86</b>	<b>t=102.13 p=0.0001, S*</b>
Post-test	18.81	±3.29	12-24		

\*p<0.05, S-Significant

**SECTION-IV**

**TABLE III: ASSOCIATION BETWEEN PRE-TEST KNOWLEDGE LEVEL REGARDING GUILLAIN BARRE SYNDROME WITH SELECTED DEMOGRAPHIC VARIABLES AMONG STAFF NURSES.**

Fisher Exact test p-value was done to assess the association of knowledge with the selected demographic variables.

**H<sub>02</sub>:** There is no significant association between pre-test knowledge level regarding Guillain Barre Syndrome with selected demographic variables among staff nurses at <0.05 level of significance (p<0.05).

**H<sub>2</sub>:** There is a significant association between pre-test knowledge level regarding Guillain barre Syndrome with selected demographic variables among staff nurses at <0.05 level of significance (p<0.05).

n=80

Demographic Variables	Inadequate Knowledge		Moderate Knowledge		Fisher Exact test p-value	Inference
	Frequency	%	Frequency	%		
<b>Age (in years)</b>					p=0.659 (N.S)	p>0.05 (N.S) Not Significant
21-30	57	71.2%	11	13.8%		
31-40	6	7.5%	2	2.5%		
≥40	4	5%	0	0		
<b>Gender</b>					p=0.081 (N.S)	p>0.05 (N.S) Not Significant
Male	4	5%	3	3.75%		
Female	63	78.75%	10	12.5%		
Transgender	0	0	0	0		
<b>Educational Qualification</b>					p=0.167	p>0.05 (N.S) Not Significant
GNM	47	58.75%	12	15%		
BSc	20	25%	1	1.25%		
PBBS	-	-	-	-		
MSc	-	-	-	-		
<b>Years of Clinical experience</b>					p=0.032* (S)	p<0.05 *S Significant
Less than 1 year	18	22.5%	1	1.25%		
1-3 years	33	41.25%	4	5%		
4-6 years	9	11.25%	6	7.5%		
More than 6 years	7	8.75%	2	2.5%		

Current Area of Work						
ICU	44	55%	4	5%	p=0.034* (S)	p<0.05 *S Significant
Medical Ward	10	12.5%	3	3.75%		
Emergency Ward	8	10%	6	7.5%		
Neurology Unit	2	2.5%	0	0		
SICU	2	2.5%	0	0		
OBG Ward	1	1.25%	0	0		
Previous experience in taking care of GBS patient						
Yes	9	11.25%	3	3.75%	p=0.402 (N.S)	p>0.05 (N.S) Not Significant
No	58	72.5%	10	12.5%		

## CONCLUSION

Based on the analysis of the following study, the following inferences were drawn:

In the pre-test, 67 (83.7%) staff nurses had inadequate knowledge and 13 (16.3%) had moderate knowledge regarding Guillain-Barré Syndrome. After the intervention, 46 (57.5%) staff nurses demonstrated adequate knowledge, while 34 (42.5%) had moderate knowledge regarding Guillain-Barre Syndrome. The mean pre-test knowledge score was 7.95 (SD =±3.81), whereas the mean post-test knowledge score after the Structured Teaching Programme was 18.81 (SD = ±3.39). The calculated *t* value for knowledge was 102.13, indicating that the Structured Teaching Programme was effective in improving the knowledge of staff nurses regarding Guillain-Barre Syndrome.

Furthermore, a statistically significant association was found between the pre-test knowledge scores and selected demographic variables such as years of clinical experience and current area of work.

Structured Teaching Programme can be used as a mass education in hospitals to reinforce the knowledge and skill among the staff nurses regarding Guillain Barre Syndrome.

## LIMITATIONS

- The study included only the number of nurses from selected hospitals, so the results may not apply to all nurses.
- The results may have been affected by differences in nurses previous knowledge, work experience or learning from other sources.

## RECOMMENDATIONS

The present study recommends the following:

- The same study can be replicated on a larger sample or different setting for longer duration to validate the findings and broaden the generalization.
- A follow-up study can be made to evaluate the effectiveness of STP in retention of knowledge of the staff nurses regarding Guillain Barre Syndrome.
- A comparative study can be done to evaluate the effectiveness of teaching through structured teaching programme with other methods such as information booklet, SIM, computer assisted instructions.
- A similar study can be conducted on knowledge, attitude and practice among the Hospitals.
- A comparative study can be conducted between ICU staff and staff nurses working in other wards.
- A comparative study can be conducted to compare the knowledge and practice of ICU nurse.

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