



A Study to Assess the Knowledge on Lumbar Puncture Among III Year B.Sc. (N) Students at Narayana College of Nursing, Nellore. A.P.



Mrs. T. Lalitha Kumari,
*Dept. of MHN,
Sree Narayana Nursing College,
Chinthareddypalem, Nellore.*

“A knife in the back, we purposefully have an inclination for..!! Lumbar puncture.” - MEGH

Dr. Indira. A,
*Principal,
Narayana College of Nursing,
Chinthareddypalem, Nellore.*

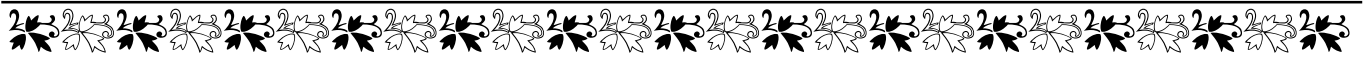
Student,
*Narayana College of Nursing,
Chinthareddypalem, Nellore.*

Abstract: Back ground: Lumbar puncture was first introduced in the year of 1891 by the German physician Heinrich Quick. It is a diagnostic procedure used to collect cerebrospinal fluid. It is diagnosed by some neurological conditions only. Lumbar puncture is an invasive aseptic procedure that involves the introduction of a hollow needle with stylet in the subarachnoid space of the lumbar spinal canal by puncturing the space between the spinous process of L3 and L4 and L5. It is a procedure to sample or draw cerebrospinal fluid. It is often performed to obtain information about cerebrospinal fluid. It is usually used for diagnostic purposes to rule out potential conditions such as benign intracranial hypertension, subarachnoid hemorrhage, bacterial meningitis or multiple sclerosis. It is sometimes used for some therapeutic purpose such as managing disorders of intracranial pressure, intracranial hypertension or Normal pressure. Lumbar puncture is required to obtain indirect measurements of intracranial pressure. Lumbar puncture is required to obtain indirect measurement of intracranial pressure. **Conclusion:** The present study concluded that among 100 III year BSC (N) students with regard to assess the knowledge on Lumbar puncture procedure, 8(8%) acquired A+ grade, 26(26%) acquired A grade, 33 (33%) acquired B+ grade, 21(21%) acquired B grade, 7(7%) acquired C grade, 5(5%) acquired D grade of knowledge on Lumbar puncture procedure. The study concluded that the level of knowledge among III year BSC (N) students on Lumbar puncture procedure was moderate knowledge and need to be educated then with theory and demonstration adequate and practical. **Keywords:** Assess, knowledge, Lumbar puncture, nursing students.

Introduction: Lumbar puncture was first introduced in the year of 1891 by the German physician Heinrich Quick. It is a diagnostic procedure used to collect cerebrospinal fluid. It is diagnosed by some neurological conditions only. It may reduce the increased intracranial pressure also. The Major site of the lumbar puncture is an L3, L4 and L5. Lumbar puncture is a procedure to sample or draw cerebrospinal fluid. It is often performed to obtain information about cerebrospinal fluid. It is usually used for diagnostic purposes to rule out potential conditions

such as benign intracranial hypertension, subarachnoid haemorrhage, bacterial meningitis or multiple sclerosis. It is sometimes used for some therapeutic purpose such as managing disorders of intracranial pressure, intracranial hypertension or Normal pressure. Lumbar puncture is required to obtain indirect measurements of intracranial pressure.

If the sitting position is adopted for whatever reason and an opening pressure is sought, the patient should be moved carefully into the lateral position once the needle is in the correct space. Once the patient is in



this position, the stylist may be withdrawn. It is important not to remove the styled before the patient is safely positioned onto the lateral side. Knowledge regarding lumbar puncture among nursing students is very important because it is an important procedure for an neurological examination for head injury, meningitis and CSF analysis. It is a collection of cerebrospinal fluid. The procedure is done safely and using the most appropriate techniques. Many different procedures have the complications like, bleeding into the site, backache, infection, lower limb weakness.

Hence the researcher felt to assess the knowledge on lumbar puncture procedure among III year B.Sc (N) students to improve the patient care and also identify the drawbacks.

Statement of Problem: A study to assess the knowledge on lumbar puncture procedure among III year B.Sc. (N) students at Narayana College of Nursing, Nellore, AP

Objectives:

- ❖ To assess the level of knowledge on Lumbar puncture procedure.
- ❖ To find out the association knowledge on Lumbar puncture procedure with their socio demographic variables.

Operational Definitions

Assess: Assessment is a process by which information is obtained relative to some object or goal.

Knowledge: It refers to the skills and information on practical understanding of lumbar puncture procedure.

Lumbar puncture: It is a diagnostic procedure used to collect cerebrospinal fluid in the CNS.

Nursing students: **It refers to an individual who is studying in III year BSC nursing students at Narayana College of Nursing, Nellore, A.P.**

Assumptions

The III year B.Sc Nursing students have some knowledge on lumbar puncture procedure.

Delimitations:

The study is delimited to:

1. III year B.Sc. (N) students
2. The sample size of 100
3. The setting of Narayana college of Nursing, Nellore, A.P.

Materials and Methods:

Research Approach: Quantitative research approach was adopted

Research Design: Descriptive research design was selected to assess the knowledge on Lumbar puncture procedure among III year B.Sc (N) students.

Settings of the study: The study was conducted in Narayana College of Nursing, Nellore A.P.

Population: In the present study, the population consists of nursing students

Target Population: The target population was all III year B.Sc. nursing students.

Accessible population: III year B.Sc. nursing students studying at Narayana College of Nursing.

Samples: The sample was III year B.Sc. (N) students in Narayana collage of nursing who fulfils the inclusion criteria.

Sampling size: The sample size selected for the study was 100 III year B.Sc (N) students.

Sample Technique: Non probability convenience sampling technique was adopted for the study.

Sampling Criteria:

- Inclusion Criteria:** All the nursing students who are,
- ❖ Studying III year B.Sc. (N) at Narayana College of Nursing
 - ❖ Available at the time of data collection
 - ❖ Willing to participate in the study



Exclusion Criteria: All the nursing students who are

- ❖ On leave.
- ❖ Sick at the time of data collection.
- ❖ Not available at the time of data collection.

Variables of the study

Research Variables: The knowledge on Lumbar Puncture procedure.

Demographic Variables: The demographic variables such as Age in year, Source of information, did you attended any CNE programme, Language, Religion.

Description of the tool:

The tool was developed with the help of extensive review from various text books, journals, internet sources. The tool was developed to assess knowledge on III year B.Sc. (N) students on lumbar puncture in Narayana College of Nursing at Nellore. The tool will be consisting of two parts.

Part - I: Deals with demographic variables such as Age in year, Source of information, did you attended any CNE program, religion, language.

Part - II: It consists of 34 structured questionnaires to assess the knowledge on lumbar puncture procedure among III year B.Sc. Nursing students.

Ethical clearance:

Ethical clearance certificate was obtained From institutional ethical committee of Narayana College of Nursing, Nellore.

Data collection Procedure:

The data collection procedure was done for a period of 2 weeks. After obtaining the permission from nursing dean data collection was started. 100 samples were selected by using non probability convinces sampling technique. III B.Sc (N) students who fulfilled the inclusion criteria were selected and confidentiality of shared information was assured. Structured questionnaire was adopted to collect the data,

questionnaire was given to III year B.Sc (N) students and given 30 minutes to complete the questionnaire. Each day 5 samples were selected between 9:00 am to 12:00 pm. Data was organized and presented in the tables and figures.

Results and Discussion:

Table - 1: Frequency and percentage distribution of knowledge on Lumbar puncture procedure among III year B.Sc (N) students.

Level of knowledge	Fre (F)	Per (%)
A+	8	8
A	26	26
B+	33	33
B	21	21
C	7	7
D	5	5
Total	100	100

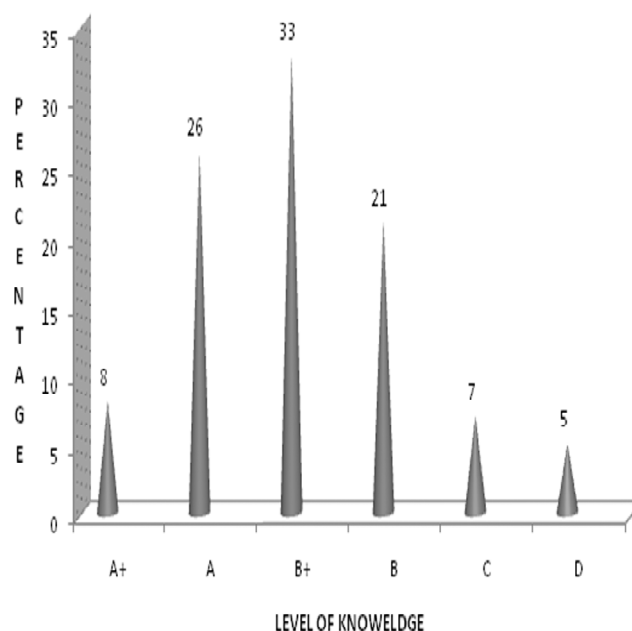


Fig No. - 1: Pertaining to level of knowledge, 8(8%) procured A+ grade, 26(26%) procured A grade, 33(33%) procured B+ grade, 21(21%) procured B grade, 7(7%) procured C grade, 5 (5%) procured D grade group regarding knowledge on Lumbar puncture procedure.



Table No-2: Mean and standard deviation of level of knowledge on lumbar puncture procedure among III year B.Sc (N) Students at Narayana College of Nursing. (N=100)

Category	Mean	SD
III year B.Sc (N) Students.	23.87	5.715

Note: **Significant at the level of P<0.05

Table 3: Association between levels of knowledge on lumbar puncture procedure among III year B.Sc (N) students in Narayana College of Nursing with their selected socio demographic variables.

Sl. No.	Demographic Variables	A+		A		B+		B		C		D		Chi-Square (X ²)
		F	%	F	%	F	%	F	%	F	%	F	%	
1	Age													CV=6.171 TV=11.1 Df=5 P=0.05 NS
	19-20 years	2	2	6	6	14	14	6	6	1	1	-	-	
	21-22 years	6	6	20	20	19	19	15	15	6	6	5	5	
2	Source of information													CV=10.126 TV=25 Df=15 P=0.05 S
	Textbook	1	1	3	3	10	10	5	5	3	3	2	2	
	Health personnel's	-	-	1	1	1	1	-	-	-	-	-	-	
	Internet	4	4	15	15	15	15	14	14	3	3	2	2	
	News paper	3	3	7	7	7	7	2	2	1	1	1	1	
3	Did you attended any CNE programme													CV=5.285 TV=11.1 Df=5 P=0.05;NS
	Yes	1	1	3	3	4	4	3	3	3	3	-	-	
	No	7	7	23	23	29	29	18	18	4	4	5	5	
4	Language													CV=1.462 TV=21.1 Df=5 P=0.05 NS
	Telugu	-	-	-	-	2	2	1	1	-	-	-	-	
	Malayalam	8	8	26	26	31	31	20	20	7	7	5	5	
5	Religion													CV=12.103 TV=18.31 Df=10 P=0.05; NS
	Hindu	1	1	7	7	17	17	9	9	2	2	1	1	
	Christian	7	7	19	19	14	14	12	12	5	5	4	4	
	Muslim	-	-	-	-	2	2	-	-	-	-	-	-	



Table No 3: Shows that association between the knowledge on lumbar puncture procedure among III rd. year B.Sc (N) Students in Narayana College of Nursing, Nellore with their selected socio-demographic variables,

There was significant association between the knowledge on lumbar puncture procedure among III year B.Sc (N) Students in Narayana College of Nursing with their selected socio- demographic variables like Age in year, Source of information, Did you attended any CNE Programme on lumbar puncture, Language, Religion.

❖ In association with the age of III year B.Sc. (N) students the calculated value is 6.171 and the table value is 11.1 at probability (P-0.05) level. Hence there is no significant.

❖ In association with the source of information of III year B.Sc. (N) Students the calculated value is 10, 126 and the table value is 25 at probability (P-0.05) level. Hence there is no significant.

❖ In association with did you attended any CNE Programme on lumbar puncture the calculated value is 5.2851 and the table value is 11.1 at probability (P-0.05) level. Hence there is no significant.

❖ In association with language of III year B.Sc. (N) students the calculated value is 1.462 and the table value is 11.1 at probability (P-0.05) level. . Hence there is no significant.

❖ In association with Religion of III year B.Sc (N) Students the calculated value is 12.103 and the table value is 18.31 at probability (P-0.05) level. Hence there is no significant.

Conclusion: The present study concluded that among 100 III year B.Sc (N) students with regard to assess the knowledge on Lumbar puncture procedure, 8(8%) acquired A+ grade, 26(26%) acquired A grade, 33

(33%) acquired B+ grade, 21(21%) acquired B grade, 7(7%) acquired C grade, 5(5%) acquired D grade of knowledge on Lumbar puncture procedure. Hence there is no significant association between the level of knowledge on Lumbar puncture procedure with their selected socio demographic variables such as Age in year, Source of information, Did you attended any CNE programme, Language, Religion. The result indicates that the health professional need to educate the nursing students on Lumbar puncture procedure. So it is important to create awareness on Lumbar puncture procedure among nursing students.

References

1. Clarence Mwelwa Patrick; patient position during lumbar puncture, Ashford and St Peter's Hospitals NHS Foundation Trust publications, 3 edition, page no: 58-62.
2. John p Donnelly, WHO Lumbar puncture procedure done for CSF analysis and meningitis, Plusone publication, 2018; December 13: e0208622.
3. Muhammad Saeed, International study of Lumbar puncture, Medline plus publication, September 2019.
4. DB Thomas, complications of lumbar puncture procedure in CSF analysis, BMJ open publication, January 2018.
5. Dr. T. Ravikumar, analytical study of meningitis, Narayana medical College, December 2010.

Net references

1. <https://pubmed.ncbi.nlm.nih.gov>.
2. <https://www.uptodate.com>
3. <http://www.mayoclinic.org>.
4. <http://www.hopkinsmedicine.org>.