

Study to Assess the Effectiveness of Live Demonstration on Knowledge Regarding Surgical Management of Inguinal Hernia Repair among Nursing Students in Selected College of Nursing, Hubli

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Abstract

Introduction: Teaching skills are essential for learning needs of the students, the teaching is aided by the various technique of teaching. Live demonstration is a technique of educating students in actual scenario with demonstration of the content of topic, here the teacher performs the in presence of the students the topic of discussion. In the present study the technique of live demonstration practiced to improve the knowledge of nursing students in surgical management of inguinal hernia repair included pre, intra and post operative management of surgery.

Objectives: the study designed to assess the effectiveness of live demonstration on knowledge regarding surgical management of inguinal hernia among nursing students.

Methodology: one group pretest posttest design used for 156 nursing students selected by simple random sampling technique, a structured knowledge questionnaire was designed having content validity of 0.89 and reliability of 0.92 used to collect and assess knowledge of nursing students on surgical management of inguinal hernia repair, pretest was conducted following which a live demonstration on perioperative management of inguinal hernia repair was demonstration in class room and by live video visuals from operation theater while performing surgery following which the post operative care was demonstrated till the stabilization of the patient. The posttest was conducted to assess the gained knowledge using same questionnaire used in pretest. The collected data was analyzed using SPSS 16.0 version statistical analysis and the findings were tabulated and computed.

Results: The findings of the study revealed that, the pretest knowledge of the nursing students regarding surgical management of inguinal hernia repair was inadequate, out of 156 nursing students, assessed 145 students had inadequate knowledge, and following live demonstration the knowledge, improved to adequate to almost all the students signifying that live demonstration is effective method of teaching learning activity. The t value was 69.56 for 0.05 level of significance.

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Conclusion: teaching is an art, which include the colors of various techniques to make classroom live and living. Live demonstration is the best method, which bring in the actual experience and spot learning of the students and the retention of the content discussed in live demonstration is high along with ability to compare, judge and reason the care and outcome of the learning. The study recommends that the nursing education should be equipped with live in demonstration, which brings students out of imagination of content and picture memorization from books and articles. Live demonstration should be included in teaching learning activity of the student's class learning.

Keywords: inguinal hernia; hernia repair; live demonstration; surgical management

Introduction

Human abdomen is the hallow space protecting vital organs of digestion, metabolism and excretion, the abdomen is guarded by the abdominal muscles which prevent the structure of abdomen from bulging during straining and bearding down activities.^{1,2} When the muscles of the abdomen are weak the guarding of abdomen by abdominal muscle get breached leading to protrusion or bulging of the abdomen structures lead to a condition called hernia. Hernia occurs due to a weak spots or a hole in the surrounding muscles or connective tissue lead to squeezing of the organs, intestine or fatty tissues, the pressure from inside the abdomen pushes the lining of the abdominal wall, the peritoneum causes bulge under the skin. Hernia starts with small lump, becomes apparent on standing and straining activities like cough. Medically hernia treatment focus on pain management and prevention of the gastric complication precipitate due to hernia. The golden rule of management is surgical intervention where in the hernia are repaired by surgical correction and management.^{4,5} Hernias are various types the most common and prevalent cause is inguinal hernia. The incidences of the inguinal hernia are most common among population due to staining activities and weakness of abdominal muscles. Hernioplasty is the surgical procedure performed to manage the hernia in most inguinal hernia, repair is done by synthetic mess, bioresorbable mess, biological graft.⁶ The surgical management skill and learning is essential need for better understanding of the management of hernia cases. Students should develop the ability to manage hernia to achieve good learning skill; various teaching learning methods are used of these live demonstrations brings in the actual live experience of the surgical management.¹⁰ The present study is designed to assess the effectiveness of live demonstration on knowledge regarding surgical management of inguinal hernia repair among nursing students.

Methodology

The present study used evaluator approach using one group pretest posttest design used for 156 nursing students selected by simple random sampling

technique, a structured knowledge questionnaire was designed having content validity index of 0.89 and reliability of 0.92 used to collect and assess knowledge of nursing students on surgical management of inguinal hernia repair, pretest was conducted after obtaining consent from participants, following which a live demonstration on perioperative management of inguinal hernia repair was demonstration in class room and by live video visuals from operation theater while performing surgery following which the post operative care was demonstrated till the stabilization of the patient. The posttest was conducted to assess the gained knowledge using same questionnaire used in pretest. The collected data was analyzed using SPSS 16.0 version statistical analysis and the findings were tabulated and computed.

Results

Table 1. Findings related to demographic variables of nursing students

Demographic variables	Response categories	Frequency	Percentage
Age (years)	18-20	125	80.12
	21-23	31	19.87
Gender	Male	67	42.94
	Female	89	57.05
Religion	Hindu	115	73.71
	Muslim	23	14.74
	Christian	18	11.53
Family monthly income	Less than ₹40000	105	67.30
	More than ₹40001	51	32.69
Type of family	Joint	68	43.58
	Nuclear	88	56.41
Source of information	Electronic media	132	84.61
	Non-electronic media	24	15.38

Table 1: Describe the distribution of demographic variables under study, the variable age had 125 (80.12%) aged 18 to 20 years, 31 (19.87%) aged 21 to 23 years. 67(42.94%) were males and 89 (57.05%) were females. Religion distribution had 115(73.71%) of Hindus, 23 (14.74%) were Muslims and 18 (11.53%) were Christians. 105 (67.30%) of family had monthly

income of less than 40000/- and 51 (32.69%) were with more than 40001/- monthly income of family. 88 (56.41%) families were living in nuclear family and 68 (43.58%) were living in joint family. 132 (84.61%) nursing students got source of information through electronic media and 24 (15.38%) gather information through non electronic media.

Table 2. Finding related to the overall pretest Mean% and posttest Mean% on knowledge regarding surgical management of inguinal hernia repair

Knowledge score	Max score	Pretest			posttest			Mean% Knowledge enhancement
		Mean	Standard Deviation	Mean %	Mean	Standard Deviation	Mean %	
	30	11.08	1.24	36.34	27.38	1.22	91.27	54.93

Table 2: Describes the comparison and overall pretest and posttest mean%, for maximum score of 30 the Mean% pretest was 36.34 and posttest Mean % was 91.27 the difference of pretest and posttest

Mean% was 54.93, signifying the enhancement of knowledge and implicating that live demonstration was effective in improving knowledge of the nursing students.

Table 3. Findings related to effectiveness of live demonstration on knowledge regarding surgical management of inguinal hernia repair

ASPECT	PRETEST		POSTTEST		t value	df	p value	INTERFERENCE
	MEAN	STANDARD DEVIATION	MEAN	STANDARD DEVIATION				
KNOWLEDGE SCORES	11.08	1.24	27.38	1.22	69.56	155	≤0.001	SIGNIFICANT

Table 3: Describes the effectiveness of live demonstration on surgical management of inguinal hernia repair among nursing students, the study

findings revealed that live demonstration was significant at 69.56 for 155 degrees of freedom at p values ≤0.001

Table 4. Findings related to level of knowledge of nursing students on knowledge regarding surgical management of inguinal hernia repair

KNOWLEDGE LEVEL CATEGORIZATION	PRETEST SCORES		POSTTEST SCORES	
	FREQUENCY	PERCENTAGE	FREQUENCY	PERCENTAGE
INADEQUATE (≤50%)	145	92.94	NIL	0.00
MODERATE (51%-74%)	11	7.05	06	3.84
ADEQUATE (≥75%-100%)	NIL	0.00	150	96.15

Table 4: Describes the knowledge level of nursing students in pretest and posttest, out of 156 nursing students 145 (92.94%) of them had inadequate knowledge in pretest, 11 (7.05%) had moderate knowledge level and none of them were having adequate knowledge level. In posttest, 150 (96.15%) of nursing students improved knowledge on surgical management of inguinal hernia repair and six (3.84%) had moderate knowledge and none of them were

left with inadequate knowledge level signifying that live demonstration was effective teaching method to retain the learning to nursing students.

Discussion

The present study is designed to assess the effectiveness of live demonstration on knowledge regarding surgical management of inguinal hernia repair in this regards the findings related to socio

demographic, mean%, significance and level of knowledge are discussed as follows:

- **Findings related to socio demographic variables**

Age of the nursing students showed that 125 (80.12%) aged 18 to 20 years, 31 (19.87%) aged 21 to 23 years. 67(42.94%) were males and 89 (57.05%) were females these findings were similar to finding of study Rutkow³ showed that in their study majority of samples were in 18 to 20years of age. Religion distribution had 115(73.71%) of Hindus, 23 (14.74%) were Muslims and 18 (11.53%) were Christians these findings were similar to study finding of Rutkow³. 105 (67.30%) of family had monthly income of less than 40000/- and 51 (32.69%) were with more than 40001/- monthly income of family. 88 (56.41%) families were living in nuclear family and 68 (43.58%) were living in joint family. 132 (84.61%) nursing students got source of information through electronic media and 24 (15.38%) gather information through non electronic media.

- **Findings related to pretest and posttest Mean% scores**

The comparison and overall pretest and posttest mean%, for maximum score of 30 the Mean% pretest was 36.34 and posttest Mean % was 91.27 the difference of pretest and posttest Mean% was 54.93, signifying the enhancement of knowledge and implicating that live demonstration was effective in improving knowledge of the nursing students. These findings were similar to finding of the study Robert et al⁷ where in study conducted with aim of improving teaching learning skill showed that demonstration as best method of teaching learning method showed difference in mean knowledge improvement from pretest to posttest.

- **Findings relating to the effectiveness of live demonstration**

The effectiveness of live demonstration on surgical management of inguinal hernia repair among nursing students, the study findings revealed that live demonstration was significant at 69.56 for 155 degrees of freedom at p values ≤ 0.001 These findings were similar to finding of the study Barry Mann D et al⁸ where in study conducted three dimensional teaching showed significant improvement in student learning and demonstration.

- **Findings relating to the level of knowledge**

Out of 156 nursing students 145 (92.94%) of them had inadequate knowledge in pretest, 11 (7.05%) had moderate knowledge level and none of them were having adequate knowledge level this knowledge level was changed to 150 (96.15%) of nursing students had adequate knowledge on surgical management of inguinal hernia repair and six (3.84%) had moderate knowledge and none of them were left with inadequate knowledge in posttest score signifying that live demonstration was effective teaching method to retain the learning of nursing students.

Conclusion

The present study is aimed to assess the knowledge of nursing students on surgical management of inguinal hernia repair, study showed poor knowledge level of nursing students in pretest, a live demonstration used as teaching learning method to bring in live experience of perioperative care of inguinal hernia repair included preoperative, intraoperative and postoperative medical, surgical and nursing care. The surgical procedure was also live demonstrated from preparation of patients to incision in operation room, repair of inguinal hernia and suturing skin layer, this method gave nursing students clear concept of surgical management of inguinal hernia repair, which was reflected, in posttest score of nursing students. The present study recommends that live demonstration using technical assistance, or electrical gadgets, or standardized patients, or actual hands - on demonstration imparts significant memory retention and gives best experience to nursing students, hence live demonstration is very effective method of teaching learning skills. Similar method of live demonstrations can be adopted to complex learning of surgical management of other disease conditions like coronary bypass, liver transplant, kidney transplant, ostomy procedures or orthopedic fixation or replacement procedures for comprehensive learning of nursing students.

Ethical clearance

Ethical approval was obtained by respective heads of the selected colleges, and the participants written consent obtained prior to conduction of study. No.Ethical/comm/24/2022-23 dated: 02.09.2023

Conflict of interest: The present study has NIL conflict of interest

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