ORIGINAL ARTICLE

Structured Teaching Programme on Knowledge Regarding Management of Obstructed Labor Among Final Year GNM Students

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Abstract

Background: The women of developing countries are at risk of pregnancy-related complications including eclampsia, obstructed labour, sepsis, etc. Obstructed labour is the single most important cause of maternal death and is one of the three leading causes of perinatal mortality, with a case fatality rate ranging between 87-100%.

Objectives: To assess the pre-existing knowledge, prepare and administer the structured teaching program and to assess the effectiveness of structured teaching program by comparing the pre and post-test knowledge scores regarding the management of obstructed labour.

Methods: The study was conducted at a selected school of nursing and one group pre-test, post-test, experimental research design was used for the study. The sample comprised of 60 GNM final year students. The sample was selected by non-probability, purposive sampling technique. Data were collected and analysed using descriptive and inferential statistics.

Results: There was an association between pre-test knowledge levels and educational status of final year GNM students regarding the management of obstructed labour. The remaining variables such as age, religion and source of information were found to be non-significant.

Conclusion: The findings of the study revealed that educating the students was effective in updating the knowledge and skills regarding management of obstructed labour. The study provides valuable insights into its causes, consequences and management. The STP helped the subjects to update their knowledge regarding management of obstructed labour.

Keywords: Obstructed labour, GNM final year students, Structured teaching programme, Mortality, Effectiveness

Introduction

Woman who are expecting, typically experience a nine-month pregnancy to ensure healthy development and smooth delivery of the baby. The ability to reproduce in a women's life begins at menarche and ends at menopause, usually extending between the ages of 13 to 45 years. Pregnancy is a time of significant physical and emotional changes for a woman. In some cases, an

unexpected deviation from the normal pregnancy can occur, placing a serious burden on the woman and her family.[1]

Obstructed labour occurs when, despite good uterine contractions, the progressive descent of the presenting part is halted due to a mechanical obstruction.[2] Antenatal detection of the factors likely to produce prolonged labour (big baby, small women, mal-presentation and malposition, soft tissue obstruction, congenital malformation), strict vigilance during intranatal period, and use of partogram can aid in the prevention of obstructed labor. Neglected obstructed labour can result in rupture of uterus due to thinning of the lower uterine segment. This in turns results in hemorrhage and death of mother and foetus.[3]

Approximately 529,000 women die per year due to pregnancy related complications and this mostly occurs in developing nations due to lack of adequate health care, family planning, access to skilled labour and emergency care. Emergency obstetric interventions like oxytocic, antibiotics, manual removal of placenta and forceps delivery are important to improve the survival.[4]

World Health Organization (WHO) reported that every minute a mother dies from pregnancy related complications and child birth. This means that 1400 expectant women die every day, and more than half a million die every year. The birth of baby is a momentous occasion in the life of a couple. In India, a woman dies every seven minutes due to pregnancy and childbirth related complications. The maternal mortality was 301/100000 live births, which increased to 77,000 per year.[5]

Obstructed labour was ranked 41st in global burden of disease in the year 1990, representing 0.5% of the burden of all conditions and 22% of all maternal complications. It was estimated to be the most disabling of all maternal conditions.[6] Each year, 210 million women become pregnant, of whom 20 million experience pregnancy-related illnesses and 500,000 die due to the complications of pregnancy or childbirth. It is a serious medical emergency recognized by the World Health Organization. It is a major contributor to both maternal and new born morbidity and mortality.[7]

Materials and Methods

The study was conducted at a selected school of nursing, with a sample comprising 60 final- year GNM

students. Non probability purposive sampling technique was adopted for the selection of sample. The subjects who were available at the time of data collection and those willing to participate in the study were recruited. Subjects who were not willing to participate and not available during the data collection procedure were excluded.

A pre-experimental, one group pre-test and post-test design was chosen for the research. The tool for the data collection comprised of two sections. Section 1 included demographic details, while Section 2 comprised a structured knowledge questionnaire on the management of obstructed labour. Ethical clearance for the study was obtained from the institutional ethical committee. Oral and written consents were obtained from the study subjects. The subjects were informed that their data would be kept confidential.

A pilot study was conducted at a selected school of nursing, including six students. A structured knowledge questionnaire was used to administer the pre-test. The structured teaching programme (STP) was conducted on the same day. The post-test was carried out after seven days by administering the same structured knowledge questionnaire to evaluate the effectiveness of STP regarding the management of obstructed labour. The data were analysed using descriptive and inferential statistics. The subjects and the data from the pilot study were not included in the main study.

In the main study, the investigator collected the data from 60 GNM final year students. The objectives of the study were explained, the subjects were assured on the confidentiality of the responses and the data were thus collected. Written informed consent was obtained from the subjects for their participation.

A pre-test was conducted using a self-administered questionnaire. The GNM final year students were instructed to attend to the tool carefully and give appropriate answers according to their knowledge. On an average, the participants took 30 minutes to complete the questionnaire. After administration of the pre-test, the structured teaching program was conducted for the subjects on the management of obstructed labour. The post-test was conducted using the same questionnaire after seven days following the STP. A good rapport was maintained throughout the data collection procedure. The investigator found no difficulty during the data collection.

Results

The data were analysed using mean, mean percentage, standard deviation. Chi square test was used to assess the demographic data and pre-test & post-test knowledge scores of all the subjects involved in the study.

Table 1: Distribution of characteristics for GNM final year students according to socio demographic variables by frequency and percentage n=60

S. No	Demographic variables	Characteristics	Frequency Distribution	
			Frequency	%
1	Age in years	19-20	56	93.3
		20-21	4	6.7
2	Sex	Male	30	50.0
		Female	30	50.0
3	Religion	Hindu	30	50.0
		Muslim	04	6.7
		Christian	26	43.3
4	Type of family	Joint	24	40.0
		Nuclear	36	60.0
		Single parent	-	-
		Expanded	-	-
5	Birth order	First	24	56.7
		Second	16	26.6
		Third or more	10	16.7
6	Father's education	Below SSLC	42	70.0
		SSLC	14	23.4
		PUC	04	06.6
		Graduate & above	-	-
7	Mother's education	Below SSLC	36	60.0
		SSLC	08	13.3
		PUC	16	26.6
		Graduate & above	-	-
8	Parents employment	Only father	40	66.6
		Only mother	-	-
		Both employed	16	26.6
		Both unemployed	04	6.8
9	Attended any management of obstructed labour programme	Yes	28	46.7
		No	32	53.3

Data obtained on demographic variables were analysed using descriptive statistics and summarized in terms of frequency and percentage. The data were described under the headings - age, sex, religion, type of family, birth order, father's education, mother's education, parents' employment, if attended any educational programme on the management of obstructed labour. This section deals with the frequency of subjects in each of the demographic variables, along with the respective percentages.

Based on the age, 93.3% (28) of the participants belonged to the age group of 19-20 years, 6.7% (2) belonged to 20-21 years age group. As per the sex distribution, 50% (30) were males, and 50% (30) were females. Based on the religion, 60% (36) of the participants were Hindus, 6.7% (4) were Muslims, and 33.3% (20) were Christians. Based on the type of family, 40% (24) were from a joint family household, while 60% (36) were from nuclear families. Based on the birth order, majority 56.7% (24) were firstborns, 26.6% (16) were second in the order of birth, while 16.7% (10) were third in order. In terms of educational status of the father, large number of fathers had an education below SSLC 70.0% (42), while 23.4% (14) completed SSLC, and the remaining few had PUC education 6.6% (4). As per the mothers' education status, 60.0% (36) of the mothers had an education below SSLC, while 13.3% (08) completed SSLC, and 26.6% (16) completed PUC. Regarding the parents' employment status, in 66.0% (40) households, only father was employed, in 26.6% (16) households, both the parents were employed, while in 6.8% (4) households, both the parents were not employed. According to attended any obstructed labour programme, the 47% (28) were attended.

Table 2: Pre-test knowledge scores regarding obstructed labour management

S. No	Knowledge level	Frequency	Percentage (%)
1	Inadequate	69	86.25
2	Moderately adequate	11	13.75
3	Adequate	0	0

Table 2 shows that out of 80 respondents, 11 (13.75%) had moderate knowledge, 69 (86.25%) had inadequate knowledge and none of the participants had adequate knowledge in the pre-test.

Table 3: Post-test knowledge scores about the management of obstructed labour

S. No	Knowledge level	Frequency	Percentage (%)
1	Inadequate	0	0
2	Moderately adequate	28	35
3	Adequate	52	65

Table 3 shows that in post-test, out of the 60 final year GNM students, majority 52 (65%) of the subjects demonstrated adequate knowledge, 28 (35%) demonstrated moderate knowledge. It is noteworthy that none of the respondents had inadequate knowledge.

Table 4: Distribution of GNM final year students according to the level of knowledge regarding the management of obstructed labour, before and after STP

S. No	Knowledge level	Frequency		Percentage (%)	
1	Inadequate	69	86.25	-	-
2	Moderately adequate knowledge	11	13.75	28	35
3	Adequate knowledge	-	-	52	65
4	Overall	80	100	80	100

Table 4 reveals that the majority of respondents (86.25%) had inadequate knowledge, while 13.75% had moderate levels of knowledge in the pre-test. However in the post-test, majority of the respondents demonstrated adequate levels of knowledge (65%), while 35% had moderate knowledge, indicating the effectiveness of planned intervention.

Table 5 depicts the mean, standard deviation, and mean percentage of knowledge before and after the STP among final year GNM students. The range before the STP was between 2-25, while the mean value was 8.58. The SD before STP was noted to be 7.098 and the mean percentage was 20.42%. After the STP, the range was 22-39, mean value was 29.93. The SD after STP was noted to be 5.87 and the mean percentage was 71.25%.

There was no notable corelation observed between pre-test knowledge scores of students and the studied variables such as age, sex, religion, type of family, birth order, fathers' education, mothers' education, parents' employment and if they had previously attended any program on the management of obstructed labour. This denotes that there was no significant association of pre intervention knowledge scores and the selected demographic variables.

Discussion

The results of the current study demonstrate improvements in the knowledge levels of GNM nursing final year students on approaches to handle obstructed labour.

In this investigation, the pre-test knowledge of the GNM final year students regarding obstructed labour management reveals that out of 60 subjects, majority had inadequate knowledge, while a few had moderate knowledge. This suggests the necessity to educate GNM nursing students. Development of STP was done according to the objectives, knowledge of GNM nursing final year students and also by following the valuable suggestions provided by experts.

The STP was conducted for 60 subjects, with prior intimation of time and date for conducting the programme. Group teaching was conducted in English on different days for 45 minutes by lecture along with discussion using audio visual aids. In this study, we found a notable increase in the knowledge levels from 20.42% to 71.25%. The results indicate a substantial enhancement in the knowledge of GNM nursing final year students regarding the management of obstructed labour, revealing the effectiveness of the STP conducted. The pre-test mean knowledge score was 8.58, mean percentage was 20.42% and standard deviation was 7.098. Post-test mean knowledge was found to be 29.93, mean percentage was 71.25% and SD was 5.87. Enhancement was 50.83% and the statistical paired 't' test value was 21.85. The findings reveal a significant improvement in the knowledge at $P < 0.05$ level. Hence the stated research hypothesis, "There will be a significant difference between pre-test and post-test knowledge scores of final year GNM students regarding management of obstructed labour" was accepted.

The analysis revealed the association between post-test knowledge levels and educational status of GNM final year students regarding the management of obstructed labour. The remaining variables such as age, religion, family income, type of family, marital status, food habits, if they attended any course on management of obstructed labour and the source of information were proved to be non-significant.

The final findings of the study revealed a gross improvement in the knowledge levels in the post-test compared to the pre-test. Knowledge of GNM final year students regarding management of obstructed labour

was moderate (13.75%) and inadequate (86.25%) before the administration of STP. The STP was effective in enhancing the knowledge of final year GNM students. The post-test knowledge scores after the administration of STP were found to be high (65%) and moderate (35%).

A study was conducted to assess the effectiveness of different interventions used in the management of obstructed labour. The findings indicate that there is a demand for a tailored approach based on individual patient characteristics and available resources.[8]

Various studies explored the long-term consequences and impacts of obstructed labour on women in developing countries. The study highlighted the multifaceted morbidities associated with obstructed labour including obstetric fistula, emphasising the need for comprehensive strategies to address the complex issues. [9,10,11,12]

Conclusion

Obstructed labour is among the most avoidable factors to maternal and perinatal morbidity and mortality in developing nations. Recognising these causes are vital to prevent the complications. Enhancing access to and advocating for reproductive and contraceptive services will aid in decreasing the occurrence of obstructed labour.

From the present research study, it is evident that obstetric complications continue to be a significant global health concern. Obstructed labour occurs when the foetus cannot pass through the birth canal due to various reasons, such as pelvic abnormalities, foetal malposition, or inadequate uterine contractions. This condition poses severe threat to mother and the newborn, leading to maternal death and illness, as well as foetal distress and still birth.

The research findings highlight several key aspects related to obstructed labour. Primarily, prompt identification and timely action are crucial in managing this condition effectively. Interventional research studies regarding high-risk pregnancies hold a crucial position in providing necessary interventions to prevent or manage obstructed labour.

Secondly, access to trained midwives and emergency obstetrics care is essential for reducing the adverse outcomes associated with obstructed labour. Adequate training of health care providers in the identification and treatment of obstructed labour can significantly improve maternal and neonatal outcomes.

The results of the study have implications in various nursing areas such as:

Nursing education - As a nurse educator, there are abundant opportunities for nursing professionals to educate GNM students regarding the management of obstructed labour.

Nursing practice - Structured teaching programs can be used as a teaching strategy in the community as well as hospitals. Health education need to be stressed through radio, television, documentary films, pamphlets and leaflets, etc.

Nursing administration - The nurse administrator can plan and organise continuing education program for the faculty of nursing schools and colleges to enhance the knowledge on management of obstructed labour.

Nursing research - The study will motivate the researchers to conduct similar studies with different variables.

It may be recommended to conduct this study on a large scale, and an experimental study can be undertaken with a control group for effective comparison of results, while a comparative study also can be undertaken in rural and urban settings.

Furthermore, the study emphasizes the importance of imparting knowledge to the nursing students and addressing the obstructed labour as a public health priority. By implementing effective preventive measures and increasing accessibility to obstetric care, the burden of obstructed labour can be reduced, ultimately improving health of the mother and the infant outcome.

Conflicts of Interest

Nil

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