Original Research Paper

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EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING MANAGEMENT OF COVID-19 IN PREGNANCY AND CHILDBIRTH AMONG NURSES IN SELECTED HOSPITALS, GOALPARA, ASSAM

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ABSTRACT **Background of the study:** Pregnancy is a very important event and are at high risk of infected COVID-19, because pregnancy alters the immune system. Nurses play a key role in fighting this disease and are at risk of infected and spreading COVID-19 infection. As it is new disease, it is very essential to know how to take care, prevent and protect antenatal mothers and newborns from infection. Therefore, there is an urgent need to assess the knowledge of nurses and establish appropriate interventions to reduce the crisis in this pandemic. The first confirmed antenatal case of COVID-19 was reported on 21st January 2020 in Qingdao, china who was a 31 years old at 30 weeks of gestation presented with mild diarrhea (2-3 times a day) for one day. **Aim:** To find out effectiveness of structured teaching programme on knowledge regarding management of COVID-19 in pregnancy and childbirth among nurses in selected Hospitals, Goalpara, Assam.**Method:** Quantitative research approach was used, and pre-experimental one group pre-test post-test design was adopted in the study. The samples were collected using non-probability purposive sampling technique from 100 nurses, who were doing government job in selected Hospitals, Goalpara, Assam and who fulfills the inclusive criteria. Structured questionnaire was used to explore the effectiveness of Structured Teaching Programme on knowledge regarding management of COVID-19 in pregnancy and childbirth **Result:** Data analysis was done by calculating mean, standard deviation, chi square test and t-test. A total of 100 nurses, It was found that in the pre-test, majority i.e. 77(77%), 21(21%), only two (2%) had moderate, inadequate and adequate knowledge respectively. In post-test, majority i.e. 56(56%), 44(44%), 0% had adequate, moderate and inadequate knowledge respectively. The mean knowledge score in pre-test and post-test was 17.15 and 23.29 with Standard deviation of 2.79 and 2.69 respectively. The calculated paired 't' test value is 20.960 was found to be statistically highly significant at $p<0.001$ level. This shows that there was significant difference between the pretest and posttest scores of knowledge, which clearly infers that structured teaching programme on knowledge regarding management of COVID-19 in pregnancy and childbirth was found to be effective in improving the level of knowledge among nurses in the post-test. There was significant association of knowledge with only educational qualification.**Conclusion:** Through this study, the investigator concluded that structured teaching programme was effective in bringing the desired changes in the knowledge of the nurses.

KEYWORDS :

INTRODUCTION:

Pregnancy is a very important event from both social and medical point of view. Therefore, pregnant women should receive special care and attention from the family, community and from the health care system. Pregnant women are at high risk of infected COVID-19, because pregnancy alters the immune system. Since December 2019, coronavirus disease (COVID-19) has been rapidly spreading worldwide. Nurses play a key role in fighting this disease and are at risk of infected and spreading COVID-19 infection. Therefore, there is an urgent need to assess the knowledge level and mental health condition of nurses and establish appropriate interventions to reduce the crisis and negative psychiatric outcomes of the pandemic. The COVID-19 pandemic has created a major physical and psychological burden on all, specially nursing staff in the worldwide. The first confirmed antenatal case of COVID-19 was reported on 21st January 2020 in Qingdao, china who was a 31 years old at 30 weeks of gestation presented with mild diarrhea (2-3 times a day) for one day. In February a Chinese newborn was diagnosed with COVID-19 just 30 hours after birth. The baby's mother tested positive before she gave birth. In New York city first diagnosed a case of COVID-19 in two obstetrical patients on March 13, 2020. On April in London another newborn was tested positive for the COVID-19; it is unclear how the disease was transmitted- in the womb, or after birth. On 30 January,2020 the first case was confirmed in Kerala's Thrissur district in a student who had returned home for a vacation from Wuhan University in China. The first obstetrics patient with confirmed COVID-19 presented on April 2, 2020 in India. The patient (gravida II) was at 38 weeks 6 days of pregnancy; her first delivery had been normal and the prenatal period uneventful. On 31st March, 2020 the first case of COVID-19 pandemic in Assam was reported at Karimganj district in Barak valley.

OBJECTIVES:

1) To assess the knowledge regarding management of COVID-19 in pregnancy and childbirth among nurses before and after the administration of Structured Teaching Programme.

2) To determine the effect of Structured Teaching Programme on knowledge regarding management of COVID-19 in pregnancy and childbirth among nurses.

3) To find out the association between pre-test knowledge with selected demographic variables among nurses.

REVIEW OF LITERATURE:

SECTION I: Studies related to outcomes of COVID-19 in pregnancy and childbirth.

Mehreen F et al, (july, 2020) conducted a cross sectional study on maternal and perinatal outcomes with COVID-19 in China. The results showed 108 pregnancies between 8 December 2019 and 1 April 2020 were included in the current study. Most reports described women presenting in the third trimester with fever (68%) and coughing (34%). Lymphocytopenia (59%) with elevated C-reactive protein (70%) was observed and 91% of the women were delivered by cesarean section. 3 maternal ICU admissions were noted but no maternal deaths. 1 neonatal death and 1 intrauterine death were also reported.[7]

SECTION II: Studies related to knowledge on management of COVID-19

Chiemi N et al. (2020) conducted a cross-sectional study on Knowledge, attitude, practices, and impact of COVID-19 infection among healthcare workers in a South-Eastern Nigerian state among healthcare with the significance level set at $p < 0.05$. The result showed A total of 403 health care workers participated in the study. Majority of participants (n = 357, 88.59%) had good knowledge and good preventive practices (n = 328, 81.39%) of COVID-19. A significant proportion of respondents had a poor attitude to work (n = 101, 25.06%) and an attitude of indifference (n = 233, 57.82%). Almost half (48.64%) of participants had been negatively affected by COVID-19. Knowledge significantly influenced practice ($p = 0.029$).[9]

RESEARCH METHODOLOGY:

Research approach: Quantitative research

Research design: Pre experimental one group pre-test post-test design.

Variables:
Dependent variables: Knowledge.
Independent variables: Structured teaching programme
Demographic variables: In this study, the demographic variables are age, religion, educational qualification, marital status, work experience, undergone any training related to COVID-19, taken care of patients with COVID-19.

Setting Of The Study: Selected hospitals of Goalpara, Assam. Civil Hospital, Goalpara.; Maternity and Child Health Centre, Goalpara.; Block PHC, Agia, Goalpara.; Block PHC, Mornai, Goalpara.

Population: Nurses

Target population: Nurses who were giving care for Antenatal, Intranatal and Postnatal mothers.

Accessible population: Nurses who were giving care for Antenatal, Intranatal and Postnatal mothers in selected Hospitals, Goalpara, Assam.

Sample: Nurses who were giving care for Antenatal, Intranatal and Postnatal mothers in selected Hospital, Goalpara, Assam, and who fulfill the inclusion criteria.

Sample size: 100
Sampling technique: Non- probability convenience sampling technique.

Inclusion criteria: In this study, the inclusion criteria were-
a) Nurses who were present in the day of data collection.
b) Nurses who could read and understand English.

Exclusion criteria: In this study, the exclusion criteria were-
a) Nurses who were not willing to participate.

Tools and techniques:
Structured knowledge questionnaire was used to assess the level of knowledge and the technique was self-report.

Scoring Key:
Section I: Structured knowledge questionnaire on knowledge regarding management of COVID-19 in pregnancy and childbirth. The correct answer was given score of 1 (one) and wrong score 0 (zero). The total score on knowledge regarding management of COVID-19 in pregnancy and childbirth was 30.

Category of Knowledge level
Inadequate knowledge = (0-14) (<50%)
Moderate knowledge = (15-22) (50-75%)
Adequate knowledge= (23-30) (>75%)

Content Validity of the Tool:
The prepared instrument along with the problem statement and objective was submitted to six nursing experts in the field of obstetrics and gynecological nursing, two nursing experts in the field of community health nursing and 1 medical experts in obstetrics and gynecological department.

Ethical considerations:
- Ethical permission to proceed with the study was taken from the "Ethics committee, INS Trust", GNRC Dispur, Guwahati, Assam.
- Written Permission from Joint Director of Health Services, Goalpara, Assam was obtained before starting the final data collection procedure for the study.
- Written permission from the Medical Superintendent & matron of Civil Hospital, Goalpara, Medical Officer & Incharge of Maternity and Child Health Centre, Agia Block PHC & Mornai Block PHC, Goalpara, Assam, was obtained before starting the final data collection procedure for the study.

Reliability Of The Tool: The reliability of the tool has done by using "Spearman brown Formula" for knowledge questioner. It was revealed that the tool was reliable as reliability of the questionnaire was 0.98.

Pilot Study: The pilot study was conduct from 9th to 17th November, 2020. 10 samples were selected using purposive sampling technique. And the study was found to be feasible.

Main Study: 14th December 2020 to 10th January 2021.

RESULTS:

TABLE-I: FREQUENCY AND PERCENTAGE DISTRIBUTION OF NURSES ACCORDING TO DEMOGRAPHIC VARIABLES

n=100

VARIABLES		FREQUENCY (f)	PERCENTAGE (%)
a) Age	Below 25 years	13	13%
	25-34 years	27	27%
	35-44 years	27	27%
	45 years and above	33	33%
b) Religion	Hindu	53	53%
	Muslim	41	41%
	Christian	6	6%
	Others	0	0%
c) Educational qualification	ANM	54	54%
	GNM	42	42%
	Post Basic bsc/ bsc. Nursing	4	4%
	Msc. nursing	0	0%
d) Marital status	Married	90	90%
	Unmarried	10	10%
e) Working experience	Less than 5 years	25	25%
	5-10 years	17	17%
	10-15 years	16	16%
	More than 15 years	42	42%
f) Undergone any training related to OVID-19:	Yes	25	25%
	No	75	75%
g) Taken care of patient with COVID-19:	Yes	53	53%
	No	47	47%

TABLE-II: FREQUENCY AND PERCENTAGE DISTRIBUTION OF NURSES ACCORDING TO THE LEVEL OF KNOWLEDGE

n=100

LEVEL OF KNOWLEDGE	INADEQUATE		MODERATE		ADEQUATE	
	FREQUENCY(f)	PERCENTAGE (%)	FREQUENCY (f)	PERCENTAGE (%)	FREQUENCY (f)	PERCENTAGE (%)
PRE TEST KNOWLEDGE	21	21%	77	77%	2	2%
POST TEST KNOWLEDGE	0	0%	44	44%	56	56%

SD- Standard Deviation, S- Significant

Table-II shows the calculated paired' test value of t = 20.960 was found to be statistically highly significant at p<0.001 level. This shows that there was significant difference between the pretest and posttest scores of knowledge, which clearly infers that structured teaching programme on knowledge regarding management of COVID-19 in pregnancy and childbirth was found to be effective in improving the level of knowledge among nurses in the posttest.

The result of the study was supported by Tadesse D.B et al.(Nov,2020) conducted a cross sectional study on knowledge, attitude, practice and psychological response toward COVID-19 among nurses during the COVID-19 outbreak in northern Ethiopia. A total of 415 nurses participated in this study, resulting in a 100% response rate. Of the participants, 241 (58.1%) were female. Total 415 nurses, 307 Nurses (74%), 278 (67%), 299 (72%) and 354 (85.3%) had good knowledge, good infection prevention practice, a favorable attitude and disturbed psychological response towards COVID-19, respectively.[8]

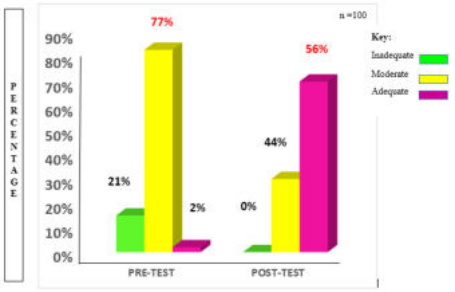

FIGURE-I: BAR DIAGRAM SHOWING PERCENTAGE DISTRIBUTION OF THE NURSES PRE TEST KNOWLEDGE SCORE AND POST TEST KNOWLEDGE SCORE

TABLE-III: MEAN, STANDARD DEVIATION, RANGE AND PAIRED 't' TEST VALUE OF KNOWLEDGE OF THE NURSES REGARDING MANAGEMENT OF COVID-19 IN PREGNANCY AND CHILDBIRTH BEFORE AND AFTER ADMINISTRATION OF STRUCTURED TEACHING PROGRAMME

LEVEL OF KNOWLEDGE	MEAN	SD	RANGE OF SCORE	TOTAL SCORE	PAIRED 't' TEST VALUE
PRE TEST KNOWLEDGE	17.15	2.79	10.75-13.25	30	t = 20.960 S at p=0.0001
POST TEST KNOWLEDGE	23.29	2.69	16.75-28	30	

S- Significant

TABLE-IV: ASSOCIATION OF PRE-TEST KNOWLEDGE WITH SELECTED DEMOGRAPHIC VARIABLES

n=100

DEMOGRAPHIC VARIABLES	Chi square	df	P-value	REMARKS
Age	3.806	6	0.703	NS at p>0.05
Religion	8.676	4	0.070	NS at p>0.05
Educational qualification	12.332	4	0.015	S at p<0.05
Marital status	0.241	2	0.887	NS at p>0.05
Working experience	2.535	6	0.865	NS at p>0.05
Undergone any training related to COVID-19	1.102	2	0.576	NS at p>0.05
Taken care of patients with COVID-19	1.125	2	0.570	NS at >0.05

NS- Non-significance, S- Significance, df- Degree of freedom

Table-III shows the analysis depicted that only educational qualification is statistically significant association with pretest level of knowledge but the other demographical variables like age, religion, marital status, working experience, undergone any training related to COVID-19, taken care of patients with COVID-19 had shown statistically not significant association with pretest level of knowledge.

CONCLUSION:

From this study, it was observed 100 nurses of selected Hospitals of Goalpara, Assam. Out of 100 nurses, In the pre-test, majority i.e. 77(77%) had moderate knowledge, 21(21%) had inadequate knowledge and only 2(2%) had adequate knowledge. In post-test, majority i.e. 56(56%) had adequate knowledge, 44(44%) had moderate knowledge and 0% had inadequate knowledge. The mean knowledge score in pre-test was 17.15 with Standard deviation of 2.79. In post-test the mean knowledge score was 23.29 with Standard Deviation 2.69. The calculated paired't' test value of t = 20.960 was found to be statistically highly significant at p<0.001 level. This shows that there was significant difference between the pretest and posttest scores of knowledge, which clearly infers that structured teaching programme on knowledge regarding management of COVID-19 in pregnancy and childbirth was found to be effective in improving the level of knowledge among nurses in the posttest. The study help to improve the knowledge of the medical and nonmedical person which will help to prevent and control the spread of COVID-19.

Through this study, the investigator concluded that majority of nurses are more aware about management of COVID-19 in pregnancy and childbirth.

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