Effect of Planned Teaching Program Regarding Knowledge on Detection and Prevention of Postpartum Hemorrhage among B. Sc. Nursing Students in Selected Nursing Colleges, Guwahati, Assam

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Abstract

Background: Postpartum hemorrhage (PPH) is a leading cause of maternal mortality. According to the World Health Organization, PPH accounts for 127,000 deaths annually out of which India accounted for over 20% in 2015. Health-care professionals, especially the nurse, should play an important role in detection and prevention of PPH. Objective: The purpose of the study is to assess the effect of planned teaching program regarding knowledge on detection and prevention of PPH among B. Sc. Nursing students. Methodology: With an evaluative approach, one group of sixty B. Sc. Nursing 4th-year students were selected and pre- and posttest design was adopted for the study. Results: The study revealed that the mean posttest knowledge score (17.27) was higher than the mean pretest knowledge score (8.92). The calculated \( t_{59} = 25.2 \) was significant at \( P < 0.05 \), thus the planned teaching program was effective. There was no significant association between the pretest level of knowledge score with the selected demographic variables, i.e., age, previous clinical exposure with PPH mother, and previous source of information on PPH. Conclusion: The present study concluded that the planned teaching program on detection and prevention of PPH was effective in improving the knowledge of the B. Sc. Nursing students.

Keywords: Detection, knowledge, planned teaching program, postpartum hemorrhage, prevention

INTRODUCTION

Postpartum hemorrhage (PPH) accounts for over one-quarter of cases of maternal mortality worldwide. It is a frequent complication of delivery and its incidence is commonly reported as 2%–4% after vaginal delivery and 6% after cesarean section.[1] The World Health Organization (WHO) defines PPH as 500 ml of blood loss after vaginal birth and 1000 ml of blood loss in case of cesarean births.[2] The global maternal mortality ratio (MMR) in 2017 is estimated at 211 maternal deaths per 100,000 live births in which India has the highest estimated numbers of maternal deaths, accounting for approximately one-third (35%) of estimated global maternal deaths. Assam has a high MMR (MMR = 301/100,000 live births in 2012–2013), higher than the national average (MMR = 178/100,000 live births in 2010–2012).[3,4] Around 80% of women’s deaths occur due to primary hemorrhage. The WHO considers the active management of the third stage of labor as the main intervention for prevention and consequent reduction of maternal deaths by hemorrhage. The interventions include the use of uterotonics, controlled cord traction, and uterine massage.[2]

Objectives of the study

- To determine the effect of planned teaching program on detection and prevention of PPH among B. Sc. Nursing students in selected nursing colleges, Guwahati, Assam

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• To find out the association between the pretest level of knowledge on detection and prevention of PPH among B. Sc. Nursing students with selected demographic variables, i.e., age, previous clinical exposure with PPH mother, and previous source of information on PPH.

**Methodology**

A preexperimental one-group pre- and posttest design was adopted for the study. The study was conducted in College of Physiotherapy and Medical Sciences and Army Institute of Nursing, Guwahati, Assam, among sixty B. Sc. Nursing 4th-year students. Ethical clearance certificate and formal permission were taken from the concerned authorities to conduct the research study. The sample size was calculated using Raosoft sample size calculator. The tools used for the study were demographic form and self-structured knowledge questionnaire. B. Sc. Nursing 4th-year students were selected based on simple random sampling technique. A pretest was conducted using self-structured knowledge questionnaire on detection and prevention of PPH. After the pretest, planned teaching program was administered. Posttest was conducted by using the same self-structured knowledge questionnaire after the 7th day of the planned teaching program. The data obtained were analyzed in terms of objectives of the study by using descriptive and inferential statistics using Excel 2007.

**Inclusion criteria**

Fourth-year B. Sc. Nursing students in College of Physiotherapy and Medical Sciences and Army Institute of Nursing, Guwahati, Assam, and students who were available at the time of data collection were included.

**Exclusion criteria**

Students who were not willing to participate in the study were excluded.

**Results**

With reference to the sample characteristics presented in Table 1, majority of the students were in the age group of 21–23 years, i.e., 50 (83.33%), 48 (80%) students had no previous clinical exposure with PPH mother, and 30 (50%) students’ previous source of information on PPH is from the health personnel.

With reference to the assessment of pre- and posttest knowledge score on detection and prevention of PPH, the result indicates that in pretest, 66.7% of the B. Sc. Nursing students have poor knowledge and 33.3% of the students have good knowledge on detection and prevention of PPH. Whereas in the posttest, 100% of the students have good knowledge. Hence, posttest score remains higher than the pretest knowledge score.

With reference to the effect of planned teaching program on detection and prevention of PPH presented in Table 2, the result shows that the mean posttest knowledge score (17.27) was significantly higher than the mean pretest knowledge score (9.52). Thus, the planned teaching program on detection and prevention of PPH was effective in improving the knowledge of the B. Sc. Nursing students.

With reference to the association between the pretest level of knowledge score on detection and prevention of PPH with the selected demographic variables presented in Table 3, the result shows that there was no significant association between the pretest level of knowledge score with the selected demographic variables, i.e., age, previous clinical exposure with PPH mother, and previous source of information on PPH.

**Discussion**

**Characteristic of demographic variables of the B. Sc. Nursing students**

In the present study, majority of the students were in the age group of 21–23 years, i.e., 50 (83.33%), 48 (80%) students had no previous clinical exposure with PPH mother, and 30 (50%) students’ previous source of information on PPH is from the health personnel.

The present study indicates that, in pretest, 66.7% of the B. Sc. Nursing students have poor knowledge and 33.3% of the students have good knowledge on detection and prevention of PPH. Whereas in the posttest, 100% of the students have good knowledge. Hence, posttest score remains higher than the pretest knowledge score.

Similar findings were found in the cross-sectional study conducted by Danasu et al. (2019) among staff nurses at SMVMCH in Puducherry which showed that in pretest, 35% of the staff nurses had inadequate knowledge and 65% had moderate knowledge. Whereas in posttest, 86.7% of the staff nurses had moderate knowledge and 13.3% had moderate knowledge. Hence, the posttest knowledge score was higher than the pretest knowledge score.[9]

In the present study, the mean posttest knowledge score (17.27) was higher than the mean pretest knowledge score (9.52) and
the difference between the pre- and posttest scores is 7.75. The calculated “t” value was 29.9 and the tabulated value of
\( t \) at 59 df was significant at \( P < 0.05 \). Thus, the planned teaching program on detection and prevention of PPH was effective
in improving the knowledge of the B. Sc. Nursing students.

Similar findings were found in a cross-sectional study conducted among Multipurpose health worker students in MPHW schools in Hyderabad which showed that the mean posttest knowledge score (36.86) was higher than the mean pretest knowledge score (14.36) and the difference the pre- and posttest score was statistically significant at \( P < 0.05 \).[6]

In the present study, there was no significant association between the pretest level of knowledge score with the selected demographic variables, i.e., age, previous clinical exposure with PPH mother, and previous source of information on PPH.

Similar findings were found in a cross-sectional study conducted among nurses working in KLES Hospital and MRC, Belgaum, Karnataka, which revealed that there was no significant association between the preexisting knowledge and selected demographic variables, i.e., age, marital status, professional qualification, professional experience, experience in maternity wards, and in-service education.[7]

**CONCLUSION**

The findings of the study revealed that the total posttest knowledge score is significantly higher than the pretest knowledge score. Thus, the planned teaching program on detection and prevention of PPH was effective in improving the knowledge of the B. Sc. Nursing students.

**Recommendation**

A similar study can be undertaken on a large scale or by using different teaching methods. This would provide invaluable evidence in the area of nursing practice.

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**Conflicts of interest**

There are no conflicts of interest.

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