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NURSES' KNOWLEDGE ABOUT MANAGEMENT OF DIFFERENT STAGES OF NORMAL LABOUR IN BANGLADESH

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ABSTRACT

Nurses play a vital role in a healthcare system. So, they need to have multiple sets of skills and knowledge. This study investigated nurses' knowledge about management of different stages of normal labour in Bangladesh. Some 220 purposively selected senior staff nurses at the Shaheed Ziaur Rahman Medical College Hospital, Bogra, took part in the research. With the help of a key informant, the nurses were interviewed by using a semi-structured questionnaire. Findings of the study show that there is a significant relationship between the nurses' length of service and the ability of performing episiotomy ($p<0.001$). Of the participants, 76.4% knew about the necessity of vaginal examination in the second stage of labor. About 26.4% of the participants considered the characteristics of uterine contraction as a powerful factor. Furthermore, 73.2% knew the counting of foetal heart sound in the second stage of labor; 83.6% had the ability to perform episiotomy. The majority of the respondents (80.9%) felt that excessive vaginal bleeding is an important risk factor in labour. Of the participants, 85.00% had experience in conducting labour; 99.09% knew about different stages of labour; 69.09% knew the stages of dilation of cervix; 88.64% knew how to assess dilation of cervix in second stage of labor; and 98.18% knew the third stage of labor.

Keywords: Normal Labour, Healthcare System, Caregiver, Pregnant Women, Episiotomy

INTRODUCTION

The presence of regular uterine contractions with progressive cervical dilation and effacement is known as labour. During this stage, most patients report an increase in the incidence of Braxton Hicks contractions (Mulder and Visser, 1987). The presence of changes in cervical effacement, dilation, position, consistency, and descent of the presenting part are the key indicators in identifying the stages of labour. Concomitant with the increased frequency of contractions, a patient perceives the descent of the fetus into her pelvis as lightening. During the process of cervical effacement and dilation, some capillary blood vessels may rupture causing small amount of bleeding which lead to a bloody appearance of the mucous plug. The appearance is commonly referred to as the 'bloody show'. The beginning of labour can be understood when the bloody show appears in the passage due to regular contractions and effacement. In the first stage of labour, contractions gradually open up the neck of the uterus (cervix). It consists of early labour, active labour, and the transitional phase (Valiani, Rezaie & Shahshahan, 2016)

Giving birth to a child is challenging for women.

Different physical changes and problems may arise at this stage. Episiotomy used to be routinely performed at this stage. Labor and delivery nurses are specially trained to provide care for pregnant women. They give women physical comfort, emotional and informational support (Tumblin and Simkin, 2001), monitor the fetal heart rate, and the patient's blood pressure and time of contractions. The roles of nurses can be identified as support person, educator, patient advocate, and provider of continuity (Brown *et al*., 2009).

Nurses play a vital role in healthcare system as they are caregivers, decision-makers, communicators, managers of care, and advocates and teachers in a variety of healthcare settings. They need to have multiple sets of skills and knowledge, which can be categorized as clinical and communicative. Effective communication is a core skill for nursing staff since they spend more time with patients and relatives than any other healthcare professional. Their educational background, continued education and job satisfaction are important factors influencing their skills Kounenou, Aikaterini & Koumoundourou, 2011

Little has been studied about nurses' knowledge and skills in the context of Bangladesh. This study focuses on nurses' clinical skills and investigates their knowledge about management of different stages of normal labour in Bangladesh. The findings indicate that there is statistically a highly significant relationship between length of service and the ability to perform episiotomy ($p < 0.001$). It was also found that there is no statistically significant relationship between length of service and the knowledge of the dilation of the cervix in first stage of labour ($p > 0.05$).

METHODOLOGY

This cross sectional descriptive study was conducted among senior staff nurses at the Shaheed Ziaur Rahman Medical College Hospital, Bogra, Bangladesh. With the help of a key informant, data was collected by using a partially structured questionnaire from 220 purposively selected nurses at the hospital. A Statistical Package for Social Science (SPSS) programme was used to analyze the data. Descriptive variables were explained with mean and standard deviation. Statistical significance was found by applying relevant statistical tests at appropriate probability level ($p = 0.05$ or $p = 0.01$).

RESULTS

Of the total respondents, 51.4% had diploma in midwifery. While 24.1% of the nurses had BSc in nursing degree, 13.6% had diploma in nursing. Majority of the respondents (54.1%) were aged between 30-39 years. Furthermore, while 32.7% were in the age group of 40-49 years, 11.8% and 1.4% were in age groups of up to 29 years and over 50 years respectively. The mean age of the respondents was 37.39 ± 5.78 years.

Table 1: Nurses' knowledge about vaginal examination and counting foetal heart sound in second stage of labor

	Vaginal examination (%)	Counting foetal heart sound (%)
Yes	76.4	73.2
No	23.6	26.8

Table 1 shows that 76.4% of the nurses were aware of the necessity of vaginal examination in the second stage of labor, while 23.6% of them did not know about the process. It is evident that most of the nurses at the hospital had knowledge about the vaginal examination required at this stage. On the other hand, 73.2% of the nurses knew counting of foetal heart sound in the second stage of labor, while the rest (26.8%) had no knowledge about it.

Table 2: Nurses' knowledge about characteristics of uterine contraction in second stage of labor

Characteristics of uterine contraction	%
Irregular frequency of micturition	23.2
Moderate strength of contraction	22.7
Powerful post contraction	26.4
Multiple	25.5
No	2.3

Table 2 shows that about 26.4% of the nurses considered characteristics of uterine contraction as powerful post contraction. The nurses also have knowledge about irregular frequency of micturition, and moderate strength of contraction. About 25.5% of the nurses were aware of the multiple features of uterine contraction in the second stage of labor.

Table 3: Nurses' ability to perform episiotomy

	Ability of performing episiotomy (%)
Yes	83.6
No	16.4

From Table 3 it is evident that a significant number of nurses had the ability to perform episiotomy. Of the total respondents, 83.6% reported that they could perform episiotomy, while only 16.4% could not do the process.

Table 4: Presence of risk factors in uterine contraction

Risks	Yes (%)	No (%)
Excessive p/v bleeding	80.9%	19.1%
Meconium pass per vagina	53.6%	46.4%
Sudden decrease in uterine contraction	50.9%	49.1%

Regarding risk factors it was found that excessive p/v bleeding occurred in 80.9% of the cases. Additionally, while Meconium pass was observed in 53.6% of the cases, a sudden decrease in uterine contraction was recorded in 50.9% cases.

Table 5: Relationship between length of service and knowing dilation of cervix in first stage of labour

Length of service	Knowing dilation of cervix in first stage of labour		Total
	Yes	No	
0-5 years	51(79.7%)	13(20.3%)	64(29.1%)
6-10 years	28(63.6%)	16(36.4%)	44(20.0%)
11-15 years	43(69.4%)	19(30.6%)	62(28.2%)
16-20 years	22(62.9%)	13(37.1%)	35(15.9%)
More than 20 years	8(53.3%)	7(46.7%)	15(6.8%)
Total	152(69.1%)	68(30.9%)	220(100.0%)

χ^2=6.36 d*f*=42 p>0.05

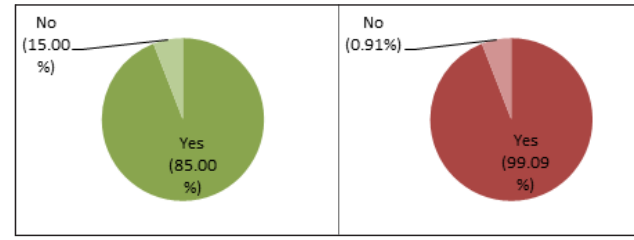
It was found that 29.1% of the respondents had 0-5 years length of service. Among them 79.7% knew about the dilation of cervix in the first stage of labour and 20.3% did not know about it. It was also found that 20.0% of the respondents had 6-10 years length of service. Among them 63.6% knew about the dilation of cervix in the first stage of labour, while 36.4% did not. Among the 28.2% of the total respondents who had 11-15 years length of service, 69.4% knew about the dilation of cervix in the first stage of labour and 30.6% did not. Furthermore, among the 15.9% of the total respondents who had 16-20 years length of service, 62.9% knew about the dilation of cervix in the first stage of labour and 37.1% did not. It was also found that 6.8% of the respondents had length of service of more than 20 years. Among them 53.3% knew about the dilation of cervix in the first stage of labour, while 46.7% did not. Hence, it was revealed that there was no statistically significant relationship between length of service and knowledge about the dilation of cervix in the first stage of labour (p >0.05).

Table 6: Relationship between length of service and ability of performing episiotomy

Length of service	Knowing dilation of cervix in first stage of labour		Total
	Yes	No	
0-5 years	43(67.2%)	21(32.8%)	64(29.1%)
6-10 years	35(79.5%)	9(20.5%)	44(20.0%)
11-15 years	57(91.9%)	5(8.1%)	62(28.2%)
16-20 years	34(97.1%)	1(2.9%)	35(15.9%)
More than 20 years	15(8.2%)	0(0.0%)	15(6.8%)
Total	184(83.6%)	36(16.4%)	220(100.0%)

χ^2=23.91 d*f*=4 p< 0.001

Table 6 shows that 29.1% of the respondents had 0-5 years length of service. Among them 67.2% had the ability of performing episiotomy and 32.8% did not have the ability of performing episiotomy. It was also found that 20.0% of the respondents had 6-10 years length of service. Among them 79.5% had the ability of performing episiotomy, while 20.5% did not have this skill. Among the 28.2% of the total respondents who had 11-15 years length of service, 91.9% had the ability of performing episiotomy and 8.1% did not. Hence, from a statistical point of view, there was a highly significant relationship between length of service and the ability to perform episiotomy (p < 0.001).



Pie chart 1 **Pie chart 2**

Figure 1: Nurses'experience in conducting labour and their knowledge about the stages of labour

The pie charts 1 and 2 show that majority of the nurses had knowledge about labour and they were experienced in conducting the process. Interestingly, though 99.09 % nurses reported that they were aware of labour and its stages, only 85.0% of them could perform

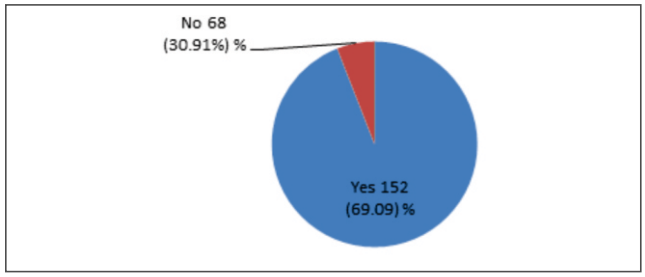


Figure 2: Nurses knowledge about dilation of cervix

Dilation of cervix is an important aspect among the different stages of labour. The spreading of cervix determines the actual stage of labour. Consequently, the nurses are expected to have knowledge about dilation and provide proper care to the women who are often not aware of it. The pie chart shows that 69.09% of the nurses knew about the stages of dilation of cervix, while 30.91% did not.

DISCUSSION

About 20% births are attended by skilled birth attendants (SBAs) in Bangladesh (Islam, Islam and Yoshimura, 2014).The study provided some important basic information about the nurses' knowledge on management of different stages of normal labour. The study findings show that out of 220 respondents, majority (54.1%) were in the age group of 30-39 years and 32.7% were in the age group of 40-49 years. The mean age of the respondents was 37.39 ± 5.78 years. About 51.4% of the nurses had Diploma in midwifery, while 24.1% had BSc in public health nursing.The educational level should be improved among the nurses through motivation. In another study, the average time of their experience in obstetric nursing varied from 14 to 18 years. The longest experience was that of 24 years and the shortest was of 3. Furthermore, about 76.4% of the total respondents knew about the necessity of vaginal examination in the second stage of labor.

Additionally, it was found that 26.4% followed by 25.5% and 23.2% of the respondents considered characteristics of uterine contraction as powerful post contraction, multiple factors and irregular frequency of micturitions respectively. About 73.2% of the respondents knew counting of foetal heart sound in the second stage of labor and the rest (26.8%) did not. Furthermore, 83.6% of the respondents had the ability of performing episiotomy. It indicates that the knowledge of the nurses about labour is very detailed. Regarding risk factors it was found that excessive p/v bleeding was observed in 80.9% cases and Meconium pass was recorded in 53.6% of the total cases. About 85.00% of the respondents also had experience in conducting labour. Notably, 99.09% of the respondents knew about the stages of labour and 69.09% of the respondents knew about the stages of the dilation of cervix. However, there was no statistically significant relationship between length of service and the nurses' knowledge about the dilation of cervix in the first stage of labour ($p > 0.05$). Furthermore, statistically, there was a highly significant relationship between length of service and the nurses' ability of performing episiotomy ($p < 0.001$).

CONCLUSION

The study yielded important insights about nurses' knowledge on management of different stages of normal labour. This cross-sectional study revealed a gloomy picture of the knowledge of the nurses, who constitute a large proportion of the healthcare system in Bangladesh. So, a large-scale longitudinal study, including all the variables related to nurses' knowledge on management of different stages of normal labour, is desirable for gaining further insight.

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