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Assessment of effectiveness of Structured Teaching Programme (STP) on knowledge and utilization of partograph among nursing officers working in Maternity areas of GMCH-32, Chandigarh

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Abstract
A partogram or partograph has been used as composite graphical record of key data (maternal and fetal) during labour entered against time on a single sheet of paper. So this study was helpful in improving knowledge as well as skills of nursing officers in maternity areas. The objectives of the study were to assess the effectiveness of Structured Teaching Programme (STP) on partograph among Nursing Officers of Maternity areas of GMCH-32, Chandigarh and to find out the association between knowledge and utilization with socio demographic variable as well as to find the association between post-test knowledge scores and utilization of partograph. Pre experimental research design was used. Purposive sampling was used to select 45 samples – Nursing Officers working in maternity areas of GMCH-32, Chandigarh. The data was analyzed using descriptive and inferential statistics at $p<0.05$ which was considered statistically significant. After detailed analysis of data, it was found that pre-test scores of the nursing officers were much low due to the lack of practice of utilization of partograph and its less availability in maternity areas of the hospital settings. However after effective implementation of Structured Teaching Programme (STP) there was a significant increase in the scores of both knowledge and utilization of immediate as well as 1 week after post-test [1].

Keywords: WHO partograph, maternity areas, structured teaching programme, nursing officers

Introduction
Approximately half a million women lose their life every year because of complications of pregnancy and 99% of these complications occur in developing countries. An average of about 450 women dies for every 1,00,000 live births in the developing countries. All the pregnant women need to be supervised by the trained health care provided and appropriately by the relevant technology which includes the use of partograph to identify those at risk and to provide prenatal care and care during labour as expeditiously as possible [2].

Prolonged labour in the developing world is commonly due to cephalo-pelvic disproportion (CPD) which may result in obstructed labour, maternal dehydration, exhaustion, uterine rupture and vesico-vaginal fistula. Protracted labour is more common in primary gravida women than in multi para and the complications and effects of CPD differ between them. In countries where CPD is not prevalent abnormal progress of labour is due to insufficient uterine action. Universally less direct consequences of prolong labour include maternal sepsis, postpartum hemorrhage and neonate infection. Early detection of abnormal progress of labour and the prevention of prolonged labour would significantly reduce the risk of postpartum haemorrhage and sepsis, and eliminate obstructed labour, uterine rupture and its complications [3].

The partograph graphically represents key events in labor and provides an early warning system [4].

The partograph is a graphical recording of progress of labour and salient conditions of the mother and fetus, has not only been used to detect normal labour but abnormally too and serves as an "early warring system" which assists in early decision on transfer, augmentation and termination of labour [5]. The term partograph was first coined by Friedman in 1954 by graphically representing dilation of cervix then in 1972 Philpot and Castle modified the partograph by adding alert and action line after which the World Health Organization (WHO)

Modified the partograph in 2000 with the exclusion of the latent phase and commenced at the active phase at 4cm of dilatation [5]. The partograph requires no major capital investment or expensive maintenance. The only resource required is a skilled health care worker. Coverage of births by skilled health care workers is increasing in many low resource settings. A skilled health care worker is competent to record the progress of labour, interpret the findings and act appropriately when required. Appropriate actions may vary depending on the setting augmentation of labour, operative delivery or just timely referral to a higher level of care. Standard management protocols on the actions to be taken on the basis of partograph that are available for use at first and referral level 1, 2 and should be used to help in decision making. Training (Including use of a self-directed learning program) improves the ability of health care workers to interpret partographs. The use of the partograph should be an integral part of obstetric training [6].

Non-availability of preprinted partographs had also been reported as a cause for non-utilization. Pre-printed partographs, whereas useful are not a must. Well-motivated health care workers have worked well with hand-drawn cervicographs. Health care workers may be asked to first record their detailed findings elsewhere in the case notes and then fill in the partograph. Filling the partograph is seen as an additional chore for a busy health worker in such a situation and may not be motivated to complete the partograph. Challenges to the implementation of the partograph, including insufficient knowledge, non-availability of preprinted partographs and workload pressure, could be addressed with further education on the purpose of importance and application of the partograph during labour by health care provider [7].

Materials and Methods

The study was conducted to assess the effectiveness of Structured Teaching Programme (STP) on knowledge and utilization of partograph among Nursing Officers working in Maternity areas of GMCH-32, Chandigarh. This study includes finding of association between knowledge and utilization with socio demographic variables as well as to find the association between post-test knowledge score and utilization of partograph. Pre Experimental study design was used. Purposive sampling technique was used to select 45 samples-Nursing officers of maternity areas of GMCH-32. Tool used for data collection were.

Part A: Socio demographic profile.
Part B: Self- structured questionnaire.
Part C: Partograph-cum-checklist.

Interview and self-reporting method were used as techniques for data collection. The data was analyzed using descriptive and inferential statistics

Results
Data was analyzed under 3 major headings with the help of following tables
1. Frequency percentage of the socio-demographic variables.
2. Comparison of mean scores with standard deviation of different tests for knowledge evaluation.
3. Comparison of mean scores with standard deviation of different tests for utilization evaluation.
4. Correlation between pre-test knowledge score and pre-test utilization score.

Table 1: Frequency percentage of the socio-demographic variables

Demographic Variable, N= 45			
Variables	**Options**	**Frequency**	**Percentage (%)**
Age (in years)	< 30 years	17	37.8
	31-35 years	13	28.9
	36-39 years	3	6.7
	> 40 years	12	26.7
Gender	Female	45	100
	Male	0	0
Area of working	CLR	20	44.4
	SLR	8	17.8
	PN1	5	11.1
	NGW	4	8.9
	ANW	3	6.7
	PN2	5	11.1
Total working experience	< 1 year	4	8.9
	2-5 years	18	40.0
	6-9 years	10	22.2
	> 10 years	13	28.9
Maternity area experience	< 1 year	13	28.9
	2-5 years	25	55.6
	6-9 years	4	8.9
	> 10 years	3	6.7
Workshop	Yes	2	4.4
	No	43	95.6
Education	GNM	18	40.0
	B.Sc. Nursing	25	55.6
	M.Sc. Nursing	2	4.4

Major of the Nursing officers are less than 30 years of age, for N = 45 Nursing officers less than 30 years were 17 constituting 37.8% of the total percentage. However, Nursing officers from 36-39 years of age are the minimum in number i.e., 3 (6.7%).

All the Nursing officers included in the study are female. Maximum participation is seen from the Nursing Officers of Clean Labor Room i.e.20 nursing officers (44.4%) and the least participation is from the antenatal ward with 3 Nursing officers

(6.7%).25 nurses (55.6%). From the total group of 45 nurses 25 nurses hold maternity ward experience of 2-5 years. Only 2 Nursing officers (4.4%) have attended a workshop on partograph. 25 nursing officers (55.6%) have completed their B.Sc. Nursing while 18 nursing officers (40%) hold a GNM degree.

Table 2: Comparison of mean scores with standard deviation of different tests for knowledge evaluation

	Knowledge score pre-test	Knowledge score post-test	Knowledge score 1 week post-test
			N=45
Mean	8.73	17.07	15.73
Std. Deviation	2.816	3.499	2.416

$p<0.05$

The mean scores in both the immediate post-tests of knowledge are observed to increase significantly from (8.73±2.816) to (17.07±3.499) respectively. However a slight decrease is observed in 1 week posts-test for both the knowledge and utilization i.e. from (17.07±3.499) to (15.73±2.416) respectively.

Table 3: Comparison of mean scores with standard deviation of different tests for utilization evaluation

	Utilization score pre-test	Utilization score post-test	Utilization score 1 week post-test
			N=45
Mean	.00	6.49	5.51
Std. Deviation	.000	1.740	1.308

$p<0.05$

The mean scores in the immediate post-tests of utilization are observed to increase significantly from (0±0.00) to (6.49±1.74) respectively. However a slight decrease is observed in 1 week posts-test for utilization from (6.49±1.74) to (5.51±1.308) respectively.

Table 3: Tabular representation of correlation between knowledge score and utilization score

Correlation	Pearson Coefficient (r)
Knowledge pre-test and Utilization Pre-test	-
Knowledge post-test and Utilization post-test	0.872
1week Knowledge post-test and 1week Utilization post-test	0.655

$p<0.05$

The Pearson coefficient (r) could not be computed for the pre-tests category as the value of pre-test utilization score has been constant throughout the course of study. The value of Pearson coefficient (r) for the immediate post-test category is calculated to come out as 0.872. R being > 0.5 denotes the presence of strong positive correlation between immediate post-test knowledge score and immediate post-test utilization score. The value of Pearson coefficient (r) for the 1 week post-test category is calculated to come out as 0.655 where r being > 0.5 denoting the presence of strong positive correlation between 1 week post-test knowledge score and 1 week post-test utilization score.

Discussion
This study attempted to assess knowledge and utilization of partograph among nursing officers of the hospital working in maternity wards, GMCH-32.

Findings of the study suggests that major of the Nursing officers were less than 30 years of age, for N = 45 Nursing officers less than 30 years were 17 constituting 37.8% of the total percentage. However Nursing officers from 36-39 years of age were minimum in number i.e. 3 (6.7%). All the Nursing officers included in the study are female. Maximum participation was seen from the Nursing Officers of Clean Labor Room i.e.20 nursing officers (44.4%) and the least participation was from the antenatal ward with 3 Nursing officers (6.7%).25 nurses (55.6%) from the total group of 45 nurses hold maternity ward experience of 2-5 years. Only 2 nursing officers (4.4%) had attended a workshop on partograph. 25 Nursing officers (55.6%) had completed their B.Sc. Nursing while 18 nursing officers (40%) hold a GNM degree.

Findings of the study depicts that the scores in both the immediate post-tests of knowledge and utilization were observed to increase from (8.73±2.816) to (17.07±3.499) and (0±0.00) to (6.49±1.740) respectively after the successful implementation of Structured Teaching Programme (STP).But there was a slight decrease that was observed in 1 week post-test for both the knowledge and utilization i.e. from (17.07±3.499) to (15.73±2.416) and (6.49±1.740) to (5.51±1.308) respectively.

Overall, the nursing officers show goods scores for knowledge of partograph and shows effective and efficient utilization of partograph after teaching with Structured Teaching Programme.

Conclusion
After detailed analysis of data, it was found that pre-test scores of the nursing officers were much low due to the lack of practice of utilization of partograph and its less availability in maternity areas of the hospital settings. However after effective implementation of Structured Teaching Programme (STP) there was a significant increase in the scores of both knowledge and utilization of immediate as well as 1 week after post-test.

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