

A Study to Assess Effectiveness of Information Booklet Regarding use of Partograph among Midwives Working in Labour Room of Selected Hospital of Bhopal (M.P)

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ABSTRACT

Background: The partograph (or partogram) is recommended by the World Health Organisation (WHO), for monitoring labour wellbeing and progress. Concerns about limitations in the way the partograph is used in the clinical context and the potential impact on its effectiveness have led to this realist systematic review of partograph use. **Objectives:** The study aimed to assess the pre-existing knowledge on use of partograph among midwives and effectiveness of information booklet. **Methods:** In the present study quantitative evaluator approach was used to assess the knowledge on use of partograph among midwives working in labour room of selected hospital of Bhopal. The researcher adopted a pre-experimental (one group pre-test post – research design). 60 midwives selected for study by using non-probability purposive sampling technique. Data was collected by structured knowledge questionnaire before and after administration of self-instructional module regarding partograph and analyzed through descriptive and inferential statistics. **Results:** It revealed that overall pre-test & post- test mean knowledge score of midwives regarding partograph. The mean post- test score 17.42 more than mean pre- test score 12.37 And SD pre- test is 3.24 more than post- test SD 2.12. and mean percentage post- test score 69.68% more than mean pre- test score 49.48%. The computed 't' value (t=16.508) was higher than the table value (t=2.03) at 0.05 level of significance. Hence, the research hypothesis (H₁) was accepted. **Conclusion:** The study concluded that there is significant difference and effectiveness of information booklet, in increasing the knowledge of midwives regarding partograph.

KEYWORDS: Effectiveness, information booklet, knowledge, midwives, partograph

INTRODUCTION

A partograph is a composite graphical record of key information (maternal and fetal) during work entered against time on a solitary piece of paper. Pertinent estimations may incorporate insights, for example, cervical enlargement, fetal pulse, span of work and fundamental signs. It is intended to provide an accurate record of the progress in labour, so that any delay or deviation from normal may be detected quickly and treated accordingly. However, a Cochrane review came to the conclusion that there is

insufficient evidence to recommend partographs in standard labour management and care.

The WHO partograph has two diagonal lines: an alert line and an action line. The alarm line goes from 4 to 10 cm and compares to a normal expansion pace of 1 cm for each hour. In the event that the work bends crosses to one side of this alarm line, this implies the enlargement is less than 1 cm for each hour. For this situation closer observing is required. The activity line is found 4 hours to one side of the alarm line. On

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the off chance that the dilatation bend crosses this line, choices must be made (increase of work, counterfeit crack of films, cesarean segment, and so forth.)

Back ground of study:

The partograph is suggested by the World Health Organization (WHO), for checking work prosperity and progress. Worries about impediments in the manner the partograph is utilized in the clinical setting and the expected effect on its viability have prompted this pragmatist precise survey of partograph use.

During early fifties large numbers of normal labour were studied and it was concluded that functionally labour could be divided into two parts i.e., latent phase and active phase and the cervical dilatation during labour could be plotted graphically. In late sixties and early seventies several extensive studies were carried out and it was inferred that labour in primipara and multipara behaved differently and deviation from normal could be diagnosed by use of the partograph. It provides a sound scientific basis for an early intervention to prevent prolonged labour and its sequel. Over last two decades several developed and developing countries have used partograph pragmatically in variety of different settings and have found it to be an inexpensive and effective tool for diagnosing labour outcome.

Common Partograph designs follow the work of Friedman in 1954 then Philpott- in 1972 and followed by WHO in 2000- In an attempt to improve the outcome of labouring women. WHO Revised Partograph demonstrating clear benefits in terms of obstetric outcome? Its use improves the efficiency of the maternity services. Partograph was a first realistic evaluation of progress of work was planned by Friedman It is a modest instrument intended to give a consistent realistic diagram of work and has been appeared to upgrade results when used to oversee and screen work.

Information on obstetric parental figures about the partograph at general wellbeing offices of Addis Ababa, Ethiopia, was reasonable; 96.6% of the examination members effectively referenced in any event one segment of it. In this investigation, 53.3% and 82.6% of the parental figures appropriately clarified the capacity of ready line and activity line, separately. An examination done in Nigeria showed that at tertiary and general emergency clinics medical care suppliers' information and past preparing on partograph were altogether connected with its use during work. Moreover, absence of definite information on it, nonavailability of the partograph, and lack of midwives were the militating factors

against the utilization of partograph. Hence, this investigation was meant to survey information and demeanor of partograph and its related elements among obstetric consideration suppliers.

Need of the study:

It can be seen above that the design of the partograph was thought to represent the best available from published information but the management guidelines were not spelt out in any detail. Operations research is encouraged and a booklet describing the methodology of operations research using the WHO partograph has been produced. Three particular issues, however, were of clear importance.

First is the failure of the obstetric world to adopt fully the partographic principles so well demonstrated by Philpott who dramatically improved obstetric outcome with the use of the partograph. Second, there is continuing uncertainty about the best possible design of the partograph, illustrated by the variety of published partograph. Third is the lack of a specific management protocol accompanying the partograph. WHO, through the Safe Motherhood Initiative, organized the multicenter trial reported here using the WHO partograph can be accurately and correctly completed and used by medical and midwifery midwives, that it is of use in abnormal as well as apparently normal pregnancies and also that it is of use in management decisions in the latent phase of labour.

The partograph alone is unlikely to have an influence on the progress of labour unless a labour management protocol is introduced as well. The management guidelines described in the WHO manuals on the partograph are not at all detailed. It was recognized that the establishment of a labour management protocol needed to be included in the multicentre trial. However, hospitals in the trial would need to be already practising active management of labour so that the protocol in combination with the partograph merely influenced the timing of management decisions rather than introducing entirely new methods of management.

It would be impossible to randomly allocate individual women within one hospital to labour with or without a partograph as cross-contamination would be considerable. The design of the study therefore required the identification of matched pairs of similar hospitals with random allocation of one hospital to partographic usage. The principle involved the collection of baseline data from all participating hospitals with the subsequent introduction of the partograph to one member of each matched hospital pair. It was decided that all hospitals would ultimately

use the partograph using a phased implementation programme.

PROBLEM STATEMENT:

“A study to assess the effectiveness of information booklet regarding use of partograph among midwives working in labour room of selected hospitals of Bhopal.”

OBJECTIVES:

1. To assess the pre-existing knowledge on use of partograph among midwives.
2. To assess the effectiveness of information booklet.
3. To find out the association between mean pre-test and posttest knowledge score regarding knowledge on use of partograph with selected demographic variables.

HYPOTHESIS:

H1: - There will be a significant difference between pre-test knowledge score and post-test knowledge score regarding use of partograph.

H1₀: -There will be no significant difference between pre-test knowledge score and post-test knowledge score regarding use of partograph.

H2: - There will be significant association between the pre-test knowledge score with selected demographic variables

H2₀: - There will be no significant association between the pre-test knowledge score with selected demographic variables

OPERATIONAL DEFINITIONS:

KNOWLEDGE: In this study ‘knowledge’ refers to the correct response from the participants regarding use of partograph.

PARTOGRAPH: A partograph is a composite graphical record of key data (maternal and fetal) during labour entered against time on a single sheet of paper. Relevant measurements might include statistics such as cervical dilation, fetal heart rate, duration of labour and vital signs.

MIDWIVES: A midwife is a health professional who cares for mothers and fetus during childbirth, a specialization known as midwifery.

LABOUR ROOM: labour Room, also known as Childbirth and delivery room, is the room in which, ending of pregnancy where one or more babies leaves the uterus by passing through the birth canal.

INFORMATIONAL BOOKLET: In this study informational booklet is a self-contained and include the instructional material regarding use of partograph.

MATERIAL AND METHODS:

Research approach:

Quantitative evaluative approach

Research design:

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

Variables:

Independent Variable: *In the present study the independent variable is the information through information booklet regarding use of partograph.*

Dependent Variable: *In the present study the dependent variable refers to the knowledge of Midwives working in labour room of JP Hospital of Bhopal.*

Demographic Variables: *In this study demographic variable are Age, Health Professional qualification, working experience, pervious source of knowledge, when did you use of partograph studied in, attend workshop regarding partograph, of midwives working in labour of selected hospital of Bhopal.*

Research setting:

The study was conducted *in the JK hospital of Bhopal.*

Population: *In this study population consisted of Midwives working in labour room of JK hospital of Bhopal city, M.P. and who met the inclusion criteria of the study.*

Target Population-Midwives working in labour room of hospitals of M.P.

Accessible population - Midwives working in labour room of JK hospital of Bhopal

Sample:

Midwives working in labour room of selected hospital of Bhopal, M.P.

Sample size: 60 Midwives

Sample techniques:

Non-probability purposive sampling

Criteria for sample selection:

Inclusion criteria:

- The study includes only midwives.
- The study includes only midwives who have completed GNM, Post B.sc nursing or B.sc nursing.
- Only female midwives are included in the study.
- Those who are willing to participate in the study.
- Midwives present at the time of the study

Exclusion criteria:

- Those who are not willing to participate in the study.
- Those who have clinical experience less than 12 months.

- The midwives who are not available at the time of data collection.
- The studies exclude those who are not midwife.

Tool and method of data collection:

DEVELOPMENT OF TOOL

The self-structured knowledge questionnaire was prepared on the study to assess the effectiveness of information booklet on knowledge regarding partograph. It was based on literature extracted from journals, books, research report, personnel experience, peer group discussion and expert guidance.

DESCRIPTION OF THE TOOL

Structured questionnaire to assess the knowledge on use of partograph among midwives working in labour room of selected hospital Bhopal city. Total item was 25, with 25 total score. Arbitrary classification on knowledge score was done as excellent, average and poor. The tool for data collection consisted of the following two parts:

Section A: demographic data

Section B: Structured questionnaire

Section A: demographic data

The demographic data included the following: Age, Health Professional qualification, working experience, pervious source of knowledge, when did you use of partograph studied in, attend workshop regarding partograph, of midwives working in labour of selected hospital of Bhopal.

Section B: Structured questionnaire for assessing the knowledge of partograph-

This section of the tool consisted of 25 items related to content matter. A multiple-choice question required respondents to make a choice between more than three response alternatives. Every correct answer was awarded a score of one (1) and every wrong answer was assigned a zero (0) score. The maximum total score of knowledge questionnaire was 25 score was graded as follow:

SCORES	REMARKS
0-8	POOR
9-16	AVERAGE
17-25	GOOD

Development of information booklet-

The information booklet was developed stepwise according to the planned objectives. The information booklet for midwives, was developed by the investigator after reviewing the literature, seeking opinion of the experts and from personal experiences. The steps involved in the development of information booklet were:

1. Preparation of first draft of information booklet.
2. Content validation of information booklet.

3. Preparation of final draft of information booklet.

Reliability of tool: The reliability coefficient was used to determine the effectiveness of information booklet on knowledge regarding partograph between pre-test and post-test found to be 0.82. However, the value of reliability coefficient found to be statistically highly significant (p=0.004).

Data collection procedure:-

- In order to conduct the research study at hospital of Bhopal, a written permission was obtained from the hospital of Bhopal.
- The data collection period extended from 01/08/2020 to 17/08/2021.
- Before the pre-test the purpose of the study was explained and the confidentiality was assured to sample.
- Consent was obtained from midwives regarding participation in the study.
- The posttest was done 7 days after the pre –test.
- 60 samples were taken from JK hospital of Bhopal city.
- All respondents co-operated well with the investigator during data collection period. Information booklet they found easy and smooth understandable by self, the data collection process was terminated after thanking the respondents for their cooperation and patience. The data collected and compiled for data analysis.

Ethical consideration:

After approval of the research committee in the R D Memorial College of Nursing Bhopal. A formal permission got from the Institute of general medicine to conduct the study in the post-natal ward and ethical clearance from the selected hospital committee members Bhopal. Confidentiality was assured to the sample and written consent obtained from each sample. The sample was ensuring they have rights to withdraw from the study if they found any difficulties during the intervention.

Plan for data analysis:

The plan for data analysis includes-

- Demographic data was planned to analyze in terms of frequency and percentage.
- The knowledge scores of the midwives before and after administration of information booklet was planned to analyze in terms of frequency, percentage, mean, median, standard deviation and in the form of pie and bar diagrams and Graphs.

Chi-square test was planned to find out the association of the pre-test knowledge scores regarding self-care management with selected demographic variables data.

RESULTS:**Table 1: - frequency and percentage distribution of Socio- demographic variable of midwives of selected hospitals of Bhopal.**

N=60

S.NO.	Demographic Variables	Frequency	Percentage %
Age of Midwife			
1	20-25 year	32	53.33%
	25-30 year	18	30.00%
	30-35 year	7	11.66%
	≥ 35 year	3	5.00%
Health professional Qualification			
2	General Nursing Midwifery	31	51.66%
	Post B. Sc. Nursing	15	25.00%
	B. Sc. Nursing	14	23.33%
Working experience			
3	<1 Year	45	75.00%
	1-3 Year	4	6.66%
	3-5 Year	10	17.00%
	≥ 5 Year	1	1.66%
Source of previous knowledge			
4	During course	12	20.00%
	In-service education programme	32	53.33%
	Conference or workshop or Seminar	16	26.66%
Use of partograph study			
5	General Nursing Midwifery	3	5.00%
	Post B. Sc. Nursing	12	20.00%
	B. Sc. Nursing	3	5.00%
	Job Training	42	70.00%
Attending workshop regarding use of partograph			
6	Yes	28	46.66%
	No	32	53.33%

Table 1: Described about the frequency, percentage distribution of socio demographic variable. Distribution of the subject by age revealed that majority (53.33%) of them belongs to 20-25 years, (30%) of the midwives were belongs to 25-30 years, (11.66%) of midwives were belongs to 30-35year and (5%) of the midwives were belongs higher age group of more than or equal to 35 years. With regards to the working experience of most (75%) of the midwives were more frequently <1 year. With regards to the source of previous knowledge of (53.33%) of population of midwives about partograph was more frequently In-service education programme, (26.66%) midwives about partograph found to be in Conference or workshop or Seminar about partograph that only (20.00%) midwives acquired previous knowledge from during course. According to the use of partograph studied in (70.0%) of midwives about partograph use in Job training, (20%) of midwives about partograph was studied in post B.sc. Nursing, use of partograph studied in (5%) of population of midwives about partograph was studied in B.Sc Nursing and this was reported that few (5%) midwives studied about use of partograph in General Nursing Midwifery. With regards to the attending workshop regarding use of partograph by midwives of selected hospital indicated that 16 (53.33%) midwives of not attend workshop regarding use of partograph, (46.66%) midwives of attend workshop regarding use of partograph.

Table No: 2- Frequency and percentage wise distribution of partograph based on pre- test level of knowledge score on of midwives of selected hospitals of Bhopal.

N= 60

S.NO.	Category	Range	Frequency	Percentage	Mean	Mean %	SD
1	Good	20-30	4	6.66%	14.75	49.16%	2.84411
2	Average	10-19	53	88.33%			
3	Poor	0-9	3	5%			

The table 2: shows the frequency and percentage wise distribution of pre- test level of knowledge of midwives regarding partograph. The level of knowledge was seen in to 3 categories, such as poor, average and good knowledge. In pre-test majority **88.33%** of the midwives had average knowledge where as **6.66%** of them had good knowledge, **5.0%** of them had poor knowledge regarding partograph. The pre- tests mean score **14.75**, SD was **2.84411** and mean percentages **49.16%**.

Table 3: - Frequency and percentage wise distribution of post- test knowledge score of midwives regarding partograph at selected hospital, Bhopal (M.P.)

N= 60

S.NO.	Category	Range	Frequency	Percentage	Mean	Mean %	SD
1	Good	20-30	23	38.33%	18.4	61.33%	2.71967
2	Average	10-19	37	61.66%			
3	Poor	0-9	0	0%			

Table 3- shows the frequency and percentage wise distribution of post- test level of knowledge of midwives regarding partograph in selected hospital Bhopal (M.P.). The level of knowledge was seen in to 3 categories, such as poor, average and good knowledge. In post-test majority **61.66%** of the midwives had average knowledge whereas **38.33%** of them had good knowledge, **0%** of them had poor knowledge regarding partograph. The post-test mean score **18.4**, SD was **2.71967** and mean percentages **61.33%**.

COMPARISON OF PRE-TEST MEAN SCORE & POST- TEST MEAN KNOWLEDGE SCORE

Table 4- Comparison of mean pre- test and post- test knowledge score of midwives of selected hospital regarding partograph.

N=60

Level of Knowledge	Range of score	PRE –TEST			POST –TEST		
		Mean	Mean %	SD	Mean	Mean %	SD
Good	20-30	14.75	49.16%	2.84411	18.4	61.33%	2.71967
Average	10-19						
Poor	0-9						

Table 4- Indicate overall pre-test & post- test mean knowledge score of midwives regarding partograph. The mean post- test score **18.4** more than mean pre- test score **14.75** And SD pre- test is **2.84411** more than post- test SD **2.71967**. And mean percentage post- test score **61.33%** more than mean pre- test score **49.16%**.

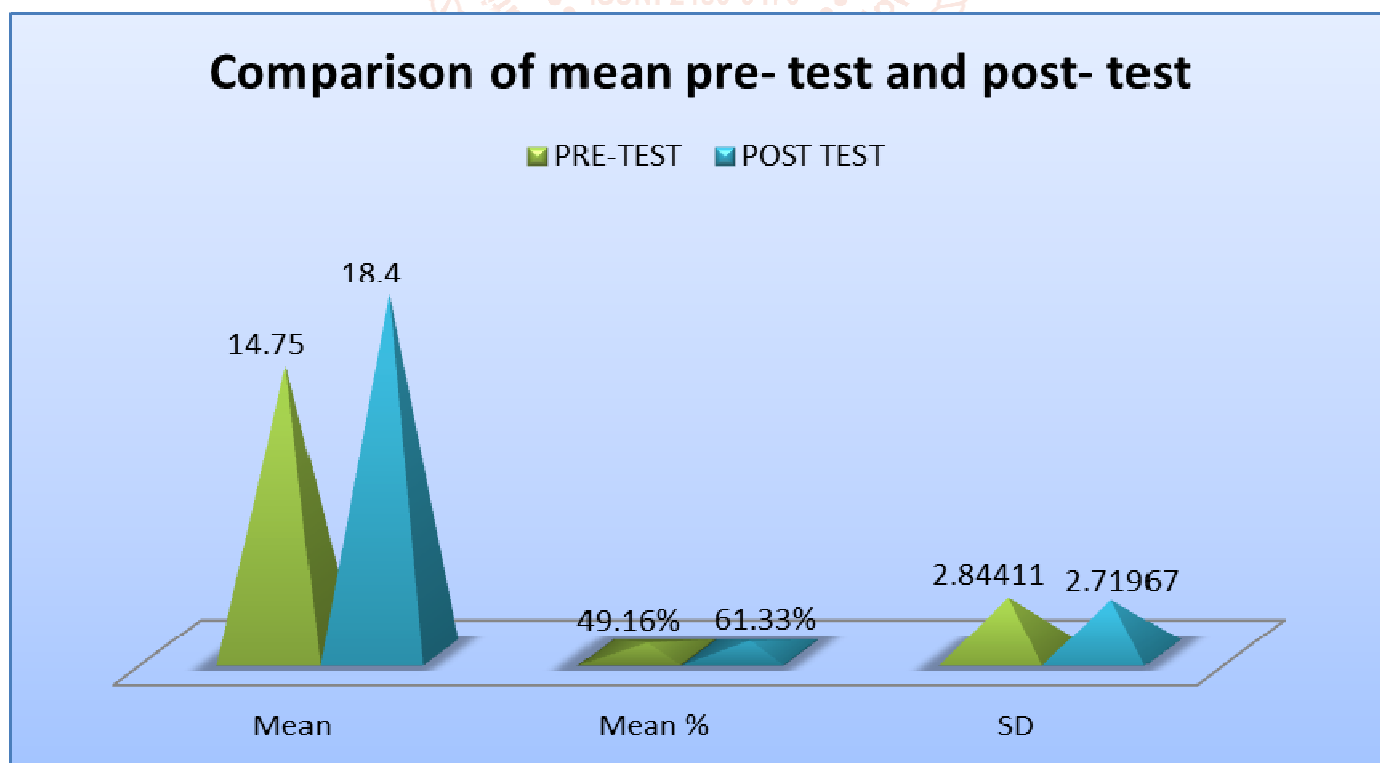


Figure- Bar diagram shows Percentage wise distribution of comparison of pre- and post- test knowledge score of midwives regarding partograph.

EFFECTIVENESS OF INFORMATION BOOKLET IN TERMS OF GAIN IN KNOWLEDGE SCORES OF PARTOGRAPH.

Table No: 5 Description of Mean, Mean%, SD of Pre and post -Test Knowledge Scores on partograph
N= 60

S.NO.	Description	Mean	Mean %	SD	t-test	DF	P-value
1	Pre-test knowledge	14.75	49.16%	2.84411	12.75	59	0.05 (2.18)
2	Post-test knowledge	18.4	61.33%	2.71967			

P < 0.05* P < 0.01** N= 40 **P<0.05* S*= Significant

Table No: 5- Indicated overall pre- test & post- test mean knowledge scores on partograph. Depicted mean post-test score **18.4** is higher than mean pre- test score of **14.75**. The actual gain knowledge score is **3.65 %** and pre-test SD =**2.84411** is more than post SD=**2.71967** and computed paired t-test (**12.75**) (**p= 2.18**) at the level of <0.05. Thus, data showed higher than the tabled value t-test (= **2.18**) at the level of <0.05 thus indicated significant difference and effectiveness of information booklet, in increasing the knowledge of midwives regarding partograph. **H₁ is accepted.**

ASSOCIATION BETWEEN PRE-TEST KNOWLEDGE SCORE AND SELECTED SOCIO-DEMOGRAPHIC VARIABLES

Table No. 6- The association of knowledge of partograph of midwives before administration with selected demographic variables

N=60

S. No	Category	Knowledge level				DF	Chi square value	Chi value p>0.05	Inferences
		Good	Average	Poor	Total				
Age of Midwife									
1	20-25 year	1	31	0	32	6	43.669	0.05(12.59)	S
	25-30 year	0	18	0	18				
	30-35 year	3	1	3	7				
	≥ 35 year	0	3	0	3				
Health professional Qualification									
2	General Nursing Midwifery	0	31	0	31	4	26.0865	0.05(9.49)	S
	Post B. Sc. Nursing	0	15	0	15				
	B. Sc. Nursing	4	7	3	14				
Working experience									
3	<1 Year	0	45	0	45	6	55.465	0.05(12.59)	S
	1-3 Year	0	4	0	4				
	3-5 Year	4	4	2	10				
	≥ 5 Year	0	0	1	1				
Source of previous knowledge									
4	During course	2	10	0	12	4	7.583	0.05(9.49)	NS
	In-service education programme	2	27	3	32				
	Conference or workshop or Seminar	0	16	0	16				
Use of patograph study									
5	General Nursing Midwifery	0	42	0	3	6	9.262	0.05(12.59)	NS
	Post B. Sc. Nursing	1	11	0	12				
	B. Sc. Nursing	3	0	0	3				
	Job Training	0	0	3	42				
Attending workshop regarding use of partograph									
6	Yes	4	42	0	28	2	11.021	0.05(5.99)	S
	No	0	29	3	32				

DF: - 2=5.99, 4=9.49, 6=12.59, NS= Not significant, S*= Significant

Table 6- Chi- Square test analysis to find out the significant association of pre- test knowledge score with Socio-demographic variables like Age of Midwife as the ($\chi^2= 43.6697$ and table value **12.59**) Health professional Qualification as the ($\chi^2= 26.0855$ and table value **9.49**) Working experience as the ($\chi^2= 55.4569$ and table value **12.59**), Attending workshop regarding use of partograph as the ($\chi^2= 11.021$ and table value **5.99**).

Chi- Square test analysis to find out the non-significant association of pre- test knowledge score with Socio-demographic variables like, Source of previous knowledge ($\chi^2= 7.5832$ and table value **9.49**), Use of partograph study as the ($\chi^2= 9.2621$ and table value **12.59**).

Hence it can be interpreted that percentage knowledge score related to socio- demographic variables where only by chance and not true difference and hence **H₂ research hypothesis was not accepted.**

DISCUSSION:

MAJOR FINDINGS OF THE STUDY

- The major finding was reported that 32 (53.33%) of the population of midwives were more frequently belonged to the lower age group of 20-25 years.
- Most of the midwives (44, 73.33%) were more frequently completed their general nursing midwifery course.
- Indicated that the experience of most (45, 75.00%) of the midwives were more frequently <1 year.
- The source of previous knowledge (32, 53.33%) of population of midwives about partograph was more frequently In-service education programme.
- The use of partograph studied in (42, 70.0%) of population of midwives about partograph was more frequently studied in Post B.Sc Nursing.
- Analysis about Attending workshop regarding use of partograph by midwives of selected hospital indicated that (32, 53.33%) midwives of selected hospital was not attend workshop regarding use of partograph.
- Overall pre- test & post- test mean knowledge scores on partograph. Depicted mean post- test score **18.4** is higher than mean pre- test score of **14.75**. The actual gain knowledge score is **3.65 %** and pre- test SD =**2.84411** is more than post SD=**2.71967** and computed paired t-test (**12.75**) (**p= 2.18**) at the level of <0.05. Thus data showed higher than the tabled value t-test (= **2.18**) at the level of <0.05 thus indicated significant difference and effectiveness of information booklet, in increasing the knowledge of midwives regarding partograph. **Hence H₁ is accepted.**
- Chi- Square test analysis to find out the significant association of pre- test knowledge score with Socio- demographic variables like Age of Midwife, Health professional Qualification, Working experience , Attending workshop regarding use of partograph.

Conclusion: The present study attempted to find out the effectiveness of self-instructional module on knowledge regarding partograph among midwives based on the analysis and interpretation of the data, effectiveness of information booklet, in increasing the knowledge of midwives regarding partograph.

Recommendations:

- A similar study can be replicated on large samples. There by findings can be generalized for a large population.
- A similar study can be repeated with experimental and control group for more generalized findings.
- A study can be done using different teaching technique to educate the midwives.
- A similar study can be replicated on the other Infectious disorder.

Conflict of interest: No

Financial support: Self

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