

**“A STUDY TO EVALUATE THE EFFECTIVENESS OF
SELF-INSTRUCTIONAL MODULE ON PARTOGRAPH IN TERMS OF
KNOWLEDGE AMONG THE STAFF NURSES WORKING IN SELECTED
MATERNITY HOSPITALS AT ERODE”**

By

R. MANOHARI

Dissertation Submitted to

THE TAMILNADU DR M.G.R. MEDICAL UNIVERSITY,

Chennai, Tamilnadu



In partial fulfillment

of the requirements for the degree of

Master of Science

in

Obstetrics and Gynecological Nursing

Dharmarathnakara Dr.Mahalingam Institute of

Paramedical Sciences & Research

Sakthi Nagar, Bhavani, Erode

March 2010

**“A STUDY TO EVALUATE THE EFFECTIVENESS OF SELF-INSTRUCTIONAL
MODULE ON PARTOGRAPH IN TERMS OF KNOWLEDGE AMONG THE STAFF
NURSES WORKING IN SELECTED MATERNITY HOSPITALS AT ERODE”**

Approved by DMIPSR College Research Committee

Principal : -----
Prof. R. Vasanthi, M.Sc (Nursing)
Professor in Pediatric Nursing,
Principal, DMIPSR College of Nursing,
Sakthi Nagar, Bhavani, Erode – 638315.

Research Guide : -----
Prof. R. Piramila, M.Sc (Nursing)
Professor in Obstetrics and Gynecological Nursing,
DMIPSR College of Nursing,
Sakthi Nagar, Bhavani, Erode- 638315.

Medical Guide : -----
Dr.Ambika Rajamanickam, MBBS, MD, DGO
Reg.No: 45843
PGR Hospital, Bhavani, Erode District.

A Dissertation submitted to
The Tamilnadu Dr. M.G.R. Medical University, Chennai
In partial fulfillment of the requirement for
Degree of Master of Science in Nursing

VIVA VOCE :

1. INTERNAL EXAMINER: -----

2. EXTERNAL EXAMINER: -----

MARCH – 2010

ENDORSEMENT BY THE RESEARCH GUIDE

This is to certify that the dissertation entitled “A study to evaluate the effectiveness of self-instructional module on partograph in terms of knowledge among the staff nurses working in selected maternity hospitals at Erode” is a bonafide research work done by **R. Manohari** in partial fulfillment of the requirement for the degree of **Master of Science in Obstetrics and Gynecological Nursing**.

Date: 06. 01. 2010

Signature of the Research Guide

Place: Sakthi Nagar

Prof. R. Piramila, M.Sc (Nursing)

Department of Obstetrics and Gynecological Nursing

DMIPSR College Of Nursing, Sakthi Nagar,

Bhavani, Erode District.

ENDORSEMENT BY THE PRINCIPAL/HEAD OF THE
INSTITUTION

This is to certify that the dissertation entitled “A study to evaluate the effectiveness of self-instructional module on partograph in terms of knowledge among the staff nurses working in selected maternity hospitals at Erode” is a bonafide research work done by **R. Manohari** under the guidance of **Prof. R. Piramila, Department of Obstetrics and Gynecological Nursing.**

Date: 06.01.2010

Place: Sakthi Nagar

Seal & Signature of the Principal

Prof. R.Vasanthi, M.Sc (Nursing)

ACKNOWLEDGEMENT

“Success is 1% inspiration & 99 % perspiration”

- Thomas Alwa Edison

“God conceals himself from the mind of man, but reveals himself to his heart.”

--African Proverb

“Lord said my grace is sufficient for you, for my strength is made perfect in weakness.” I express my deep sense of gratitude to the Lord Almighty for the blessings and mercy which enabled me to reach up to this step and complete my study.

“One can pay back the loan of gold, but one dies forever in debt to those who are kind.”

- Malayan Proverb

The success of this study comes through the valuable help, guidance and contributions of **The Principal, Vice- Principal, Lecturers, Assistant Lecturers, Official Staff and other well wishers**. The investigator recalls their kindness with a grateful heart & is trying to express these gracious sentiments in a few words flowing from within.

I am immensely thankful to **Sri Sri Sri Balangadharanatha Mahaswamiji, Trustee Sri Adichunchunagiri Shikshana Trust and Dr. N. Mahalingam, Chairman, Sakthi Group of Companies**, for giving me an opportunity to undertake the course at Dr Mahalingam Institute of Paramedical Sciences & Research Sakthi Nagar.

I express my sincere thanks to **Sri. B. T. Ramachandra, Correspondent, Dharmarathnakara Dr Mahalingam Institute of Paramedical Sciences and Research**, for awarding me opportunity to facilitate this course in their institution.

“A good teacher is like a candle - it consumes itself to light the way for others.”

– **Anonymous.**

“He, who opens a school door, closes a prison.”

–**Victor Hugo**

I express my profound gratitude and appreciation to **Prof. Mrs. R. Vasanthi, M.Sc(N), Principal** and Head of the department of Child Health Nursing, DMIPSR., Sakthi Nagar, Bhavani, Erode for her expert guidance & valuable suggestions which have laid the foundation stone for building up the present study,

I extend my sincere thanks to **Asst. Prof. Mr. M.Anand, M.Sc (N), Vice-Principal**, DMIPSR College of Nursing Sakthi Nagar, Bhavani, Erode for his constant encouragement, patience and motivating attitude that have always been a source of inspiration.

It gives me great pleasure to thank **Prof. R. Piramila, M.Sc. (N)**, Department of Obstetrics and Gynecological Nursing, DMIPSR for her inspiring guidance, suggestions, timely help, constant encouragement and cooperation for completion of this study.

I express my sincere thanks to **Mrs.M.Janaki**, Lecturer in OBG, for her enthusiastic support & advice in preparing the manuscript.

My heartfelt thanks to **Mrs. Gnana dhinagari**, Lecturer in Medical Surgical Nursing, **Mrs. Deepa**, Lecturer in Community Health Nursing, **Mrs. Hemalatha**, Lecturer in Child Health Nursing, **Ms.Deepa**, Lecturer in Mental Health Nursing for their guidance & constant motivation throughout the study.

I also accord my respect and gratitude to the **faculties** of Dr. Mahalingam Institute of Paramedical Sciences & research for their timely assistance, co-operation and support throughout the period.

I extend my deepest gratitude to all the experts **Dr. Ambika Rajamanickam**, Consultant Obstetrician and Gynecologist, PGR Hospital, Bhavani, **Prof. Mrs. Gokilavani**, HOD of OBG dept, Vivekananda CON, **Mrs.Thilagavathy**, Lecturer in OBG dept, Shanmuga CON, **Prof. Mrs. Amudha**, HOD of OBG dept, Gokulam CON, **Prof. Mrs. Renuka**, HOD of OBG dept, KMCH CON, for their valuable judgements, constructive criticism, recommendations and suggestions while validating the data collection tool & the self- instructional module on Partograph.

My sincere gratitude to **Dr. E.S.Usha**, Consultant Obstetrician & Gynaecologist, Lotus hospital, Erode, **Dr. Sreemathi Murugesan**, Obstetrician & Gynaecologist, Sreemathi Murugesan Hospital, Erode and **Dr. Ambika Rajamanickam**, Consultant Obstetrician And Gynecologist, PGR Hospital, **Bhavani** for granting me permission and enthusiastic support to conduct the study in their hospitals.

Grateful acknowledgement is extended to Mr.Dhanapal, HOD of **Statistics dept., Erode** for his valuable help in statistical analysis of the study.

I extend my heartfelt thanks to **Mrs. T. S. Sumithra devi**, M.A, M. PHIL, Lecturer in English, who edited the study & made it a meaningful one.

“Parents are the bones on which children sharpen their teeth.”

- **Peter Ustinov**

*“My father always told me, find a job you love and
you’ll never have to work a day in your life.”*

- **Jim fox**

“God could not be everywhere and therefore he made Mother,

M - Million Things She Gave Me

O - Only That She’s Growing Old

T - Tears She Shed To Love Me

H - Heart Of Purest Gold

E - Eyes, With Love- Light Shining

R - Right, And Right She’ll Always Be.

- **Anonymous.**

I am proud to acknowledge the love, support & prayers of my lovable parents **Mr. Ramalingam & Mrs. Vijayalakshmi** in every phase of the study.

Words are beyond expression to the sincere prayer & faith of my beloved husband. **Mr. Thamarai selvan**, for nurturing my cherished dreams into a reality through his continuous challenging encouragement, moral & financial support.

I extend my thanks to my **sisters Mrs. Hemamalini, Mrs. Ushanandini, Mrs. Surya, & the kids Keshav, Karunya, Prasanna, Nethra, Thirumalai, Thulasi & my Parents- in- law Mr.Selvan & Mrs. Thamarai selvi** for their support and encouragement.

I am truly grateful to all the **Participants** who formed the core and basis of

this study for their wholehearted contribution and co-operation.

I thank **Sri Vijayalakshmi Computers (Mr. Madhesh & Mrs. Pavithra)** for their assistance in carrying out the computer work.

A word of appreciation to the **Librarian, Mr. Kumar**, for his sincere help and assistance during the study.

Lastly, I am grateful to all who have directly or indirectly helped me in completion of this study.

TABLE OF CONTENTS

SL. NO.	CHAPTER	PAGE NO.
I	INTRODUCTION	1
II	REVIEW OF LITERATURE	21
III	METHODOLOGY	46
IV	DATA ANALYSIS AND INTERPRETATION	59
V	DISCUSSION	78
VI	SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS	82
VII	BIBLIOGRAPHY	92
VIII	ANNEXURE	98

LIST OF TABLES

NO.	TABLES	PAGE NO.
1.1	Knowledge, Attitude and Practice of the use of Partograph: - (UMEZULIKE ET AL.).	4
3.1	Plan for data analysis.	57
4.1.1	Frequency and percentage distribution of the staff nurses according to the selected demographic variables.	61
4.1.2	Frequency and percentage distribution of the staff nurses according to their age.	62
4.1.3	Frequency and percentage distribution of the staff nurses according to their educational qualification.	63
4.1.4	Frequency and percentage distribution of the staff nurses according to their years of experience.	64
4.1.5	Frequency and percentage distribution of the staff nurses according to their exposure to in- service education on partograph.	65
4.2.1	Assessment of the percentage of pretest knowledge of the staff nurses on different aspects of partograph.	66
4.2.2	Assessment of the percentage of posttest knowledge of the staff nurses on different aspects of partograph.	67
4.3.1	Level of knowledge of the staff nurses regarding partograph in the pretest.	68
4.3.2	Level of knowledge of the staff nurses regarding partograph in the posttest.	69
4.4.1	Comparison of mean scores between pretest and posttest on knowledge regarding partograph (component wise).	70
4.4.2	Comparison of mean scores between pretest and posttest on knowledge regarding partograph (overall).	72
4.5.1	Association between pretest knowledge score and demographic variables of staff nurses.	74

LIST OF FIGURES

SL. NO.	FIGURES	PAGE NO.
1.1	Traditional partograph.	6
1.2	WHO modified partograph.	7
1.3	Diagram revealing the importance of partograph in identifying different types of prolonged labour.	8
1.4	Partograph maintained in an eclamptic client.	9
1.5	Partograph indicating termination of pregnancy	10
1.6	Incompletely filled partograph	14
2.1	The partograph.	26
2.2	Conceptual framework of the study- Application of King's goal attainment theory to the current study.	45
3.1	Schematic representation of the research design of the study.	58
4.1.1	Bar diagram showing age of staff nurses.	62
4.1.2	Cylindrical diagram showing educational qualification of staff nurses.	63
4.1.3	Pyramidal diagram showing years of experience of staff nurses.	64
4.1.4	Pie diagram showing exposure of staff nurses to in-service education on partograph.	65
4.2.1	Pyramidal diagram showing pretest percentage of knowledge score.	66
4.2.2	Conical diagram showing posttest percentage of knowledge Score.	67
4.3.1	Cylindrical diagram showing percentage of pretest knowledge level on partograph.	68
4.3.2	Conical diagram showing percentage of posttest knowledge level on partograph.	69
4.4.1	Line diagram comparing the mean scores of the components in the pretest and the posttest.	70

4.4.2	Bar diagram depicting mean knowledge scores in the pretest and the posttest.	72
4.5.1	Cylindrical diagram depicting association between educational qualification and pretest level of knowledge.	75
4.5.2	Conical diagram depicting association between years of experience and their level of knowledge.	76
4.5.3	Pyramidal diagram depicting association between in-service education and their level of knowledge.	77

LIST OF ANNEXURE

S. NO	CONTENTS
1	Letter seeking and granting permission to conduct Pilot Study
2	Letter seeking permission to conduct Main Study
3	Letter granting permission to conduct Main Study
4	Letter seeking expert opinion on validity of the tool
5	Content Validity certificate by Medical guide
6	Content Validity certificate by Nursing guides
7	List of Experts
8	Data collection tool
9	Self- instructional module on Partograph
10	Photographs taken during the study

LIST OF ABBREVIATIONS

(Alphabetical order)

DMIPSR	Dharmarathnakara Dr.Mahalingam Institute of Paramedical Sciences & Research
et al.	And others
Fig	Figure
H ₀	Null Hypothesis
H ₁	Research Hypothesis 1
H ₂	Research Hypothesis 2
HOD	Head of the Department
SIM	Self- instructional module
LOS	Level Of Significance
M.Sc.,(N)	Master of Science (Nursing)
n	Total number of samples
No.	Number
p	Probability
r	Reliability
Prof.	Professor
S.D	Standard Deviation
Sig	Significant
WHO	World Health Organization
χ^2	Chi-Square Test
%	Percentage

ABSTRACT

INTRODUCTION

Ganesh Dangal MBBS MD, in the “Internet Journal of Gynecology and Obstetrics”, (2007), quotes that, “The partograph, a sigmoid curve, is a tool that can be used to assess the progress of labour and to identify when intervention is necessary. It is a graphical record of cervical dilatation in centimeters against duration of labour in hours. Studies have shown that using the partograph can be highly effective in reducing complications from prolonged labour for the mother (postpartum hemorrhage, sepsis, uterine rupture, Etc.) and for the newborn (death, anoxia, infections. etc.) ”.

STATEMENT OF THE PROBLEM

“A STUDY TO EVALUATE THE EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE ON PARTOGRAPH IN TERMS OF KNOWLEDGE AMONG THE STAFF NURSES WORKING IN SELECTED MATERNITY HOSPITALS AT ERODE”

OBJECTIVES OF THE STUDY:

1. To assess the knowledge of staff nurses on Partograph before & after self-instructional module.
2. To compare mean pretest & mean post test knowledge scores on partograph among the samples.
3. To implement & evaluate the effectiveness of self- instructional module on Partograph among the staff nurses.
4. To find association between pretest level of knowledge on partograph among samples with selected demographic variables.

METHODOLOGY

The research approach used for this study was quantitative approach and the research design was quasi- experimental design. 60 staff nurses were selected for this study by using purposive sampling technique. Data was collected with the help of Self- administered questionnaire on partograph. Descriptive statistics (frequency, percentage, mean and standard deviation) and inferential statistics (chi – square, paired “t” test) were used to analyze the data and to test hypothesis.

RESULTS

- ❖ Most of the samples (25%) were in the age group 21-25 years, 31.67% had completed B.Sc (N), 66.66% of samples were equally divided in the categories < 5 years and 11-15 years, 56.67% of them had not attended in- service programme on partograph.
- ❖ In the pretest on partograph, 33.3% of the staff nurses had inadequate knowledge, 60% of them had moderately adequate knowledge and 6.7% of them had adequate knowledge.
- ❖ In the posttest on partograph, 0% of the staff nurses had inadequate knowledge, 23.3% of them had moderately adequate knowledge and 76.7% of them had adequate knowledge.
- ❖ The difference between the overall pretest and posttest mean scores was 9.45, which revealed the effectiveness of the self- instructional module on partograph. Hence there was a significant increase in knowledge of the staff nurses regarding partograph after their exposure to the self- instructional module on partograph.

- ❖ There was significant association between the pretest knowledge of the staff nurses with the demographic variables namely educational qualification, years of experience and exposure to in- service education. There was no significant association between the pretest knowledge of the staff nurses with the demographic variable “age”.

CONCLUSION:

The study is based on the fact that “improving the professional competencies of the staff nurses by educating them about the current innovations is very essential”. This study could be considered as a part of continuing professional development of the staff nurses. Self- instructional module on partograph served that purpose and was effective in increasing the knowledge of staff nurses.

Key words:

Staff nurses, knowledge, self- instructional module, partograph, maternity hospitals, professional competencies.

CHAPTER I

INTRODUCTION

“A KNOT IN TIME SAVES NINE”

-JS Dohbit, Geneva, 2006.

“WOMEN’S HEALTH IS THE EFFECT OF GENDER ON DISEASE AND HEALTH THAT ENCOMPASSES A BROAD RANGE OF BIOLOGICAL AND PSYCHOSOCIAL ISSUES”.

-The Second National Conference of the Society of Midwives, 2003.

The WHO Maternal and Child Health and Family Planning Programme, Geneva, 1989, states that the tragedies of obstructed labour and rupture of the uterus comprise one of the five major causes of maternal mortality and morbidity in developing countries.

The number of maternal deaths due to rupture of the uterus and/or obstructed labour varies between 4% and 70% of all maternal deaths , amounting to a maternal mortality rate of as high as 410 / 1,00,00 live births. In addition, significant maternal morbidity is associated with prolonged labour, post-partum haemorrhage and infection both being more common than among women with short labours.

The major constraint to the prevention of prolonged and obstructed labour is the accurate and early recognition of possible cephalo-pelvic disproportion (CPD)

either before or during labour. Particularly in the developing world, all labours should be considered a trial of labour, as cephalo-pelvic disproportion is the most common reason for intervention in the course of labour. In many societies, in the majority of primigravidas the fetal head is not engaged at the onset of labour even though the pelvis is adequate. For this reason, all labours should be monitored closely in order to identify delay at an early stage. **The partograph acts as an “early warning system” in the early detection of CPD and may be used to assist:-**

- ❖ **Referral decision in rural maternity centers.**
- ❖ **Intervention decisions in hospitals.**
- ❖ **Ongoing evaluation of the effect of interventions.**

Ganesh Dangal MBBS MD, The Internet Journal of Gynecology and Obstetrics, (2007), stated that, “The partograph, a sigmoid curve, is a tool that can be used to assess the progress of labour and to identify when intervention is necessary. It is a graphical record of cervical dilatation in centimeters against duration of labour in hours. Studies have shown that using the partograph can be highly effective in reducing complications from prolonged labour for the mother (postpartum hemorrhage, sepsis, uterine rupture, Etc.) and for the newborn (death, anoxia, infections. etc)”.

KAP study of the labour partograph in Yaoundé- Cameroon., Dr. Julius Sama Dohbit, Geneva, (2006), stated that,

- ❖ “Maternal mortality rate is high in Cameroon, 480 per 100,000 live births”- (Leke 2004).

- ❖ “Midwife’s advice will prevent the delay of referral and hence prevents maternal death”-(Mohammed et. al.2005).
- ❖ “Partograph identifies women in need of an obstetric intervention” - (Bosse et. al. 2002).

This study was conducted by **J S DOHBIT, (2006)**, to evaluate the knowledge, attitude and practice of the labour partograph among birth attendants of the primary and secondary care level hospitals of Yaounde- Cameroon.

The assumptions of JS DOHBIT 2006 were:

Birth attendants show,

- ❖ Very little knowledge of the partograph.
- ❖ Very low rate of implementation.
- ❖ Poor attitude towards the partograph.

Table.1.1. Knowledge, Attitude and Practice of the use of partograph among respondents: - (UMEZULIKE ET AL.)

QUESTIONS	DOCTORS n= 200		MIDVIVES n=220	
	Number	%	Number	%
Have you heard of the partograph?				
Yes	190	95	184	83.6
No	10	5	15	6.8
No answer	-	-	21	9.6
Is the partograph useful?				
Yes	185	92.5	209	95

No	8	4	11	5
No answer	7	3.5	-	-
Correct definition of partograph.				
Yes	114	57	55	25
No	80	40	163	74.1
No answer	6	3	2	0.9
The partograph is used to prevent prolonged labour.				
Yes	58	29	102	46.4
Do you routinely use the partograph?				
Yes	50	25	53	24.1
No	150	75	167	75.9
Why is it not used routinely?	n1 =150	%	n2 = 167	
Little or no knowledge of it.	-	-	40	24
Partograph not available.	93	62	89	53.3
Others	57	38	38	22.3
Do you desire training in the use of partograph?	D (n=200)	%	N (n=200)	%
Yes	93	46.5	194	88.2
No	85	42.5	20	9.1
No answer	22	11	6	2.7

J S Dohbit, (2006), concluded, stating that the situation needs to be improved upon and the birth attendants need to act fast. He stated, “The office work is enough; let us descend to the field.”

Fahdhy M, Chongsuvivatwong V, Indonesia, (2005), evaluated the implementation of the WHO Partograph by midwives in maternity home birth at Medan, Indonesia. Under supervision from a team of obstetricians, the midwives were introduced to the WHO Partograph, trained in its use and instructed to use it in subsequent labours. Introducing the Partograph significantly increased referral rate,

and reduced the number of vaginal examinations, oxytocin use and obstructed labour. They concluded that the WHO Partograph should be promoted for use by midwives who care for laboring women in a maternity home.

The **WHO partograph** has been modified to make it simpler and easier to use. The latent phase has been removed and plotting on the Partograph begins in the active phase when the cervix is 4 cm dilated. The difference between **the traditional partograph & the modified WHO partograph** is shown in the following figures, with the modified WHO partograph starting with active phase of labour.

Fig. 1.1.Traditional Partograph

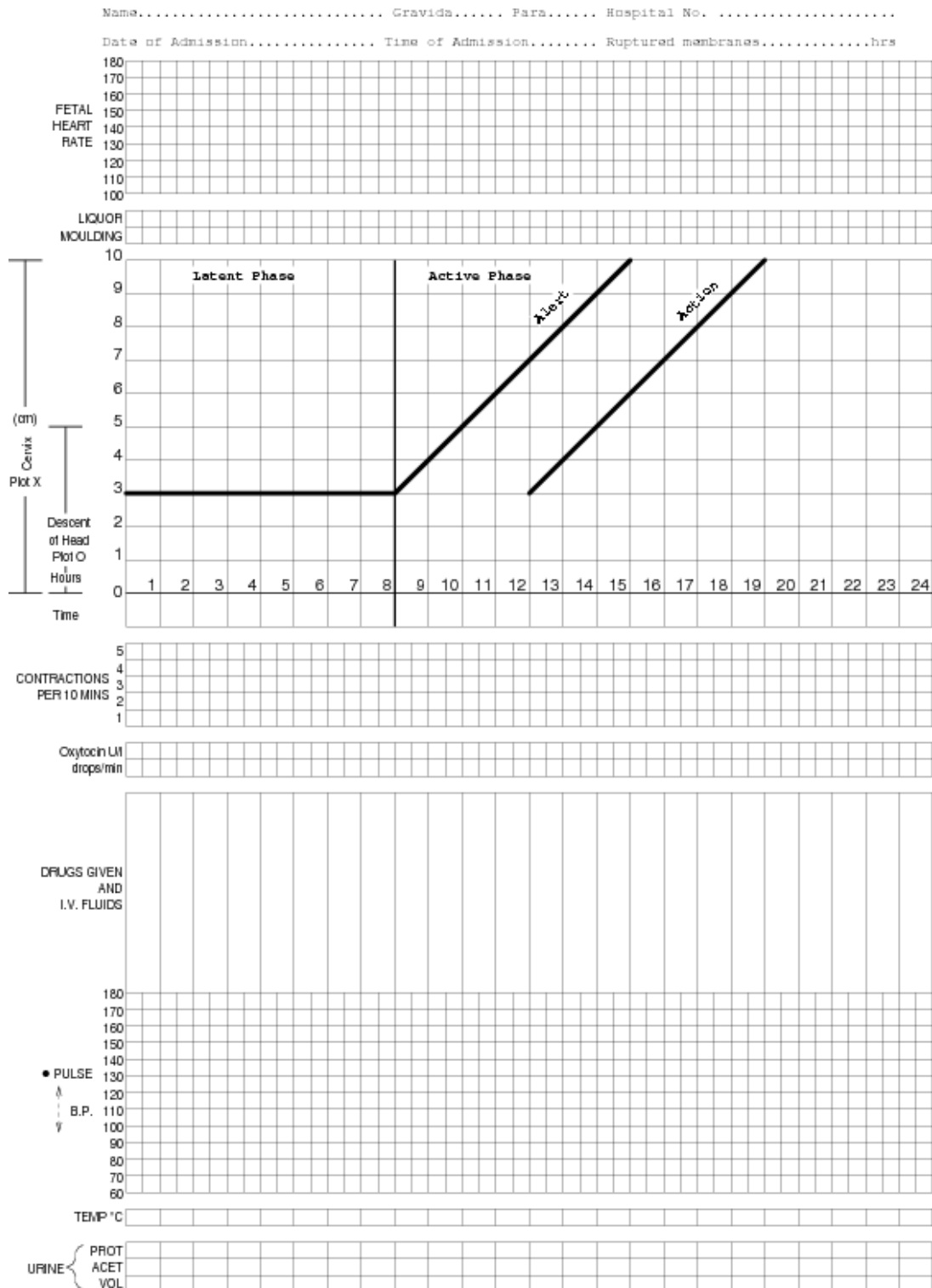


Fig.1.2: WHO Modified Partograph

Name	Gravida	Para	Hospital number									
Date of admission	Time of admission	Ruptured membranes	hour									
Fetal heart rate	200											
	190											
	180											
	170											
	160											
	150											
	140											
	130											
	120											
	110											
100												
90												
80												
Amniotic fluid Moulding												
Cervix (cm) [Plot X] Descent of head [Plot O]	10											
	9											
	8											
	7											
	6											
	5											
	4											
	3											
	2											
	1											
0												
Hours	1	2	3	4	5	6	7	8	9	10	11	12
Time												
Contractions per 10 mins	5											
	4											
	3											
	2											
	1											
Oxytocin U/L drops / min												
Drugs given and IV fluids												
Pulse * and BP	180											
	170											
	160											
	150											
	140											
	130											
	120											
	110											
	100											
	90											
80												
70												
60												
Temp °C												
Urine	{ protein acetone volume											

NEED FOR THE STUDY

Fig.1.3.This diagram reveals the importance of Partograph in identifying different types of prolonged labour.

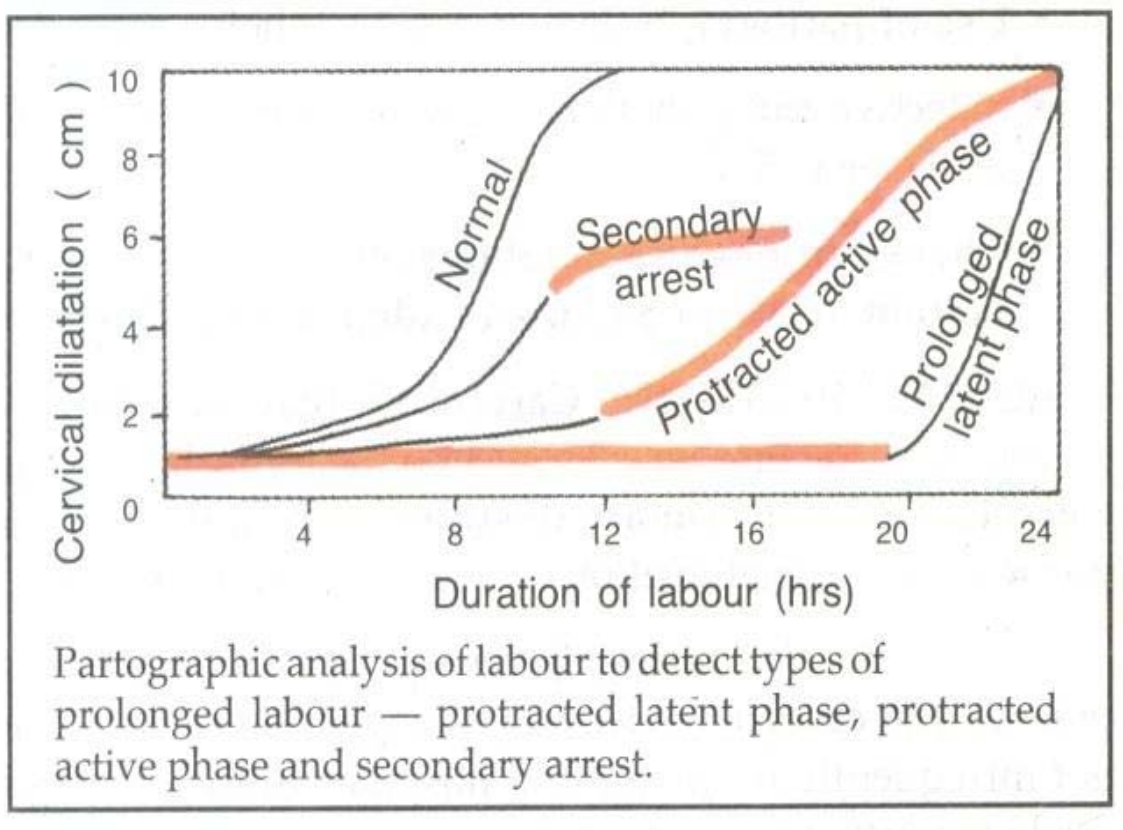
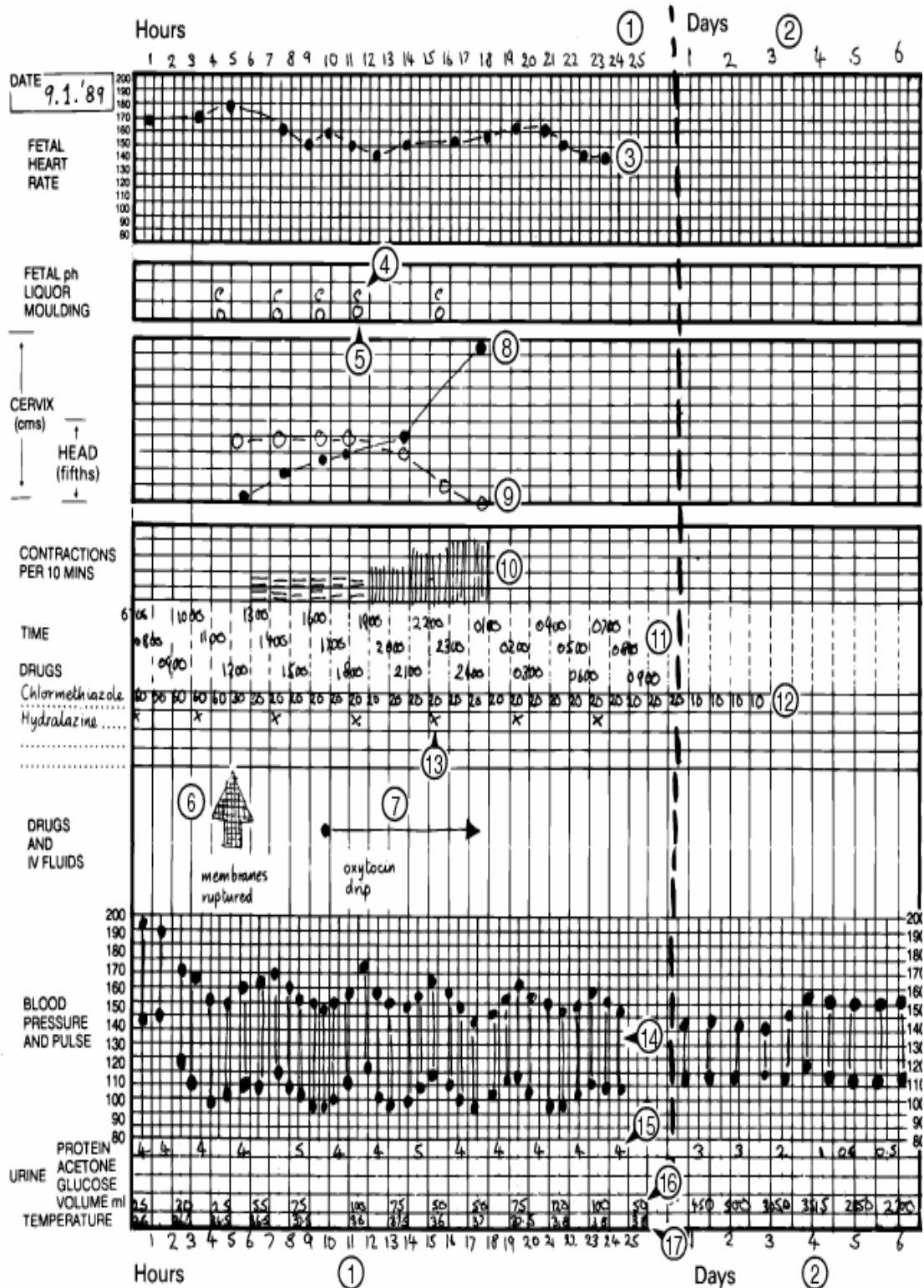


Fig.1.4. This is a Partograph maintained in an eclamptic client. This reveals the importance of Partograph in conducting high- risk deliveries.



STUDIES THAT REVEAL THE IMPORTANCE OF PARTOGRAPH

“An ounce of action is worth a ton of theory” - Friedrich engels.

Tsu VD, Free MJ, Washington, (2002), conducted a study to check whether technology- based solutions can reduce maternal mortality in low- resource settings. The study also provided examples of pregnancy- related problems in which the introduction of new or modified technologies could help save women’s lives. The authors called for a more complete assessment of the technology needs associated with pregnancy- related problems in low- resource settings, including evaluating alternative technology- based possibilities, carefully synthesizing and disseminating existing information, and characterizing the nature of current challenges. They concluded that, when accompanied by appropriate provider knowledge and skills, practice guidelines, financing and distribution systems, and community support, technology- based solutions like partograms, vacuum extraction, infection treatment, preeclampsia detection.etc. can contribute to a significant reduction in maternal morbidity and mortality around the world.

Wacker J et.al, Germany, (1998), conducted a study to compare the traditional rectangular WHO Partogram with a simplified round partogram introduced by the University Hospital of Ouagadougou. After a 3 days seminar on the utilization of both the rectangular and round partograms, both were used under supervision in the maternity rooms of the Seno province, Burkina Faso, West Africa, for 3 months. After this period a semi- standardized questionnaire was distributed among the partogram users. 86% of the maternity staff using the partograms preferred the round partogram because of its time- saving and user- friendly qualities. The users also added that

starting the alert and action lines at a point later than that in the traditional WHO partogram would prevent unnecessary transfer of patients. The investigators concluded that the acceptance of the simple round partogram among health units signified the efficacy and efficiency of the partogram as an indicator for patient transfer and labour abnormalities.

Khan KS, Rizvi A, Karachi, (1995), conducted a study to determine whether graphic labour record (partogram) can be used to predict the risk of uterine scar rupture in labour following lower segment caesarean section. All the partograms were divided into five time zones: A (area to the left of the alert line), B (0-1 h after the alert line), C (1-2 h after the alert line), D (2-3 h after the alert line), and E and F (> 3 h after the alert line). The result was that in women with a trial of labour following caesarean section, the partographic zone 2-3 h after the alert line represented a time of high risk of scar rupture. An action line in this time zone would probably help to reduce the rupture rate without an unacceptable increase in the rate of caesarean section.

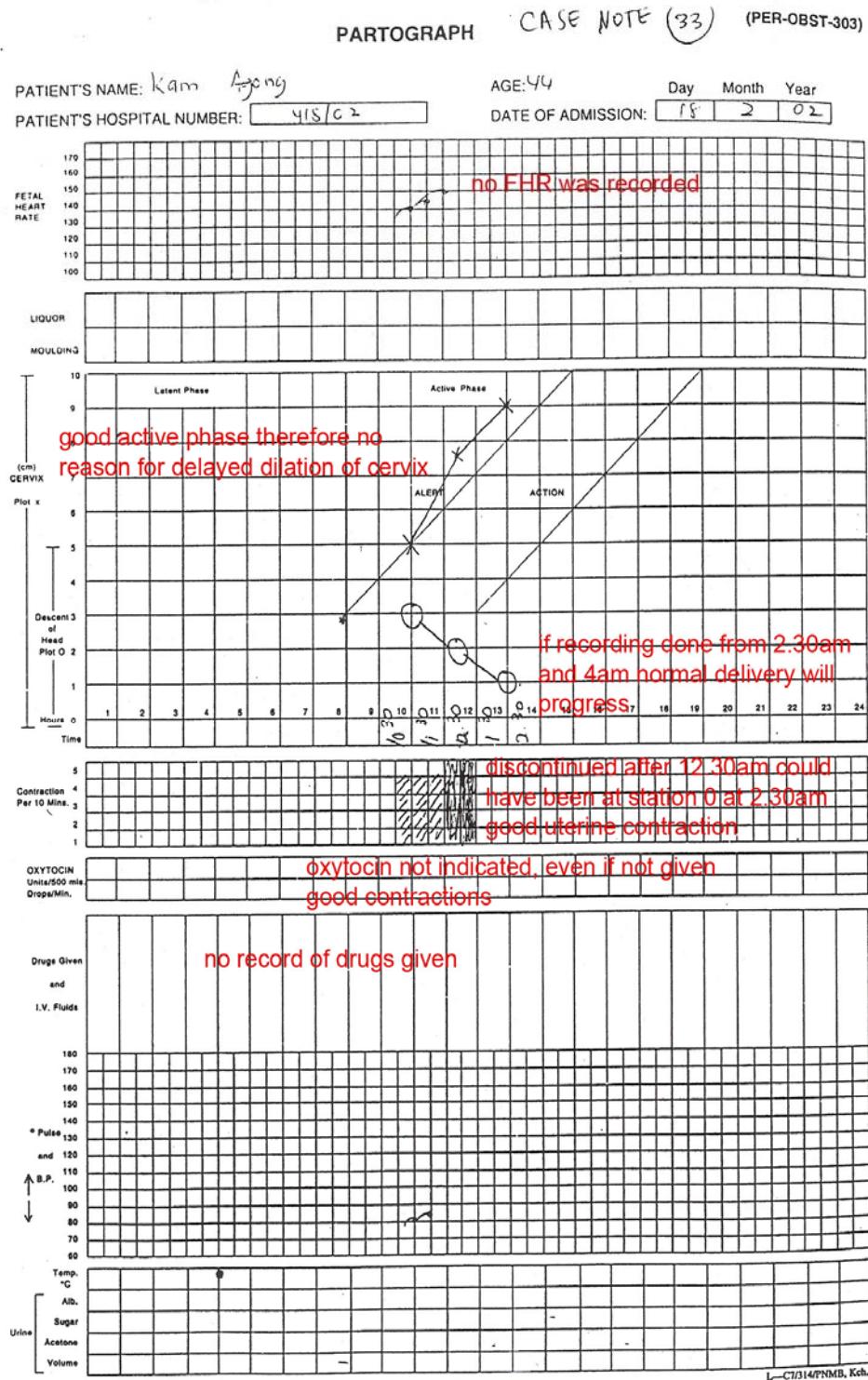
Cartmill RS, Thornton JG, UK, (1992), studied the effect of presentation of Partogram information on obstetric decision- making. 16 junior obstetricians were asked about how they would manage six hypothetical cases of difficult labour. Information was given by partogram, in which the researchers varied either the relative scales of the X and Y axes or whether the latent phase of labour had been included. Doctors were more likely to intervene more actively if the progress of labour curve appeared flat and if the latent phase was included. They concluded that

the shape and point of origin of the Partogram probably influenced intervention rates in practice and partly explained the low rates of caesarean section in some hospitals.

Duncan GR, Costello E, Romania, (1975), stated in their study that the use of partogram of Phillipott, Studd, has proved to be a very valuable aid in the early detection of abnormal progress in labour. They added that the graphic representation of all the relevant data of the labour on one sheet of paper has been received enthusiastically by the nursing and medical staff alike and has allowed the earlier detection of abnormal patterns of labour. They considered that the Partogram should become an essential part of the documentation of labour in all patients.

Mladenovic D et.al, Spain, (1971), studied the role of the Partogram in the modern conduction of labour. The authors presented an original partogram showing the course of labour. The partogram consisted of three parts. The first part contained columns for general data, the position of the fetus, the results of amnioscopy and prepartal cardiotocography with the oxytocin test. The second part contained data on the progressed dilatation of the uterine cervix, the condition of the bag of waters, the quality of the amniotic fluid, uterine contractions and the results of the Ph- metry and the interpretation of cardiotocography in the course of labour. The third part contained the diagnosis of delivery and the newborn's vital symptoms. Six partograms of women with different characteristics and different pathologic conditions were presented. The authors `underlined the simple way of composing and using the partogram, as well as the benefit derived from it, especially when several labours are conducted at the same time.

Fig. 1.6. This is a Partograph which is incompletely filled. This reveals the importance of training staff nurses on Partograph.



STUDIES THAT REVEAL THE IMPORTANCE OF TRAINING HEALTH CARE PROFESSIONALS ON PARTOGRAPH

“Training turns good intentions into good results” - Thomas berry.

Fatusi AO et.al, Nigeria, (2008), evaluated the impact of training on use of the partogram for labour monitoring among various categories of primary health care workers. 56 health workers offering delivery services in primary health care facilities were trained to use the Partogram and were evaluated after 7 months. A total of 242 partograms of women in labour were plotted over a 1- year period. 76.9% of them were correctly plotted. Community health extension workers (CHEWs) plotted 193 (79.8%) partograms and nurse/midwives plotted 49(20.2%). No statistically significant difference was recorded in the rate of correct plotting and consequent decision- making between nurse/ midwives and the CHEWs. They concluded that even the lower cadres of primary health care workers can be effectively trained to use the Partogram with satisfactory results, and thus contribute towards improved maternal outcomes in developing countries with scarcity of skilled attendants.

Nyamtema AS et.al, Tanzania, (2008), conducted a study to evaluate the partogram use in the maternity hospitals of Dar es Salaam, of all partograms reviewed, 50% had no records of duration of labour. Although cervical dilatation and fetal heart rates were recorded in 97% and 94% of the partograms respectively, 63% and 91% of these were judged to be substandard. Substandard monitoring of fetal heart rates was strongly associated with poor fetal outcome. Blood pressure, temperature, and pulse rates were not recorded in 47%- 76% of partograms. These findings reflected poor management of labour and indicate urgent in- service training

to address the importance of documentation and regular Partogram audit in order to reduce maternal and perinatal deaths.

Harvey SA et.al, Bethesda, (2007), conducted a study to find out whether the Skilled Birth Attendants (SBA) are really skillful and competent enough to manage common life- threatening obstetric complications. The WHO Integrated Management Of Pregnancy and Childbirth (IMPAC) guidelines served as the competency standard. They tested a purposive sample of 166 SBAs in Benin, Ecuador, Jamaica and Rwanda. Their average skills scores by area were: active management of the third stage of labour- 46%, manual removal of placenta- 52%, bimanual uterine compression- 46%, immediate newborn care- 71%, and neonatal resuscitation- 55%. These findings denoted that there was a wide gap between current evidence- based standards and provider competence to manage selected obstetric and neonatal complications.

Oladapo OT et.al, Nigeria, (2006), assessed the knowledge and use of the partograph among health care personnel at the peripheral maternity centers at Nigeria. Among 396 maternity care providers from 66 randomly selected peripheral delivery units in Ogun state and Nigeria, only 216 personnel (54.5%) were aware of the Partograph. Among these 216 personnel, 36 (16.7%), 119 (55.5%) and 61(28.2%) demonstrated poor, fair and good levels of knowledge, respectively. Only 39 (9.8%) of all the personnel routinely employed the Partograph for labour management and almost half of these individuals had a poor level of knowledge. They concluded that training of care- providers at the peripheral delivery units, especially junior personnel

in the effective use of the partograph is very essential, in addition to employing quality assurance measures to check inappropriate use.

Sante, Benin, (2004), assessed the Partogram utilization in the urban and rural maternity centers at Benin. Partograms were used in 98% of all cases. In 13.3% of files, Partogram completion stopped before delivery. Overall completion was less good, of the 984 partograms examined; administrative data were complete on only 20% and medical delivery data on 50%. Action taken before the **Alert line** was crossed was incorrect in 48% of cases. These results thus showed very high coverage of Partogram use, but inadequate quality and thus demonstrated the need for refresher training for maternity staff about Partogram use.

Van Roosmalen J, Netherlands, (1989), identified that prolonged labour was the most frequent cause of perinatal death in a rural hospital in the South Western Highlands of Tanzania. After the introduction of an obstetric policy aiming to prevent prolonged labour by making use of the guidelines of the Partogram, perinatal mortality was reduced from 71 to 39 per 1000 births. The researcher added that the concept of the Partogram should be an integral part of the training of medical auxiliaries in the field of maternal and child health. (MCH).

STATEMENT OF THE PROBLEM:-

“A STUDY TO EVALUATE THE EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE ON PARTOGRAPH IN TERMS OF KNOWLEDGE AMONG THE STAFF NURSES WORKING IN SELECTED MATERNITY HOSPITALS AT ERODE.”

OBJECTIVES OF THE STUDY:

1. To assess the knowledge of staff nurses on partograph before & after self-instructional module.
2. To compare mean pretest & mean post test knowledge scores on partograph among the samples.
3. To implement & evaluate the effectiveness of self- instructional module on partograph among the staff nurses.
4. To find association between pretest level of knowledge on partograph among samples with selected demographic variables.

HYPOTHESIS:

- H₁:** Self- instructional module on Partograph will be effective in increasing the knowledge of staff nurses on Partograph.
- H₂:** There will be significant association between the pretest knowledge of staff nurses regarding partograph with selected demographic variables.

ASSUMPTIONS

- ❖ Staff nurses have less knowledge regarding the partograph, and its maintenance.
- ❖ Self- instructional module on partograph improves the knowledge of staff nurses regarding Partograph and enhances its implementation.

- ❖ This acquired knowledge helps them to identify complications during labour and guides them in decision- making.

LIMITATIONS

- ❖ The study was limited to sixty samples only.
- ❖ The study was limited to 6 weeks period only.
- ❖ Non- standardized tool was used for this study.
- ❖ The study was limited to staff nurses working in selected maternity hospitals.

OPERATIONAL DEFINITIONS

Evaluate:

To assess or estimate the nature, value, or quality (or) to judge or decide the amount, value, quality or importance. In this study, self- instructional module on Partograph is evaluated for the change, it brings among the staff nurses in terms of knowledge.

Effectiveness

It is a change which is a result (or) consequence of an action or other causes. In this study, effectiveness denotes the extent to which the **self- instructional module on partograph** had brought significant variation in the knowledge of Staff nurses.

Self- Instructional Module

It is a set of independent units of study or training which is self- directing or self- educating in nature. In this study, such a self- instructional module was prepared about Partograph

Knowledge

Knowledge is defined as the facts, information and skills acquired by a person through experience or education (or) knowledge is the theoretical or practical understanding of a subject. In this study, knowledge refers to the staff nurses' theoretical and practical understanding of the Partograph, its maternal and fetal components.

Staff Nurse

Staff nurse is an experienced nurse less senior than a charge nurse with specific qualification as ANM, GNM or BSc (N). In this study, "Staff nurse" refers to those who work in maternity hospitals.

CHAPTER II

REVIEW OF LITERATURE

“Ships are safe in harbour. But that is not what ships are made for”.

-Dhirubhai Ambani

The literature review is an essential component of the research process, as it aids the researchers in formulating the research plan. It also helps the researchers to conduct his/ her actual study.

Related literature was reviewed in depth regarding partograph for the present study. The report on review of literature is organized under the following headings.

- ❖ Literature related to partograph and
- ❖ Studies related to partograph.

LITERATURE RELATED TO PARTOGRAPH:-

Partograph:-

The idea of recording the progress of labour on a chart was started by **FRIEDMAN** who used a graphic record of cervical dilatation in labour. This approach was further developed and extended by **PHILPOTT**.

Definition of partograph:

“It is a chart on which the salient features of labour are entered in a graphic form and therefore provides the opportunity for early identification of deviations from normal.”

“It is a labour graph used to compare the progress of an individual women’s labour in terms of dilatation and fetal descent with expected norms.”

What is it?

The partograph is a tool that can be used by midwifery personnel to assess the progress of labour and to identify when intervention is necessary. Studies have shown that using the partograph can be highly effective in reducing complications from prolonged labour for the mother (postpartum hemorrhage, sepsis, uterine reapture and its sequelae) and for the newborn (death, anoxia, infections, etc.).

Who uses it?

Specialist obstetricians, general medical officers, nurses, midwives, or medical assistants or nurse aides with training in midwifery.

Why should we use it?

To assist in making the correct decision about transfer, caesarean section, or other life- saving interventions.

How to use it?

A Partograph must be started only when a woman is in labour. In the latent phase (cervix dilatation not more than 2 cm), she should have two or more contractions in 10 minutes, each lasting 20 seconds or more. In the active phase (cervix dilatation more than 3 cm), she should have one or more contractions in 10 minutes, each lasting 20 seconds or more.

Objectives and Scope of the Tool:

- ❖ To reduce prolonged labour and the sequelae of morbidity and mortality for both women and their infants.
- ❖ To improve the quality of care of women in labour and to increase the observation and interpretation skills of the progress of labour by midwifery and medical health personnel.
- ❖ To increase teamwork and ease of reference in teaching units.
- ❖ To encourage timely referral from the periphery.

Principles of Partograph:

- ❖ The active phase of labour commences at 3 cm cervical dilatation.
- ❖ The latent phase of labour should last not longer than 8 hours.
- ❖ During active labour, the rate of cervical dilatation should be not slower than 1cm/ hour.

- ❖ A lag time of 4 hours between a slowing of labour and the need for intervention is unlikely to compromise the fetus or the mother and avoids unnecessary intervention.
- ❖ Vaginal examination should be performed as infrequently as is compatible with safe practice (once every 4 hours is recommended.)
- ❖ The partograph shows graphically the rate of progress of labour.
- ❖ The rate of dilatation of the cervix.
- ❖ The rate of descent of the head.
- ❖ The duration and frequency of uterine contractions.
- ❖ Monitoring vital signs.

The rate of progress of labour is plotted against the expected rate of progress. If the rate of progress of labour is lower than normal, the plot of cervical dilatation will cross the “alert” line and then the “action line” denotes the critical point at which specific management decisions should be made to expedite delivery.

Uses of partograph:

- ❖ The Partograph has been in use since 1970 in a number of countries, and used extensively in many centres. It has been found to be inexpensive, effective and pragmatic in a variety of different settings including developed and developing countries. It has shown to be effective in preventing prolonged labour, in reducing operative intervention and in improving the neonatal outcome.

Prolonged labour, augmented labour, caesarean section and intra partum fetal deaths were reduced.

- ❖ The use of a partogram for the management of labour has been shown to be beneficial in that it clearly differentiates normal from abnormal progress in labour and identifies women likely to require intervention.

Fig.2.1: The partograph

Name	Gravida	Para	Hospital number
Date of admission	Time of admission	Ruptured membranes	hour
Fetal heart rate	200		
	190		
	180		
	170		
	160		
	150		
	140		
	130		
	120		
	110		
100			
90			
80			
Amniotic fluid Moulding			
Cervix (cm) [Plot X] Descent of head [Plot O]	10		
	9		
	8		
	7		
	6		
	5		
	4		
	3		
	2		
	1		
0			
Hours	1	2	3
Time	4	5	6
	7	8	9
	10	11	12
Contractions per 10 mins			
Oxytocin U/L drops / min			
Drugs given and IV fluids			
Pulse * and BP	180		
	170		
	160		
	150		
	140		
	130		
	120		
	110		
	100		
	90		
80			
70			
60			
Temp °C			
Urine	{ protein acetone volume		

Components of partograph:

- ❖ Identification data of the patient
- ❖ Fetal heart rate
- ❖ Liquor amni
- ❖ Moulding
- ❖ Cervicograph (cervical dilatation)
- ❖ Descent of head
- ❖ Time
- ❖ Uterine contractions
- ❖ Oxytocin
- ❖ Drugs given: IV fluids and oral fluids
- ❖ Vital signs: BP, pulse and temperature
- ❖ Records are straight forward and objective, both nursing and medical staff can see the progress of labour at a glance.
- ❖ It facilitates handover procedure.
- ❖ It serves as an early warning in case of impending problems. It can predict deviation from normal duration of labour early. So appropriate steps could be taken in time.

- ❖ Introduction of Partograph in the management of labour has reduced the incidence of prolonged labour and caesarean section rate. There is improvement in maternal morbidity, perinatal morbidity and mortality.
- ❖ It has a predictive value. It is possible to estimate the expected time of delivery, in case every thing is normal.

STUDIES RELATED TO PARTOGRAPH

The studies related to partograph can be grouped under the following headings:-

- ❖ Studies related to Partograph in general
- ❖ Studies related to the specific fetal components of partograph and
- ❖ Studies related to maternal components of partograph.

STUDIES RELATED TO PARTOGRAPH IN GENERAL

Mathai M, Switzerland, (2009), studied about the role of partograph in the prevention of prolonged labour. He pointed out that obstructed labour continues to be an important cause of maternal and perinatal mortality and morbidity. The partograph graphically represents key events in labour and provides an early warning system. He suggested that, when used with defined management protocols, this inexpensive tool can effectively monitor labour and prevent obstructed labour.

Sheikh L et.al, Karachi, (2008), conducted a study to evaluate how the implementation of universally acceptable standards affects rates for primary caesarean sections, without compromising maternal or fetal safety. A complete audit cycle of all the primary caesarean sections performed in the maternity unit of Aga Khan University was conducted. New labour management guidelines like maintaining partograms and checking cord blood for fetal pH, were implemented after the first audit. The rates of caesarean section, induction of labour, failed induction, and maternal and fetal outcomes were compared before and after the implementation of the guidelines. They found that the primary emergency caesarean section rate decreased from 16% to 12%. A reduction in primary caesarean sections was noted in the induced cases. There were no significant adverse maternal and perinatal outcomes. They concluded that the implementation of standard labour management strategies like maintaining partograms and checking cord blood for fetal pH can reduce primary caesarean section rate without compromising maternal and fetal safety.

Mathews JE et.al, Vellore, (2007), compared two WHO partographs – a composite Partograph including latent phase with a simplified one without the latent phase. Eighteen physicians participated in this trial. Most participants (84%) experienced difficulty “sometimes” with the composite Partograph, but no participant reported difficulty with the simplified Partograph. They concluded that the simplified WHO Partograph was more user- friendly, was more to be completed than the composite Partograph, and was associated with better labour outcomes.

Hofmeyr GJ, South Africa, (2004), conducted a study to identify, from the best available evidence, underutilized and promising technologies that may reduce

maternal mortality from obstructed labour. The author sought systematic reviews of randomized trials, and, in the absence of randomized data, non- randomized studies and clinical consensus. Data were presented according to the level of the evidence. He found that obstructed labour caused approximately 8% of maternal deaths, and indirectly contributed to a greater percentage. Proven or widely accepted technologies that helped to reduce mortality from obstructed labour included the partogram, augmentation of labour, selective amniotomy and episiotomy, external cephalic version, contraception. etc. He concluded that the access to well- established technologies like partogram could reduce maternal mortality in resource- poor countries.

Diani F, Italia, (1992), explained her experience in labour and delivery care in university centers at Italia, that the value of partography in management of labour was stressed in connection with a better delivery care, with a systematic recording of cervicometric data and fetal maternal monitoring and in the prevention of the use of unsuitable medical and surgical treatments. She also added that the partogram is essential for the correct communication and makes both tracking and data filing easier. By means of partography, the return concept of personalized care of woman in labour is possible without that safety and technology of new obstetrics are lost.

Dujardin B et.al, Belgium, (1992), assessed the value of the partogram and efficacy of the Alert and Action lines. 1022 pregnant women were monitored by partogram during 4 months. The Alert line was crossed in 100 of these cases and the frequency of neonatal resuscitation was higher for this group, as was the number of fresh stillbirths. Among the women who crossed the alert but not the action line,

neonatal resuscitation was also 4 times more likely than for the normal labour group, and the fresh stillbirth rate was higher. For women who crossed both lines, the fresh stillbirth rate was 10 times higher than for women in the normal labour group. This showed the efficacy and usefulness of the alert and action lines of the partograph.

Doh AS and Nasah BT, Cameroon, (1989), analyzed the performance of the maternity unit of University Teaching Hospital at Yaoundé. Data was obtained from case notes, annual reports, delivery and operation registers. 5614 deliveries over a 5-year period were analyzed. The maternal mortality rate (MMR) was one of the lowest in Africa (averaging about 33/1, 00,000 births over 5 years). The perinatal mortality rate was also low (about 34.3 in 1000 births). They concluded that the low MMR was due to the use of partogram in labour, the short distance the patients travel to get to the hospital, the fact that 99% of the patients are booked, the existence of family planning clinics and adequate staffing of maternity units.

STUDIES RELATED TO SPECIFIC FETAL COMPONENTS OF PARTOGRAPH

Lansky S et.al, Brazil, (2006), analyzed the association between perinatal mortality and factors related to hospital care during labour, considering that health care assessment is needed in order to reduce perinatal mortality. Male sex, prematurity, diseases during pregnancy, low birth weight, newborn diseases, lack of prenatal care, lack of Partograph use during labour, type of hospital and less than one fetal assessment per hour during labour were significantly associated with perinatal deaths. These results indicated inadequate quality of care in maternity hospitals and

show that structure of health services and health care processes are related to perinatal mortality due to preventable causes.

Buchmann EJ et.al, Johannesburg, (2002), studied about the absolute rate of death from intrapartum- related birth asphyxia, and the contribution of intrapartum-related asphyxia to total perinatal mortality in South African hospitals, and to identify the primary obstetric causes and avoidable factors for these deaths. They found that most of these deaths were avoidable and the reduction of these rates presented an important challenge to providers of perinatal care in the country. Areas worthy of research and action included partogram- based labour management, provision of mothers' waiting facilities in rural regions, improvements in fetal monitoring, and the establishment of midwifery staffing norms for South African labour units.

Chalumeau M et.al, France, (2002), analyzed whether the clinical risk factors for late still birth in West Africa can be detected during antenatal care or only during labour. They found that the principal risk factors for late still birth were late antenatal or intrapartum vaginal bleeding, intrapartum hypertension, dystocia, and infection. These risk factors could be detected only in the late antenatal and intrapartum period. These findings highlighted the potential benefits of Partograph use.

Kambarami RA et.al, Zimbabwe, (2000), conducted a study to describe the perinatal practices from a community perspective and identify factors associated with perinatal death. They found that nurses were the commonest attendants at delivery 309/508 (60.4%) and morbidity following delivery was noted in 72/495 (14.5%). Resuscitation was carried out in 61/72 infants. Beating/ shaking 36/61 (58%) and

pouring cold water over the baby 11/61 (18%) were the commonest methods of resuscitation. They concluded that high early neonatal morbidity suggested poor monitoring and delayed intervention in labour. Infant morbidity following delivery was high and methods for neonatal resuscitation were found to be inappropriate. They added that the skills of health worker particularly in the areas of partogram use and neonatal resuscitation need to be developed.

Shah PM, Switzerland, (1991), conducted a study to prevent mental handicaps in children in primary health care. 5-15% of children aged 3 to 15 years in both developing and developed countries suffer from mental handicaps. Birth asphyxia and birth trauma are the leading causes of mental handicaps in developing countries where over 1.2 million newborns die each year from moderate or severe asphyxia and an equal number survive with severe morbidity due to brain damage. The condition causing mental handicaps are largely preventable through primary health care measures in developing countries. To improve this situation, primary health care interventions must be strengthened. Traditional birth attendants, community health workers, as well as nurse midwives and physicians should be involved in prevention and intervention activities, for which they should be trained and given knowledge and skills about appropriate technologies such as Partograph, mobilogram, icterometer, the high risk approach, mouth- to- mouth or bag and mask resuscitation of the newborn.

Khatree MH et.al, US, (1982), studied the predictive features of brachial plexus injury during labour. The labours of 8 patients which resulted in the birth of babies with brachial plexus injury were studied. Seven had instrumental deliveries.

All babies were above average birth weight. Shoulder dystocia occurred in 7 with 5 of these showing abnormal partographic patterns. This indicated that the abnormal active phase on the partogram serves as a first stage warning of the possibility of shoulder dystocia. Methods of management of this second stage complication are reviewed.

STUDIES RELATED TO SPECIFIC MATERNAL COMPONENTS OF PARTOGRAPH

Wandabwa J et.al, South Africa, (2008), determined the risk factors for ruptured uterus in Mulago hospital at Uganda. They found that the predictors of ruptured uterus were low socioeconomic status, residing more than 10 kilometers away from Mulago hospital, delivery by caesarean section in previous pregnancy and delivery of babies weighing more than 3.5 kg. They concluded that women need to use maternity units during pregnancy and delivery; to monitor labour using a partograph and timely intervention of delivery would prevent uterine rupture.

Safe motherhood, (1999) (27):4, 8, article discussed about the causes, prevention and treatment of vesico- vaginal fistulae. A vesico- vaginal fistula is an obstetric complication consisting of a hole in the vaginal wall connecting to the bladder or rectum, often resulting from prolonged and obstructed labour. It was recommended that obstetric fistulae could be prevented through Partograph- based labour management, nutritional improvement, access to family planning, presence of a skilled attendant during childbirth, delaying marriage and first birth, and use of maternity waiting homes.

De Groof D et.al, Niger, (1995), assessed the impact of the introduction of a partogram on maternal and perinatal mortality. Two groups were formed: one consisted of women who delivered prior to the introduction of the partogram; the second group was comprised of women who delivered after its introduction. The results of this study had shown that the introduction of the partogram reduced the amount of time that a women would be in labour, improved the follow-up care the pregnant woman received, resulted in a more timely decision made by the health official, and consequently, a prompt referral to a specialized center. The authors estimated that, if used correctly, the introduction of this instrument along with other appropriate measures could have a considerable impact in the reduction of maternal and neonatal mortality.

Safe motherhood (1994) Jul- Oct; (15):10, article stated that the use of the partograph during labour could prevent suffering and loss of life. It was reported that use of the WHO Partograph in 8 hospitals at Indonesia, Thailand and Malaysia reduced postpartum infections (by 59%), the number of stillbirths, the amount of oxytocin augmentation, and unnecessary caesarean sections. Thus the WHO Partograph was able to differentiate labours requiring intervention from those not requiring intervention. WHO calls for health personnel to use its Partograph and its management protocol, both in labour wards with the capabilities to manage and in health centers without these capabilities which can refer women with labour complications to a specialist facility.

Urrio TF, Tanzania, (1991), analyzed about the maternal deaths at Songea Regional Hospital, Southern Tanzania. The Maternal Mortality Rate of Tanzania was

5.2/1000 deliveries. The major causes of deaths were sepsis following caesarean section for obstructed labour, ruptured uterus and haemorrhage. 43.6% of the deaths were of women referred from long distances with a diagnosis of prolonged labour. It was stressed that early and facilitated referral, together with the use of the partogram in labour and use of family planning services will reduce the high maternal mortality rate in this region.

Compton AA, US, (1987), conducted a study on bony pelvic dystocia and soft tissue dystocia. Dystocia most often results from a combination of fetal and pelvic factors. He concluded that with the use of a partograph to assist in the diagnosis of an active- phase arrest, along with proper fetal monitoring with an intrauterine pressure catheter, followed by a caesarean section at the appropriate time, there was no increase in fetal or maternal morbidity and soft tissue and pelvic dystocia could be prevented.

Melmed H and Evans M, Israel, (1976), assessed the predictive value of cervical dilatation rates. A modified version of Philpott's partogram was used to analyze the primipara labour. The rate of cervical dilatation measure early in the active phase of labour (initial rate) was an accurate indicator of the outcome of labour. 93% of primiparas with an initial cervical dilatation rate of 1.00 cm/hour or more delivered spontaneously. 76% of those with an initial cervical dilatation rate of less than 1.00 cm/ hour required an assisted delivery (forceps or vacuum) or caesarean section. The mean cervical dilatation rate for spontaneous deliveries as measured early in the active phase was 1.75 cm/ hour. Patients needing an assisted delivery had a mean cervical dilatation rate of 0.93 cm/ hour, and for caesarean section deliveries

the mean rate was 0.42 cm/ hour. They concluded that the initial cervical dilatation rate proved to be useful in early identification of those patients whose deliveries were complicated.

CONCEPTUAL FRAMEWORK

A conceptual framework broadly presents an understanding of the phenomenon of interest and reflects the assumptions and philosophic views of the model's designer. Conceptual models can serve as springboards for generalizing research hypotheses.

- POLIT AND BECK, 2008.

Theory is the basis of all scientific work. Theorizing is a central process in all scientific endeavors. Theoretical thinking is essential to all professional understanding.

In the current study, King's theory of Goal Attainment was applied to investigate the phenomenon of interest.

APPLICATION OF THEORY OF GOAL ATTAINMENT TO THE CURRENT STUDY

King (1997) stated that communication is the interchange of thoughts and opinions among individuals. Communication is the main key for facilitating mutability and trust between the nurse educator and the nurse. **“Self- instructional module on Partograph serves this purpose, through which the nurse educator and the nurse communicate with each other and exchange their ideas regarding Partograph.”**

King's concept of nursing is applied to this study as follows; "Nursing is an interpersonal process of action, reaction, interaction and transaction, whereby the nurse educator and the nurse share information about their perceptions in the nursing situation". King added, "Nursing is a process of human interaction, between the nurse and the nurse educator whereby each perceives the other and the situation, and through communications, they set goals, explore means and agree on means to achieve goals".

King (1996) put particular emphasis on the nurse's ability for critical thinking, observation of behavior, and the collection of specific information essential for decision- making, to meet the needs of individuals at a particular point of time. Self- instructional module on partograph serves this purpose, by explaining about the importance of "Alert and Action lines". The delivery of nursing care to patients therefore becomes a process of thinking as well as doing, as nurses continuously maintain Partograph and makes decision based on it to prevent complications. This can be measured by monitoring patient outcomes.

King's (1996) perspective of the process of nursing reflects the science of nursing, which enables critical thinking to discover the rationale for actions taken. Self- instructional module on Partograph provides such qualities.

Goal attainment needs ongoing evaluation. According to king (1996), goal attainment leads to effective nursing care. In this study, "**Enhancing the knowledge of the staff nurses on Partograph**" is the goal established by the nurse educator and the nurse. If this goal is attained, it ensures safety of the mother and fetus during labour, and enhances the labour outcomes. If goals are not attained, the nurse educator

and the nurse need to re-examine the process of educating, critical thinking and transaction.

Perceptions

Perceptions refer to each person's representation of reality. Perceptions are related to experiences, concept of self, socioeconomic group, biological inheritance, and educational background. In this study, the nurse educator perceives the inadequacies of the situation and analyzes the maternal mortality and morbidity rates. The nurse educator also perceives the need to educate the staff nurses on Partograph. The nurse perceives the need to update their knowledge on Partograph.

Judgement

Judgement is defined as “a dynamic and systematic process by which goal-directed choice of perceived alternatives is made and acted upon by individuals or groups to answer a question and attain a goal”. In this study, judgement by the nurse educator is deciding to teach about Partograph and judgement by the nurse is deciding to learn about Partograph.

Action

Communication between the nurse educator and the nurse occurs, thus creating action. In this study, action by the nurse educator refers to the pretest conducted by the nurse educator to assess the knowledge of staff nurses. Action by the nurse refers to co-operating and filling the self-administered questionnaire given in the pretest.

Reaction

Reaction occurs as a result of action. In this study, reaction is that the nurses lack knowledge on Partograph.

Disturbance

Inadequate knowledge of the staff nurses, is the disturbance felt in this study.

Mutual Goal Setting

The nurse educator and the nurse mutually decide to enhance the knowledge on Partograph, and to attain this goal, the nurse educator prepares the self-instructional module on Partograph.

Interaction

Interaction is “a process of perception and communication between person and environment, between person and person, represented by verbal or non- verbal behaviors that are goal- directed. In this study, interaction is the distribution of self-instructional module on Partograph by the nurse educator to the nurses.

APPLICATION OF THE TRANSACTION PROCESS MODEL TO THE CURRENT STUDY

Transaction

The final step in King's interaction process is transaction, which involves bargaining, negotiating and social exchange. Transactions are defined as "purposeful interactions that lead to goal- attainment. The characteristics of transactions are that they are unique because each individual has a personal world of reality based on that individual's perceptions; they have temporal and spatial dimensions, and they experience a series of events in time". In this study transactions are, conducting posttest to find out the increase in knowledge and evaluating the outcomes. Mutual goal- setting by the nurse educator and the nurse is also a form of transaction in this study.

APPLICATION OF PROPOSITIONS TO THE CURRENT STUDY

- 1) If perceptual accuracy, (PA) is present in nurse educator interactions (I), transactions (T) will occur.

$$PA(I) \xrightarrow{+} T$$

- 2) If the nurse educator and the nurse make transactions (T), goals will be attained (GA).

$$T \xrightarrow{+} GA$$

- 3) If goals are attained (GA), satisfactions (S) will occur.

$$GA \xrightarrow{+} S$$

- 4) If goals are attained (GA), effective nursing care (NCe) will occur.

$$GA \xrightarrow{+} NCe$$

5) If transactions (T) are made in nurse educator- nurse interactions, growth and development (GD) will be enhanced.

(I)T $\xrightarrow{+}$ GD

6) If role expectations and role performance as perceived by the nurse educator and the nurse are congruent (RCN), transactions (T) will occur.

RCN $\xrightarrow{+}$ T

7) If role- conflict (RC) is experienced by the nurse educator and the nurse or both, stress (ST) in nurse educator – nurse interaction (I) will occur.

RC(I) $\xrightarrow{+}$ ST.

8) If nurse educator with special knowledge and skills communicate (CM) appropriate information to staff nurses, mutual goal setting (T) and goal attainment (GA) will occur.

CM $\xrightarrow{+}$ T $\xrightarrow{+}$ GA.

KEY:-

PA : Perceptual accuracy. (The nurse educator and the nurse perceiving the needs of the current situation).

T: Transactions. (Mutual goal- setting, posttest on knowledge and evaluating the outcomes).

NCE: Effective nursing care (promoting safe delivery and satisfactory childbirth, preventing maternal and fetal complications, maternal and fetal mortality).

RCN: Role congruency (collaboration between the nurse educator and the nurse).

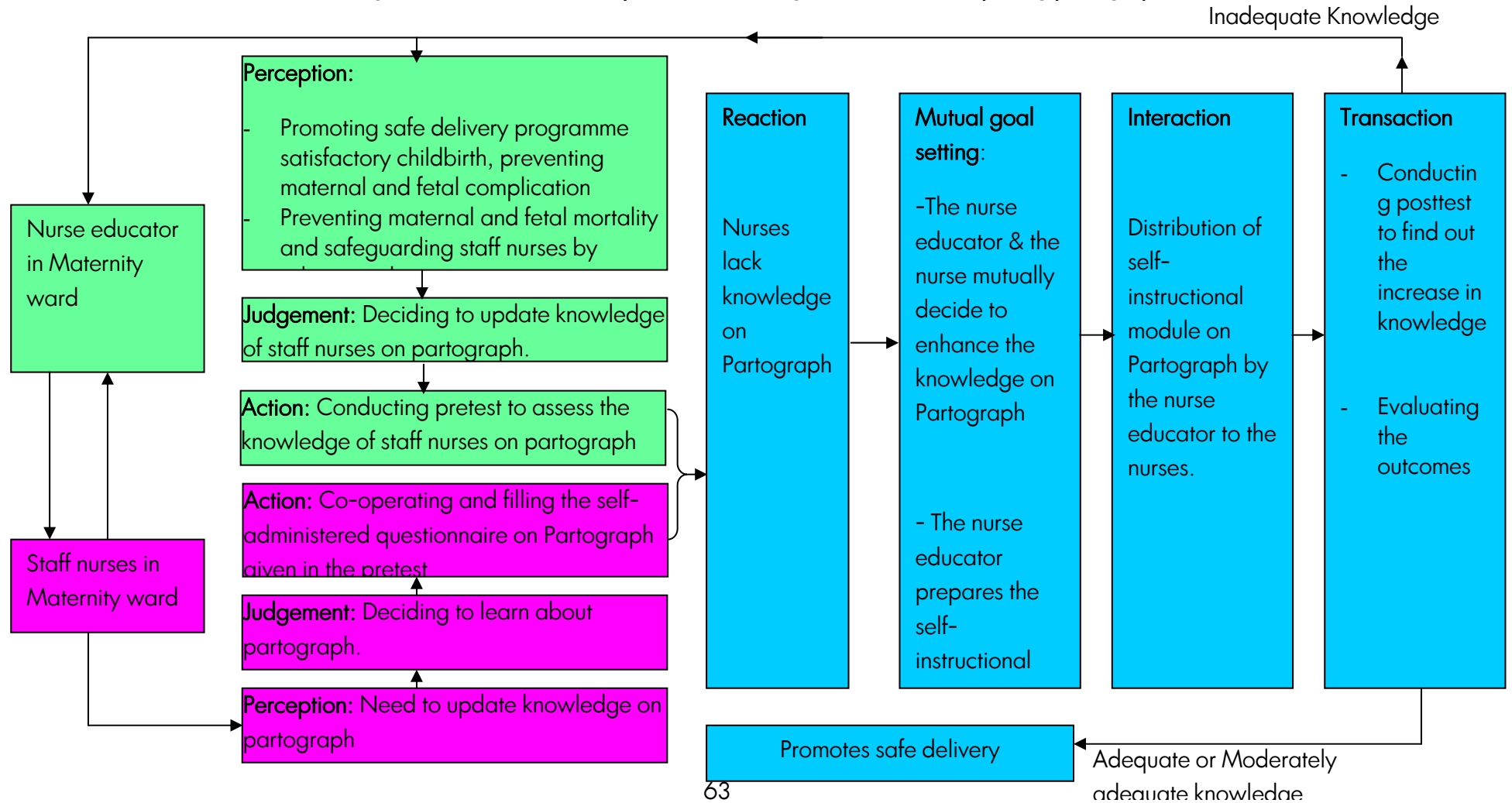
RC: Role conflict (lack of understanding between the nurse educator and the
nurse)

S: Stress (tension that affects goal- attainment).

CM: Communicate (sharing of ideas and information between the nurse educator
and the nurse).

Fig. 2.2. CONCEPTUAL FRAMEWORK

Modified King's Goal attainment theory for Better management of Labour by using partograph



CHAPTER III

METHODOLOGY

“If the method is right, the results will take care of themselves”.

-Takashi Osada

Methodology of research refers to the ways of obtaining, organizing and analyzing data. Methodological studies address to the development, validation and evaluation of research tools or methods.

-POLIT AND BECK, 2008.

This chapter deals with research approach, research design, settings, populations, sample, sampling technique, criteria for sample selection, development and description of the tool, validity and reliability, pilot study, data collection procedures and plan for data analysis.

RESEARCH APPROACH

“It is an applied form of research that involves finding out how well a program, practice, procedure or policy is working.”

-POLIT AND BECK, 2008.

The research approach used for this study was **Quantitative educative evaluative approach.**

RESEARCH DESIGN

“It is the overall plan for addressing a research question, including specifications, for enhancing the integrity of the study.”

-POLIT AND BECK, 2004.

The research design used for this study was

- ❖ **Quasi- experimental design,**
- ❖ **Pre- Experimental One group pretest – posttest design.**

$$O1 \quad X \quad O2 \quad = \quad E.$$

Key:-

O1 – Pretest on partograph.

X - Treatment (Self- instructional module on partograph)

O2 - Posttest on partograph.

E - Effectiveness of Self- instructional module on partograph.

VARIABLES

“Variables are the qualities, properties or the characteristics of persons, things or situations that change or vary.”

Independent variable:-

“It is the variable that stands alone and is not depending on any other.”

Self – instructional module on Partograph was the independent variable for this study.

Dependent variable:-

“It is the outcome variable of interest. It is the variable that is hypothesized to depend on or caused by the other.” In this study, the knowledge of Staff Nurses on partograph was the dependent variable.

Extraneous variables:-

Extraneous variables for this study were previous exposure of staff nurses to programmes, seminars, workshops or modules related to partograph, hospital policies and procedures. etc.

SITE

Site is the exact physical location where the study is conducted. In this study, site referred to all the maternity hospitals at Erode.

RESEARCH SETTING

Setting is the physical location of the site in which data collection takes place. Settings for this study were Lotus Appollo Hospital and Sreemathi Murugesan Hospital, Erode.

POPULATION

Polit and Beck, 2008, defines population as the entire set of individuals having some common characteristics. In this study, population includes all the staff nurses working in maternity hospitals at Erode.

SAMPLE

Polit and Beck, 2008, defines sample as a subset of population, selected to participate in a study. Sample for this study comprised of staff nurses working in selected maternity hospitals at Erode, who met the selection criteria.

SAMPLE SIZE

The sample comprised of 60 staff nurses working in selected maternity hospitals at Erode.

SAMPLING TECHNIQUE

Sampling technique used for this study was purposive sampling, which enabled to decide purposely in selecting subjects who are judged to be typical of the population or particularly knowledgeable about the issues under study.

CRITERIA FOR SAMPLE SELECTION

Inclusion criteria:-

- Staff nurses who were working in maternity wards.
- Staff nurses who were willing to participate in the study.
- Staff nurses who were in day shift.

Exclusion criteria:-

- Staff nurses who were ward in-charges.
- Staff nurses who were on leave.

DEVELOPMENT OF RESEARCH INSTRUMENT:-

The research instruments should be as far as possible the vehicles that would be the best to obtain data for drawing conclusions, accurately and precisely which are pertinent for the study. The major task for the researcher is to develop instruments that accurately and precisely measure the variables of interest. Questioning allows gathering information or data from large number of samples, relatively quickly and inexpensively. It avoids interviewer bias, offers anonymity and is cost- effective.

The instruments used in the study were:-

- Structured knowledge questionnaire on partograph.
- Self- instructional module on partograph.

DATA COLLECTION METHOD

Self- report method was used.

DATA COLLECTION INSTRUMENT**Self- administered questionnaire:-**

The self- administered questionnaire was prepared by the investigator based on the objectives of the study, after reviewing literature about Partograph.

The following steps were carried out in formulating the tool.

- ❖ Related literatures were reviewed.
- ❖ Blue print was prepared.
- ❖ Subject experts were consulted for their valuable suggestions regarding the tool and alternations were made accordingly.
- ❖ Statistician was consulted for the preparation of the plan for statistical data analysis.
- ❖ Reliability was checked by doing Pilot study.
- ❖ Literature needed for the development of the tool was obtained from journals, articles, books and research studies. The blue print was prepared to construct the tool, which consisted of 4 questions related to demographic variables and 35 questions related to partograph.

Description of the instrument:-

The self- administered questionnaire on partograph consisted 2 sections.

Section I: Demographic Data

It included items for obtaining information regarding age, educational status, years of experience and exposure to in- service education.

Section II: Questions On Knowledge Regarding Partograph:-

It consisted 35 multiple choice questions, divided under 4 subsections as follows:

Subsection I

It consisted 4 questions on labour.

Subsection II

It consisted 5 general questions on partograph.

Subsection III

It consisted 6 questions on fetal components of partograph.

Subsection IV

It consisted 20 questions on maternal components of partograph.

Scoring

Each correct response was given 1 mark and incorrect response was given 0 marks. The maximum possible score was 35. The number of correct responses was calculated out of 35. The level of knowledge was categorized based on the scores obtained as follows:-

Adequate knowledge	- 26 to 35.
Moderately adequate knowledge	- 16 to 25.
Inadequate knowledge	- less than 16.

Self- Instructional Module on Partograph

The self- instructional module was titled as “Self- Instructional module on Partograph”. It was organized in headings as follows:-

- Introduction about the Partograph

- Definition of Partograph
- Stages of labour
- Advantages of Partograph
- Components of Partograph

Description of the components of Partograph such as identification data, FHR, amniotic fluid, moulding, cervicograph, descent of fetal head, duration, uterine contractions, oxytocin, drugs given, IV fluids and oral fluids, vital signs and urine test.

TESTING THE INSTRUMENT

Content Validity

The instruments were validated by 5 experts from the field of Nursing and Medicine. The experts suggested addition, deletion of certain items and re-organization of the questions. Appropriate modifications were made and the tool was finalized.

Reliability

“The reliability of an instrument is the degree of consistency or accuracy with which an instrument measures an attribute, it is supposed to measure.”

To ensure reliability, test- retest method was used. The self-administered questionnaire was tested among 6 staff nurses who were not included in the study. After 4 days, the same tool was administered without any manipulation to the same

nurses. The relative score position of the subjects was almost the same. The coefficient of correlation was found to be 0.9 which indicated high degree of reliability of the questionnaire.

Pilot Study

It is a small scale version or trial run of the main study. In order to test the feasibility and relevance of the study, a pilot study was conducted from 1st to 7th of November, 2009. The pilot study was conducted among 6 staff nurses working in PGR hospital, Bhavani, after getting permission from concerned authorities. They were selected by using purposive sampling technique. The self-administered questionnaire was used to collect the data from staff nurses. Data analysis was done by using differential and inferential statistics. The study reports ensured feasibility of the study.

DATA COLLECTION PROCESS

- The study was conducted in 2 Maternity hospitals namely, Lotus Appollo Hospital and Sreemathi Murugesan Hospital, Erode.
- The period of data collection was from 11.11.09 to 30.11.09.
- Prior to data collection, permission was obtained from the concerned authorities.
- Staff nurses who fulfilled the criteria were selected as samples by using purposive sampling technique.

- The researcher introduced herself to the participants and established rapport with them.
- The purpose of the study was explained to each study participant.
- The researcher assured the participants for the confidentiality of their responses.
- Oral consent was obtained from each participant of the study before starting data collection.
- The pretest was conducted with the help of self- administered questionnaire. The tool was distributed to the staff nurses during their break hours to avoid disturbance in their ward routines.
- “SELF- INSTRUCTIONAL MODULE ON PARTOGRAPH” was distributed to the staff nurses. All the staff nurses took active participation in the program.

The posttest was conducted with the help of the same self- administered questionnaire.

At the end of successful data collection, the researcher conveyed thanks to the Nursing Superintendent for winding up the study.

Phases of Data Collection

Data collection was done in 3 phases.

Phase I

Pretest was conducted with the help of the self- administered questionnaire. The time given for the participants to fill it was, 20 minutes.

Phase II

The investigator issued the self- instructional module on partograph.

Phase III

After 7 days, the posttest was conducted to the same participants to assess the improvement in knowledge by using the same self- administered questionnaire. The participants were given 20 minutes time to fill it.

DATA ANALYSIS

The collected data was organized, tabulated and analyzed by using descriptive and inferential statistics.

- ❖ Frequencies and percentages were used for the analysis of the demographic data.
- ❖ Mean score, mean percentage and standard deviation of difference were used for analyzing the pretest and posttest scores.
- ❖ Paired “t” test was used to find out the difference in knowledge between the pretest and posttest

- ❖ Chi- square test was used to find out the association between level of knowledge in the pretest and demographic variables of the staff nurses.

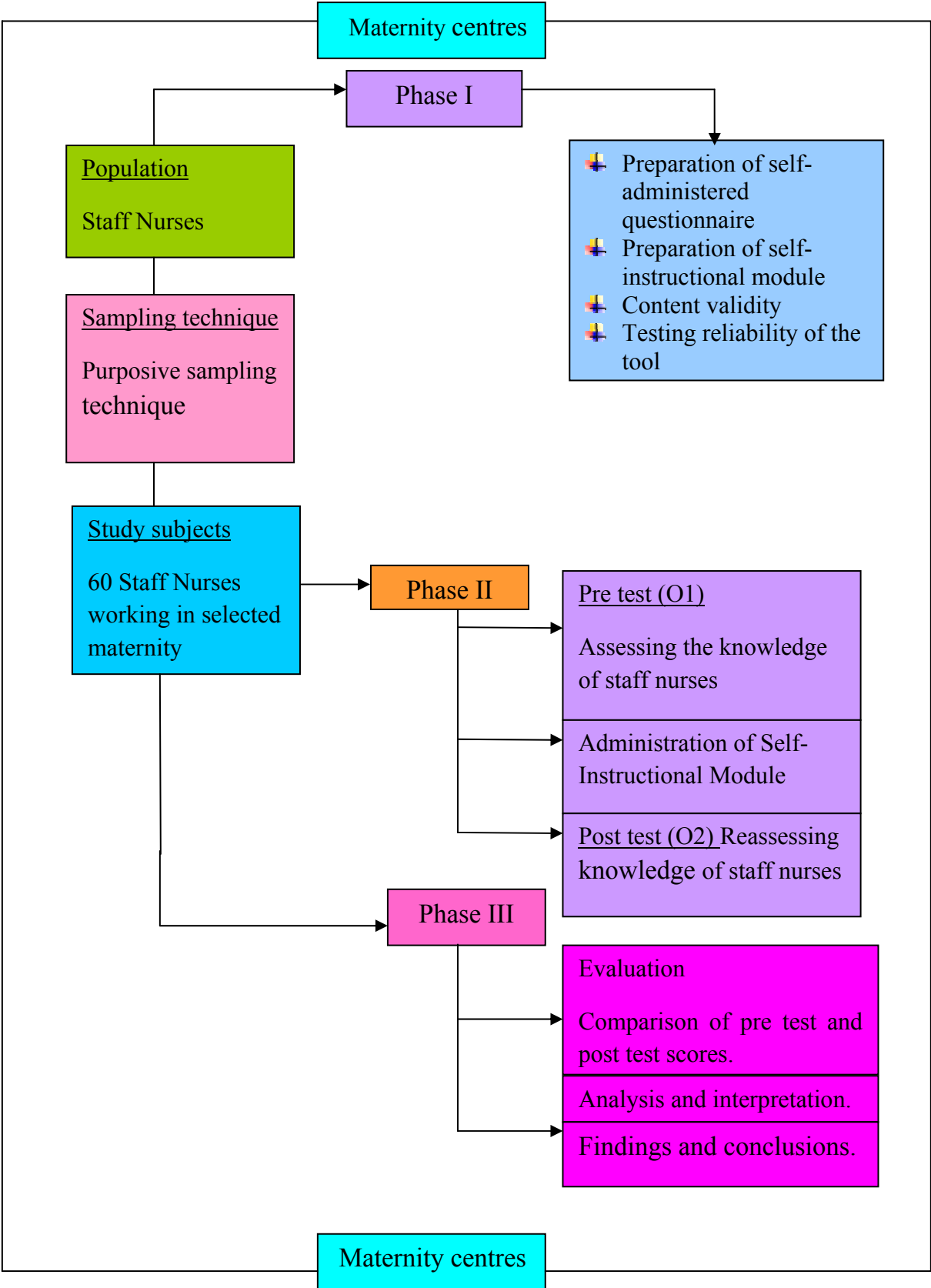
Table 3.1: Plan for data analysis

S. NO.	DATA ANALYSIS	METHOD	PURPOSES
1.	Descriptive statistics	<ul style="list-style-type: none"> ❖ Frequencies and percentages ❖ Mean score, mean percentage and standard deviation of difference 	<ul style="list-style-type: none"> ❖ For the analysis of the demographic data. ❖ For analyzing the pretest and posttest scores
2.	Inferential statistics	<ul style="list-style-type: none"> ❖ Paired ‘t’ test ❖ Chi – square test 	<ul style="list-style-type: none"> ❖ To find out the difference in knowledge between the pretest and posttest ❖ To find out the association between level of knowledge in the pretest and demographic variables of the staff nurses.

ETHICAL CONSIDERATION

The proposed study was conducted after the approval of the “Dissertation committee” of the college. Permission was obtained from the Chief Medical Officers of the maternity centers. Oral consent was obtained from each participant of the study before starting the data collection. Assurance was given to the participants that the anonymity of each individual and confidentiality would be maintained throughout the study.

Fig. 3.1: Schematic representation of research design of the study



CHAPTER -IV

ANALYSIS AND INTERPRETATION

“Do not interpret by seeing or hearing, for they may mislead you.

So analyze things”.

-Anonymous

Polit & Beck, (2008) defines analysis and interpretation as categorizing, ordering, manipulating and summarizing of data to reduce it to intelligible and interpretable form, so that the research problem can be studied and tested including relationship between the variables.

This chapter highlights the analysis and interpretation of data collected from 60 staff nurses working in maternity hospitals in order to evaluate the effectiveness of self- instructional module regarding partograph on the knowledge of staff nurses. The data collected from the staff nurses before and after the self- instructional module was organized, analyzed, and interpreted by using descriptive & inferential statistics.

The data collected was calculated based on the following objectives of the study:

1. To assess the knowledge of staff nurses on Partograph before & after self- instructional module.
2. To compare mean pretest & mean post test knowledge scores on partograph among the samples.

3. To implement & evaluate the effectiveness of self- instructional module on Partograph among the staff nurses.
4. To find association between pretest level of knowledge on partograph among samples with selected demographic variables.

ORGANIZATION OF FINDINGS

The data was organized, analyzed and presented under the following headings.

Section – I

Description of frequency and percentage distribution of the staff nurses according to the selected demographic variables

Section – II

Analysis of the percentage of pretest and posttest knowledge of the staff nurses on different aspects of partograph

Section – III

Analysis of level of knowledge of the staff nurses regarding partograph in the pretest and the posttest.

Section – IV

Comparison of mean scores between pretest and posttest on knowledge regarding partograph (component wise comparison and overall comparison)

Section – V

Association between pretest knowledge scores and demographic variables of staff nurses

SECTION-I

TABLE – 4.1.1

FREQUENCY AND PERCENTAGE DISTRIBUTION OF THE STAFF NURSES ACCORDING TO THE SELECTED DEMOGRAPHIC VARIABLES

Demographic variables		No. of samples	%
Age	< 20 yrs	4	6.67%
	21 - 25 yrs	15	25.00%
	26 - 30 yrs	18	30.00%
	31-35 yrs	14	23.33%
	> 35 yrs	9	15.00%
Educational Qualification	ANM	15	25.00%
	GNM	12	20.00%
	B.Sc(N)	19	31.67%
	Pc B.Sc	14	23.33%
Years of experience	< 5 years	20	33.33%
	5-10 Years	14	23.33%
	11-15 Years	20	33.33%
	>15 years	6	10.00%
In – service programme	Yes	26	43.33%
	No	34	56.67%

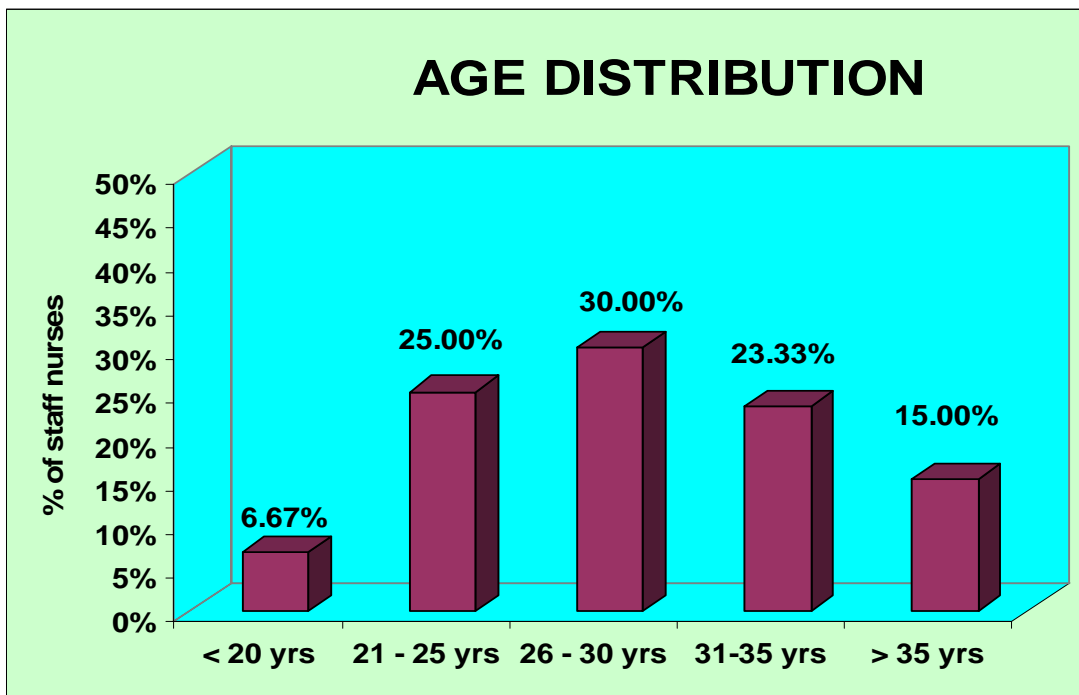
The above table shows that most of the samples (25%) were in the age group 21-25 years, 31.67% had completed B.Sc (N), 66.66% of samples were equally divided in the categories < 5 years and 11-15 years, 56.67% of them had not attended in service programme on partograph.

TABLE – 4.1.2

**FREQUENCY AND PERCENTAGE DISTRIBUTION OF THE
STAFF NURSES ACCORDING TO THEIR AGE**

Demographic variables		No. of samples	%
Age	< 20 yrs	4	6.67%
	21 - 25 yrs	15	25.00%
	26 - 30 yrs	18	30.00%
	31-35 yrs	14	23.33%
	> 35 yrs	9	15.00%

Fig. 4.1.1: Bar diagram showing age of staff nurses



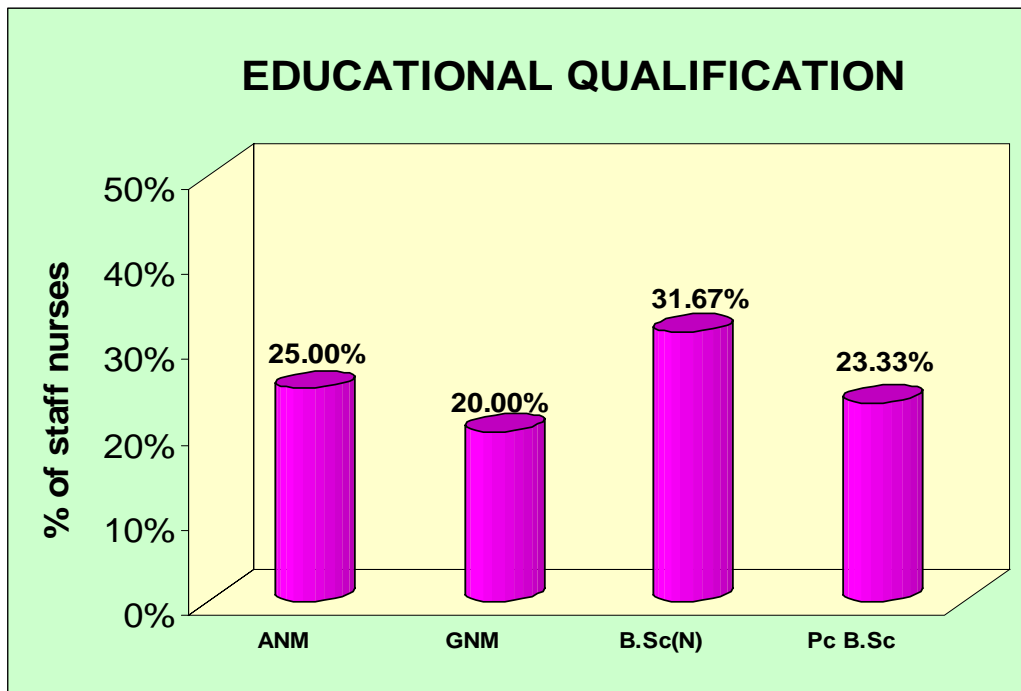
The bar diagram shows that 6.67% of the staff nurse were below 20 years of age, 25% of them were in the age group 21- 25 years, 30% of them were in the age group 26- 30 years, 23.33 % of them were in the age group 31- 35 years and 15% of them were above 35 years of age.

TABLE 4.1.3

FREQUENCY AND PERCENTAGE DISTRIBUTION OF THE STAFF NURSES ACCORDING TO THEIR EDUCATIONAL QUALIFICATION

Demographic variables		No. of samples	%
Educational Qualification	ANM	15	25.00%
	GNM	12	20.00%
	B.Sc(N)	19	31.67%
	Pc B.Sc	14	23.33%

Fig. 4.1.2: Cylindrical diagram showing educational qualification of staff nurses.



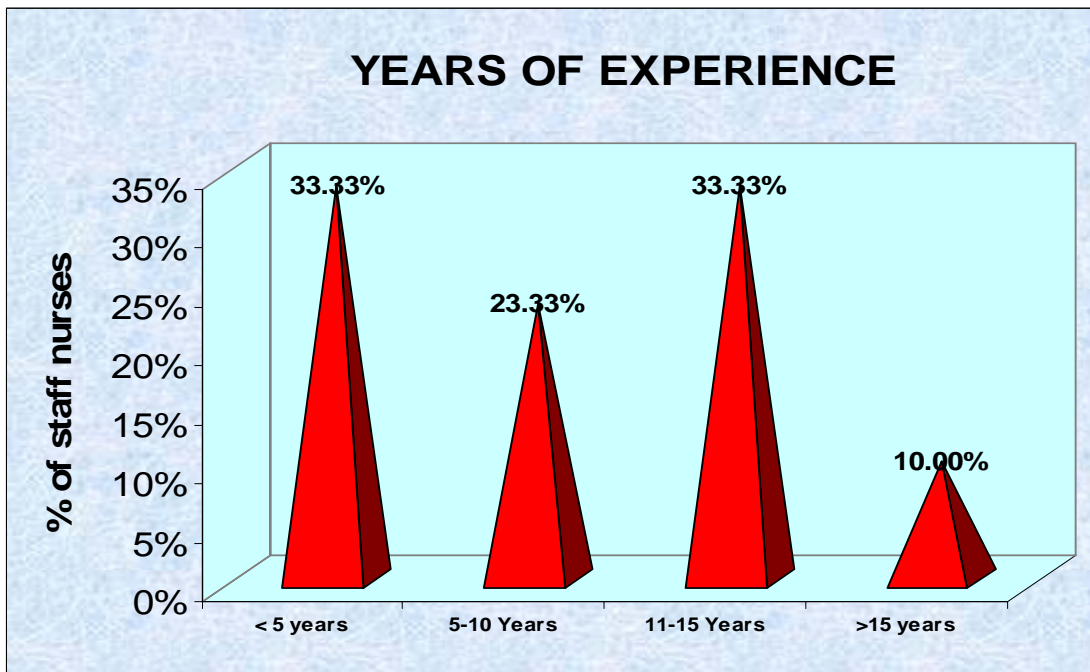
The cylindrical diagram shows that 25% of the staff nurses have completed ANM, 20% of them have completed GNM, 31.67% of them have completed BSc (N) and 23.33% of them have completed Pc BSc (N).

TABLE 4.1.4

**FREQUENCY AND PERCENTAGE DISTRIBUTION OF THE
STAFF NURSES ACCORDING TO THEIR YEARS OF EXPERIENCE**

Demographic variables		No. of samples	%
Years of experience	< 5 years	20	33.33%
	5-10 Years	14	23.33%
	11-15 Years	20	33.33%
	>15 years	6	10.00%

Fig. 4.1.3: Pyramidal diagram showing years of experience of staff nurses



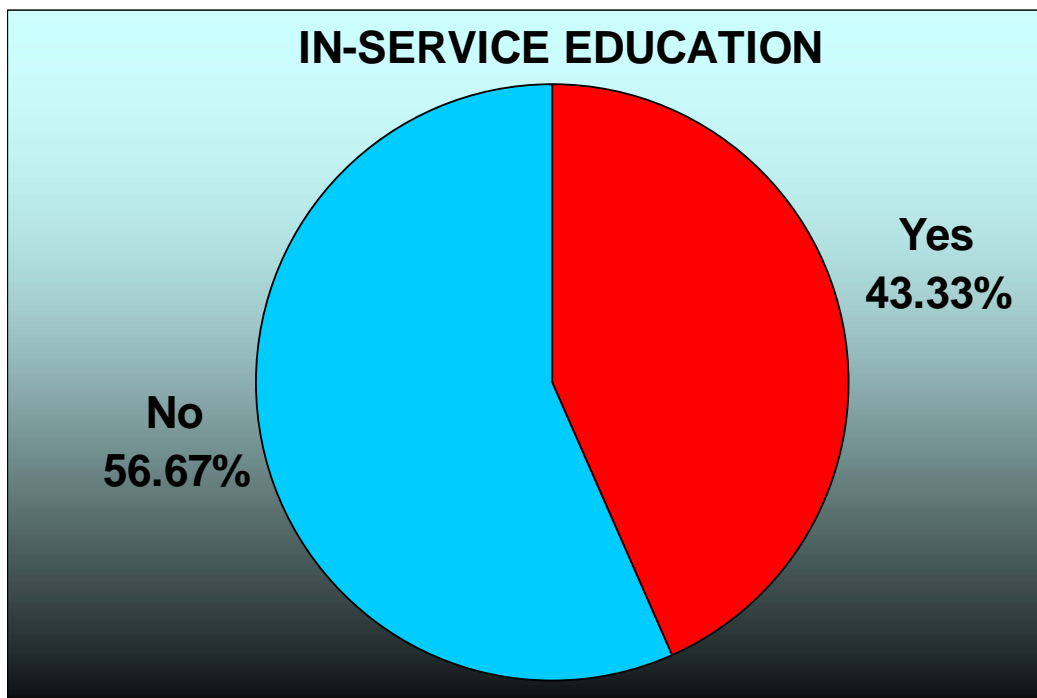
The pyramidal diagram shows that 33.33% of staff nurses had experience less than 5 years, 23.33% of them had experience between 5-10 years, 33.33% of them had experience between 11-15 years & 10% of them had experience more than 15 years.

TABLE 4.1.5

FREQUENCY AND PERCENTAGE DISTRIBUTION OF THE STAFF NURSES ACCORDING TO THEIR EXPOSURE TO IN- SERVICE EDUCATION ON PARTOGRAPH

Demographic variables		No. of samples	%
In – service programme	Yes	26	43.33%
	No	34	56.67%

Fig. 4.1.4: Pie diagram showing staff nurse’s exposure to in-service education on partograph



The pie diagram shows that 43.33% of the staff nurses have undergone In-service education on partograph and 56.67% have not undergone in-service education on partograph.

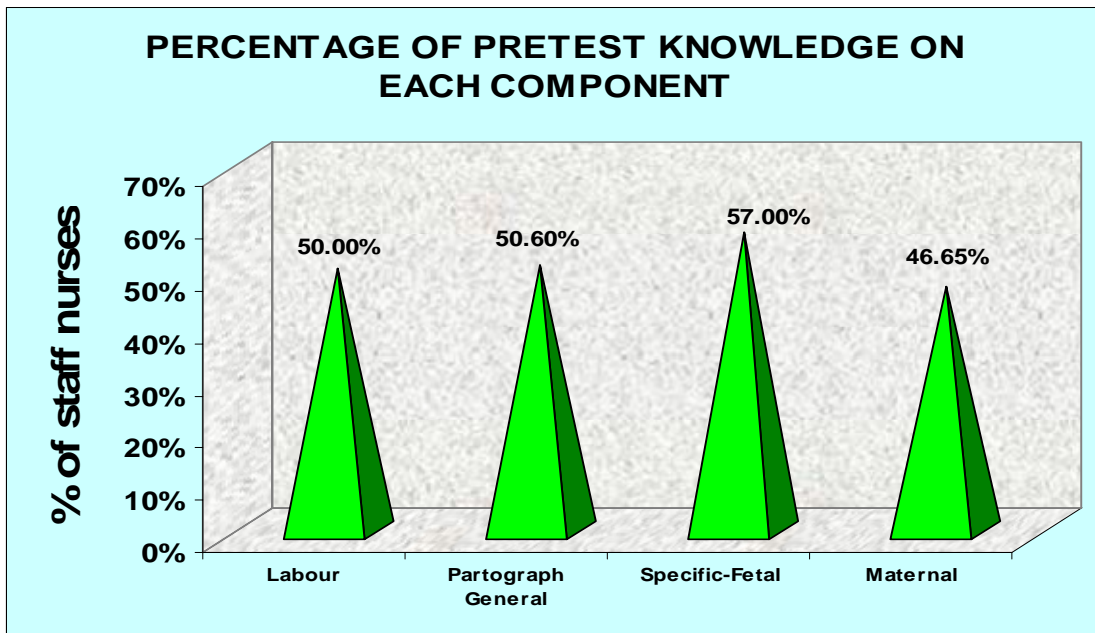
SECTION – II

TABLE- 4.2.1

ASSESSMENT OF THE PERCENTAGE OF PRETEST KNOWLEDGE OF THE STAFF NURSES ON DIFFERENT ASPECTS OF PARTOGRAPH

Components	No. of questions	Min – Max score	Knowledge score	
			Mean score	Mean %
Labour	4	1-4	2	50.00
Partograph General	5	1-5	2.53	50.60
Specific-Fetal	6	1-6	3.42	57.00
Maternal	20	1-20	9.33	46.65

Fig. 4.2.1: Pyramidal diagram showing pretest percentage of knowledge score



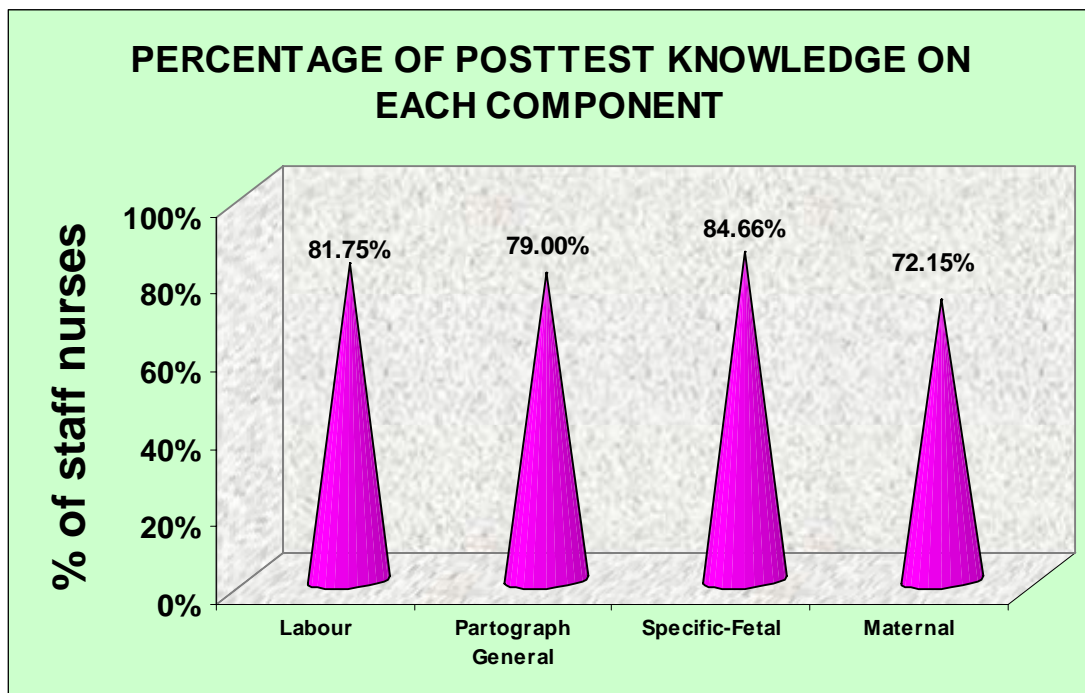
The pyramidal diagram shows that, in the pretest, staff nurses had more knowledge (57%) on the fetal component of the partograph and comparatively less knowledge (46.65%) in the maternal component of the partograph. They had 50% of knowledge on labour and 50.60% of knowledge on partograph in general.

TABLE-4.2.2

ASSESSMENT OF THE PERCENTAGE OF POSTTEST KNOWLEDGE OF THE STAFF NURSES ON DIFFERENT ASPECTS OF PARTOGRAPH

Domain	No. of questions	Min – Max score	Knowledge score	
			Mean score	Mean%
Labour	4	1-4	3.27	81.75
Partograph General	5	1-5	3.95	79.00
Specific-Fetal	6	1-6	5.08	84.66
Maternal	20	1-20	14.43	72.15

Fig.4.2.2: Conical diagram showing posttest percentage of knowledge score



The conical diagram shows that, in the posttest, the staff nurses had more knowledge (84.66%) on the fetal component of the partograph and comparatively less knowledge (72.15%) in the maternal component of partograph. They had 81.75% of knowledge on labour and 79% of knowledge on partograph in general.

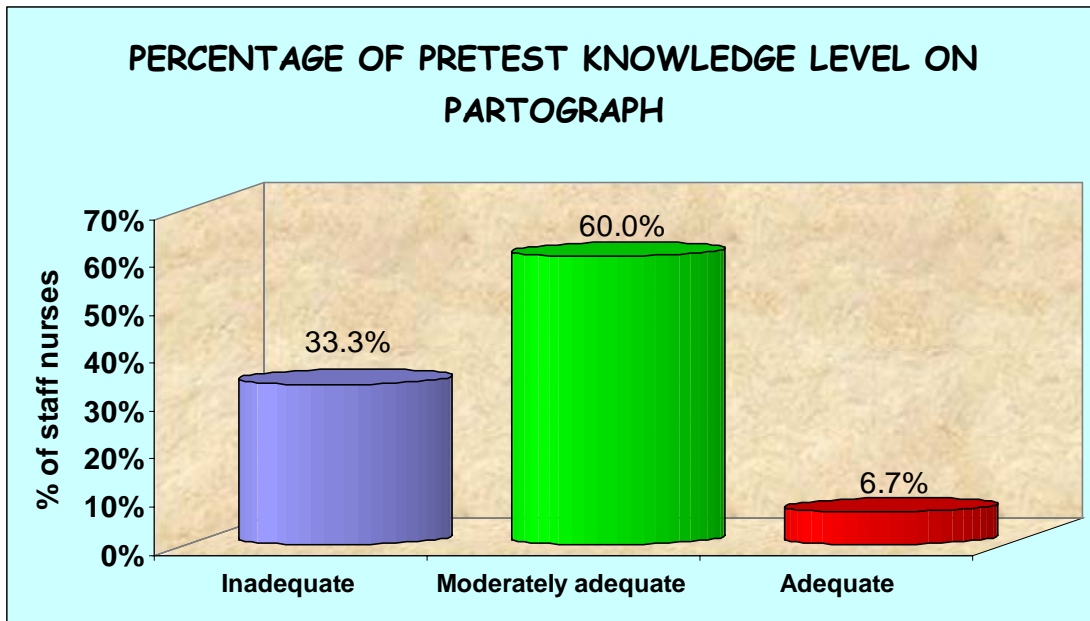
SECTION – III

TABLE- 4.3.1

LEVEL OF KNOWLEDGE OF THE STAFF NURSES REGARDING PARTOGRAPH IN THE PRETEST

Knowledge	Number of Samples	Percentage
Inadequate	20	33.33%
Moderately adequate	36	60.00%
Adequate	4	6.67%

Fig. 4.3.1: Cylindrical diagram showing percentage of pretest knowledge level on partograph



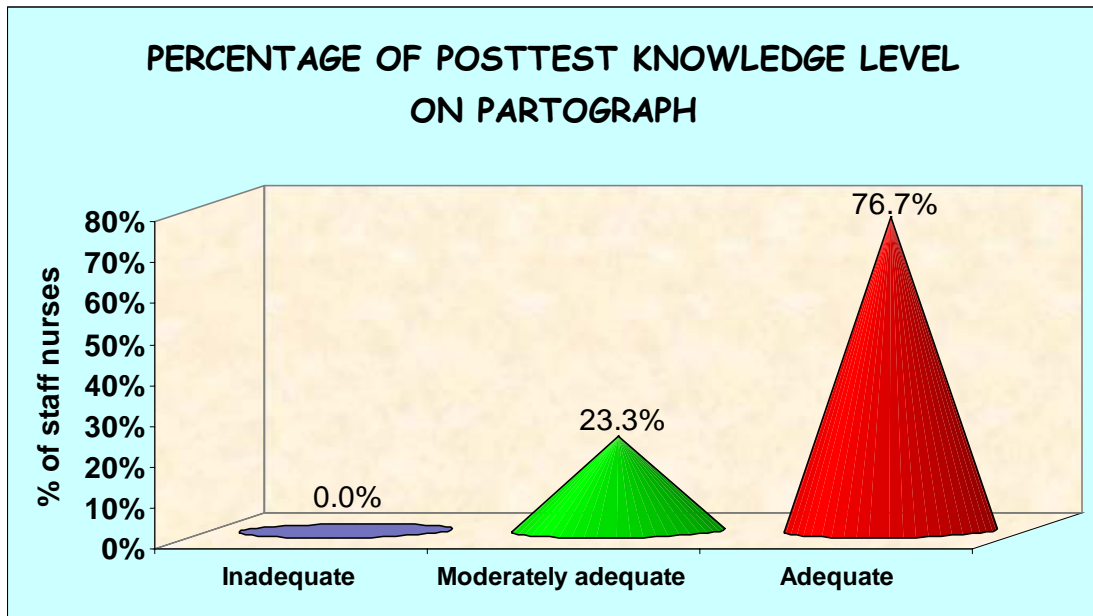
The cylindrical diagram shows that, in the pretest on partograph, 33.3% of the staff nurses had inadequate knowledge, 60% of them had moderately adequate knowledge and 6.7% of them had adequate knowledge.

TABLE- 4.3.2

LEVEL OF KNOWLEDGE OF THE STAFF NURSES REGARDING PARTOGRAPH IN THE POSTTEST

Knowledge	Number of Samples	Percentage
Inadequate	0	0.00%
Moderately adequate	14	23.33%
Adequate	46	76.67%

Fig. 4.3.2: Conical diagram showing percentage of posttest knowledge level on partograph



The conical diagram shows that, in the posttest on partograph, 0% of the staff nurses had inadequate knowledge, 23.3% of them had moderately adequate knowledge and 76.7% of them had adequate knowledge.

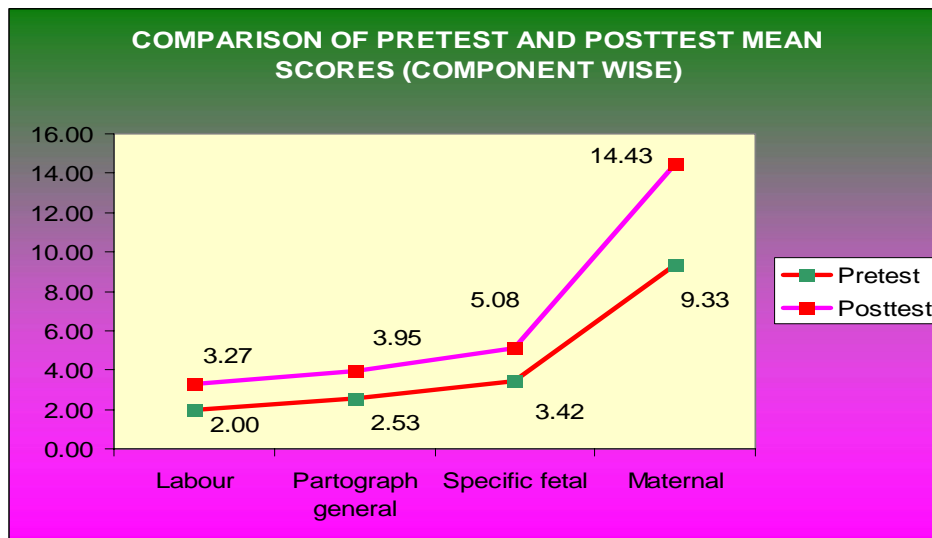
SECTION IV

TABLE – 4.4.1

COMPARISON OF MEAN SCORES BETWEEN PRETEST AND POSTTEST ON KNOWLEDGE REGARDING PARTOGRAPH (COMPONENT WISE)

Components	Observation	Mean	Mean %	Mean Difference	SD	't' value	Significance
Labour	Pretest	2	50	1.27	0.880	11.05	Significant P<0.05
	Posttest	3.27	81.75				
Partograph general	Pretest	2.53	50.6	1.42	0.960	11.31	Significant P<0.05
	Posttest	3.95	79				
Specific fetal	Pretest	3.42	57	1.67	1.08	11.81	Significant P<0.05
	Posttest	5.08	84.66				
Maternal	Pretest	9.33	46.65	5.1	2.23	17.57	Significant P<0.05
	Posttest	14.43	72.15				

Fig. 4.4.1: Line diagram comparing the mean scores of the components in the pretest and the posttest



The line diagram shows that the mean scores of the posttest were greater than the mean scores of the pretest in all the components of the partograph.

Area wise distribution of mean percentage of pretest knowledge scores of the staff nurses shows that among the four areas, the highest mean percentage was obtained for the domain “fetal component” which was 57% and the lowest mean percentage was obtained for the domain “maternal component” which was 46.65%.

Area wise distribution of mean percentage of posttest knowledge scores of the staff nurses shows that among the four areas, the highest mean percentage was obtained for the domain “fetal component” which was 84.66% and the lowest mean percentage was obtained for the domain “maternal component” which was 72.15%.

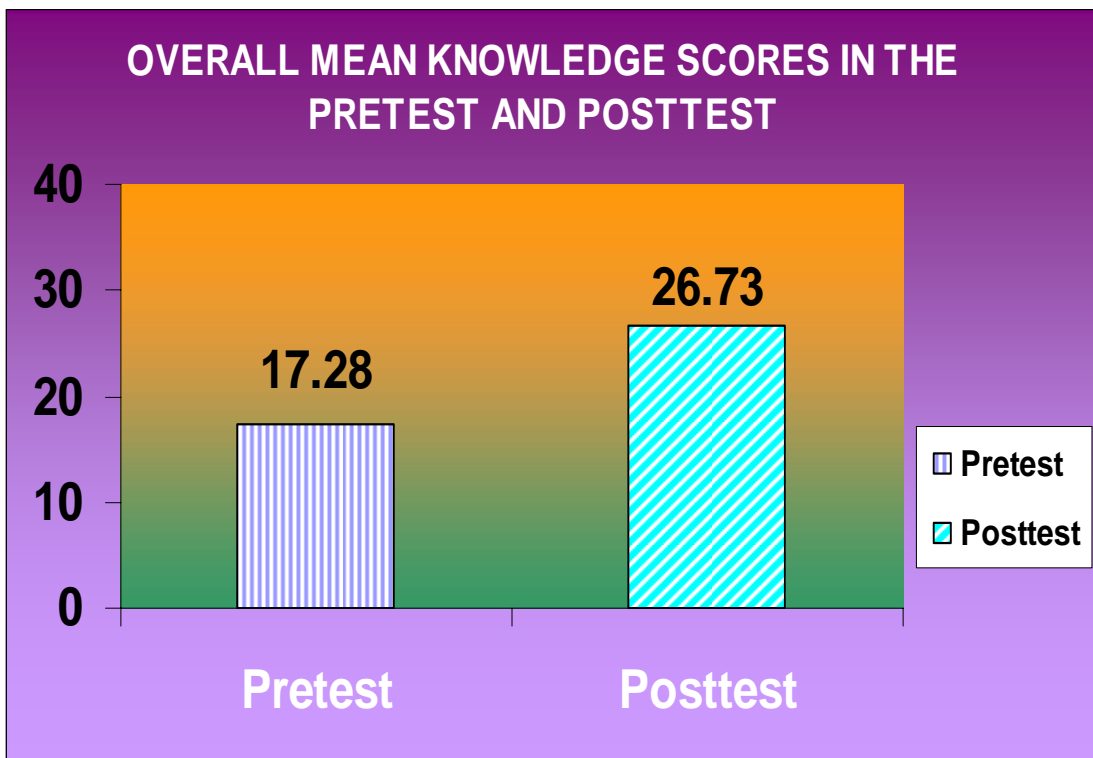
Further, the paired t test was used to find the significant difference between the pretest and posttest knowledge scores in all the components of partograph. Table 4.4.1 shows that the t values obtained for all the components were significant at $P < 0.05$. Hence there is significant difference between the pretest and posttest knowledge scores in all the components of partograph, and that difference is due to the exposure of the staff nurses to self- instructional module on partograph.

TABLE – 4.4.2

COMPARISON OF MEAN SCORES BETWEEN PRETEST AND POSTTEST
ON KNOWLEDGE REGARDING PARTOGRAPH (OVERALL)

Component	Observation	Mean	Mean %	Mean Difference	SD	't' value	Significance
Overall knowledge score	Pretest	17.28	49.37	9.45	2.79	25.97	Significant P<0.05
	Posttest	26.73	76.37				

Fig. 4.4.2: Bar diagram depicting overall mean knowledge scores in the pretest and the posttest



**Ho: Self- instructional module on partograph will not be effective in increasing
The knowledge of the staff nurses on partograph**

The effectiveness of self- instructional module regarding partograph on knowledge of staff nurses is tested with the formula $Y-X=E$ in which, Y- Posttest mean score , X - Pretest mean score and E-Effectiveness of self- instructional module on partograph. The overall mean score in the posttest was 26.73, whereas, in the pretest it was 17.28. Hence $Y (26.73) - X (17.28) = E (9.45)$.

The difference between the overall pretest and posttest mean scores revealed the effectiveness of the self- instructional module on partograph. Hence there is a significant increase in knowledge of the staff nurses regarding partograph after their exposure to the self- instructional module on partograph. Therefore, **Ho** is rejected.

Further, the paired t test was used to find the significant difference between the overall pretest and posttest knowledge scores. Table 4.4.2 shows that the t value 25.97 is significant at $P < 0.05$. Hence there is significant difference between the overall pretest and posttest knowledge scores, and that difference is due to the exposure of the staff nurses to self- instructional module on partograph.

SECTION – V

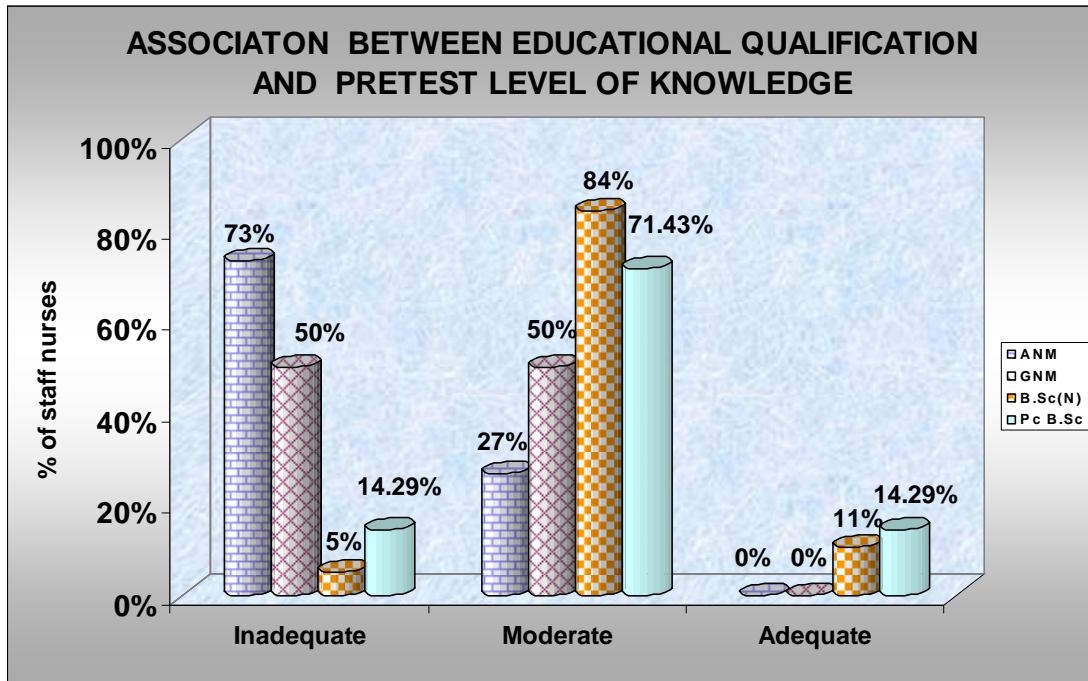
TABLE – 4.5.1

**ASSOCIATION BETWEEN PRETEST KNOWLEDGE SCORES AND
DEMOGRAPHIC VARIABLES OF STAFF NURSES**

Demographic variables		Level of Knowledge						Chi-Square Value	Significance
		Inadequate		Moderate		Adequate			
		N	%	N	%	N	%		
Age	< 20 yrs	4	100.00	0	0.00	0	0.00	$\chi^2=11.756$ df=8 p=0.162	Not significant (P>0.05)
	21 - 25 yrs	4	26.67	10	66.67	1	6.67		
	26 - 30 yrs	5	27.78	13	72.22	0	0.00		
	31-35 yrs	4	28.57	8	57.14	2	14.29		
	> 35 yrs	3	33.33	5	55.5	1	11.11		
Educational Qualification	ANM	11	73.33	4	26.67	0	0.00	$\chi^2=22.797$ df=6 p=0.0009	Significant (P<0.05)
	GNM	6	50.00	6	50.00	0	0.00		
	B.Sc(N)	1	5.26	16	84.21	2	10.53		
	Pc B.Sc	2	14.29	10	71.43	2	14.29		
Years of experience	< 5 years	9	45.00	11	55.00	0	0.00	$\chi^2=18.244$ df=6 p=0.0056	Significant (P<0.05)
	5-10 Years	9	64.29	5	35.71	0	0.00		
	11-15 Years	1	5.00	16	80.00	3	15.00		
	>15 years	1	16.67	4	66.67	1	16.67		
In – service programme	Yes	4	15.38	19	73.08	3	11.54	$\chi^2=7.376$ df=2 p=0.0250	Significant (P<0.05)
	No	16	47.06	17	50.00	1	2.94		

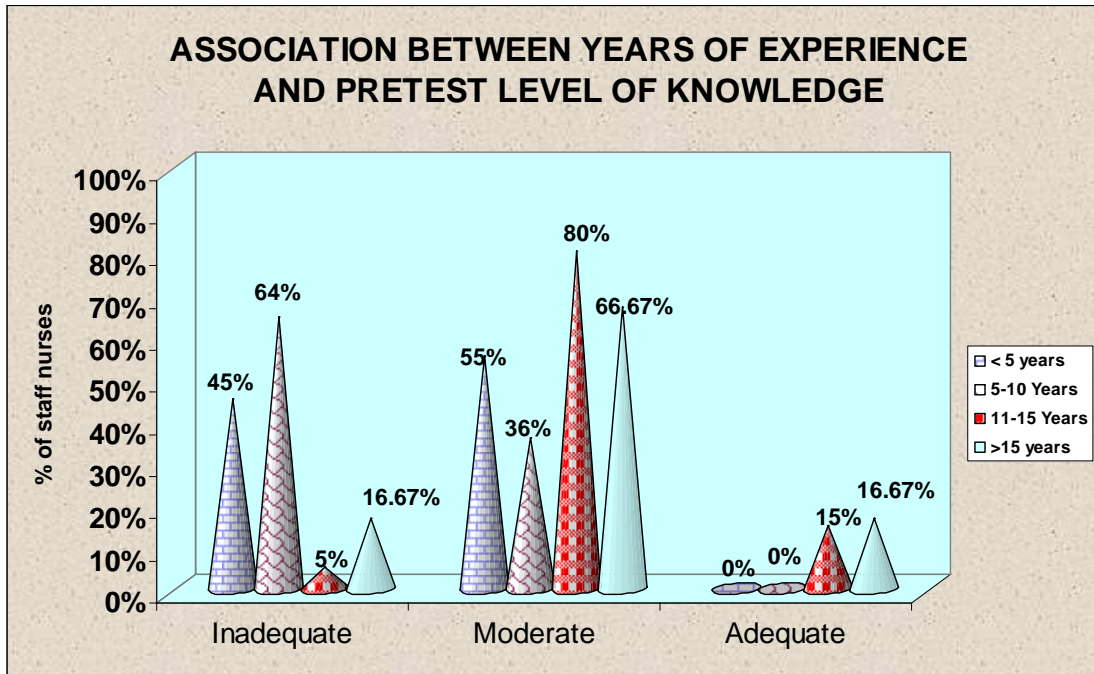
From the above table, it is evident that there is significant association between the pretest knowledge of the staff nurses with the demographic variables namely educational qualification, years of experience and exposure to in- service education. There is no significant association between the pretest knowledge of the staff nurses with the demographic variable “age”.

Fig. 4.5.1: Cylindrical diagram depicting association between educational qualification and pretest level of knowledge



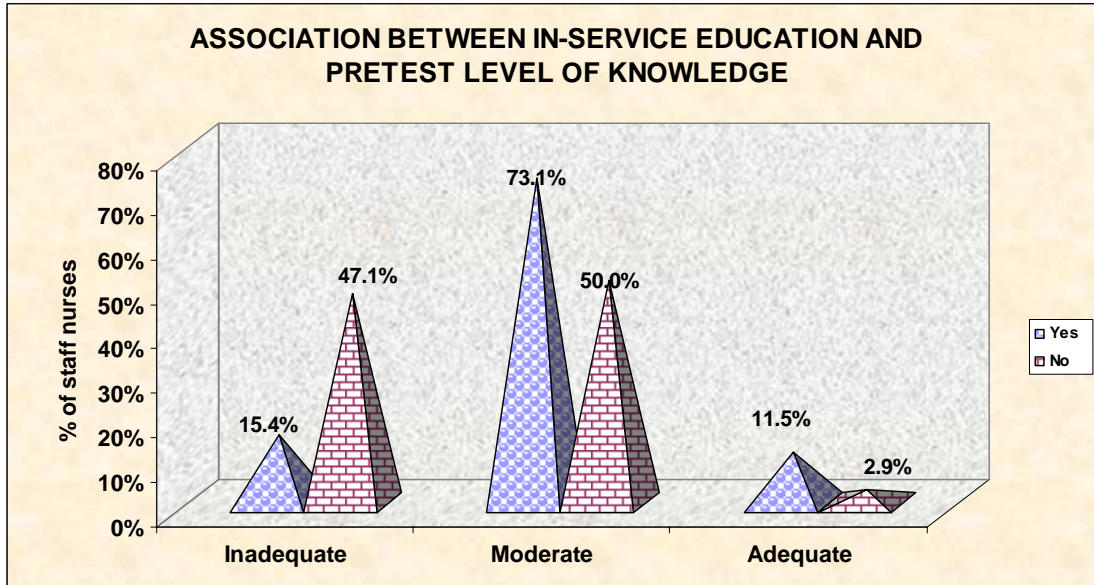
The educational qualification of the staff nurses is closely associated with their pretest level of knowledge. Staff nurses with Bachelor degree in Nursing had more knowledge on partograph when compared to other cadre nurses.

Figure 4.5.2: Conical diagram depicting association between years of experience and their level of knowledge



The experience of the staff nurses is closely associated with their pretest level of knowledge. Staff nurses with experience more than 15 years had more knowledge on partograph when compared to nurses with experience less than 15 years.

Figure 4.5.3: Pyramidal diagram depicting association between in-service education and their level of knowledge



Exposure of the staff nurses to in-service education on partograph is closely associated with their pretest level of knowledge. Staff nurses who had undergone in-service education on partograph had more knowledge on it when compared to nurses who had never been exposed to such programme.

CHAPTER- V

DISCUSSION

“A good plan executed now is better than a perfect plan next week”

- Gen George .S

This chapter deals with the discussion of the study with appropriate literature review, statistical analysis and findings of the study based on the objectives of the study. The aim of this study was to evaluate the effectiveness of self-instructional module regarding partograph on knowledge among staff nurses working in selected maternity hospitals at Erode. A total number of 60 staff nurses were selected by using purposive sampling technique. Pretest and posttest were conducted by using self-administered questionnaire.

The first objective of the study was to assess the knowledge of staff nurses on partograph before & after self- instructional module.

In the pretest on partograph, 33.3% of the staff nurses had inadequate knowledge, 60% of them had moderately adequate knowledge and 6.7% of them had adequate knowledge. In the posttest on partograph, 0% of the staff nurses had inadequate knowledge, 23.3% of them had moderately adequate knowledge and 76.7% of them had adequate knowledge.

The second objective of the study was to compare mean pretest & mean post test knowledge scores on partograph among the samples.

The mean scores of the posttest were greater than the mean scores of the pretest in all the components of the partograph. Area wise distribution of mean

percentage of pretest knowledge scores of the staff nurses showed that among the four areas, the highest mean percentage was obtained for the domain “fetal component” which was 57% and the lowest mean percentage was obtained for the domain “maternal component” which was 46.65%.

Area wise distribution of mean percentage of posttest knowledge scores of the staff nurses showed that among the four areas, the highest mean percentage was obtained for the domain “fetal component” which was 84.66% and the lowest mean percentage was obtained for the domain “maternal component” which was 72.15%.

The difference between the overall pretest and posttest mean scores revealed the effectiveness of the self- instructional module on partograph. Hence there was a significant increase in knowledge of the staff nurses regarding partograph after their exposure to the self- instructional module on partograph.

The third objective of the study was to implement & evaluate the effectiveness of self- instructional module on partograph among the staff nurses.

The effectiveness of self- instructional module regarding partograph on knowledge of staff nurses was tested with the formula $Y-X=E$ in which, Y- Posttest mean score , X - Pretest mean score and E-Effectiveness of self- instructional module on partograph. The overall mean score in the posttest was 26.73, whereas, in the pretest it was 17.28. Hence $Y (26.73) - X (17.28) = E (9.45)$.

Further, the paired t test was used to find the significant difference between the overall pretest and posttest knowledge scores. It showed that the t value 25.97 was significant at $P < 0.05$. Hence there was significant difference between the overall pretest and posttest knowledge scores, and that difference was due to the exposure of

the staff nurses to self- instructional module on partograph. Hence, **H₁: “Self-instructional module on partograph will be effective in increasing the knowledge of staff nurses on partograph”** is accepted.

These findings are supported by **J Perinatol,UK, (1999)**, who evaluated the effectiveness of the maternal care manual of the perinatal education programme on the ability of midwives to interpret antenatal cards & partograms. He found that the maternal care manual significantly improved their ability to interpret clinical information & apply knowledge. If this ability is applied in clinical practice, a reduction in maternal & perinatal deaths is possible.

The above said findings of this study are also supported by **Petterson KO, et. al., Sweden, (2000)**, who evaluated the impact of an educational intervention of midwives’ use of the Angolan Model of the World Health Organization’s (WHO) partograph. In-service education (theory and practice) was given to the midwives by a team of midwives and an obstetrician. They found that the midwives, those who were imparted the in-service education, improved in general their documentation of the partograph.

The fourth objective of the study was to find association between pretest level of knowledge on partograph among samples with selected demographic variables.

There was significant association between the pretest knowledge of the staff nurses with the demographic variables namely educational qualification, years of experience and exposure to in- service education. There was no significant association between the pretest knowledge of the staff nurses with the demographic variable “age”. Staff nurses with Bachelor degree in Nursing had more knowledge on partograph when compared to other cadre nurses and those with experience more than

15 years had more knowledge on partograph when compared to nurses with experience less than 15 years. Staff nurses who had undergone in-service education on partograph had more knowledge on it when compared to nurses who had never been exposed to such programme.

Hence, **H₂: “There will be significant association between the pretest knowledge of staff nurses regarding partograph with selected demographic variables”** is accepted except for the demographic variable “age”.

These findings are consistent with the findings of **McDermott J et.al., Indonesia, (2001)**, who compared the knowledge, confidence, & skills of Indonesian midwives those who attended an intensive in- service training with midwives who received an internship program & midwives who attended no program. The five key skills compared were prevention of infection, use of the Partograph, manual removal of placenta, bimanual uterine compression & neonatal resuscitation. Overall, skill scores were 71% for midwives in the intensive program, 62% for the interns, & 51% for midwives with no in-service training. These results signified the association between exposure to in-service education & knowledge on partograph.

CHAPTER- VI

SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

**“Our task now is not to fix the blame for the past,
but fix the course for the future.”**

- John. F. Kennedy.

This chapter presents the summary, conclusion, implications for nursing practice, recommendations and suggestions of the study.

SUMMARY OF THE STUDY

Introduction

The nurse's record of labour is a legal document & must be kept meticulously. Each event must be written down immediately after its occurrence & should be authenticated with the midwife's full signature. An accurate record of the early part of labour provides the basis for management of labour progresses. In recent years the partograph has been widely accepted as an effective means of recording the progress of labour. **The partograph acts as an “early warning system” in the early detection of CPD and may be used to assist:-**

- ❖ **Referral decision in rural maternity centres.**
- ❖ **Intervention decisions in hospitals.**
- ❖ **Ongoing evaluation of the effect of interventions.**

The purpose of the study was **to evaluate the effectiveness of self-instructional module on partograph in terms of knowledge among staff nurses working in selected maternity hospitals at Erode.** The conceptual frame work of this study was based on King's goal attainment theory

Objectives of the study

- ❖ To assess the knowledge of staff nurses on Partograph before & after self- instructional module.
- ❖ To compare mean pretest & mean post test knowledge scores on partograph among the samples.
- ❖ To implement & evaluate the effectiveness of self- instructional module on Partograph among the staff nurses.
- ❖ To find association between pretest level of knowledge on partograph among samples with selected demographic variables.

Methodology

The research approach used for this study was **Quantitative educative evaluative approach** and the research design used was

- ❖ **Quasi- experimental design,**
- ❖ **Pre- Experimental One group pretest – posttest design.**

“Self – instructional module on partograph” was the independent variable and the **“knowledge of Staff Nurses on partograph”** was the dependent variable. The study was conducted in two maternity hospitals namely **Lotus Appollo Hospital and Sreemathi Murugesan Hospital, Erode.** **60** staff nurses were selected by using

purposive sampling technique. The data collection method used for this study was **self-report method. Self-administered questionnaire** was used for data collection.

The instruments used in the study were:-

- **Structured knowledge questionnaire on partograph.**
- **Self-instructional module on partograph.**

Pilot study was conducted from 1st to 7th of November 2009, in order to check the feasibility and relevance of the study. The final study was conducted from 11th to 30th of November 2009 according to the planned data collection schedule. Descriptive statistics (frequency, percentage, mean, mean percentage and standard deviation of difference) and inferential statistics (chi – square, paired “t” test) were used to analyse the data and to test hypothesis. The analysis was based on the objectives and hypotheses of the study.

Results

The following were the results of this study:

- ❖ Most of the samples (25%) were in the age group 21-25 years, 31.67% had completed B.Sc (N), 66.66% of samples were equally divided in the categories < 5 years and 11-15 years, 56.67% of them had not attended in-service programme on partograph.
- ❖ In the pretest, staff nurses had more knowledge (57%) on the fetal component of the partograph and comparatively less knowledge (46.65%) in the maternal component of the partograph. They had 50% of knowledge on labour and 50.60% of knowledge on partograph in general.

- ❖ In the posttest, the staff nurses had more knowledge (84.66%) on the fetal component of the partograph and comparatively less knowledge (72.15%) in the maternal component of partograph. They had 81.75% of knowledge on labour and 79% of knowledge on partograph in general.
- ❖ In the pretest on partograph, 33.3% of the staff nurses had inadequate knowledge, 60% of them had moderately adequate knowledge and 6.7% of them had adequate knowledge.
- ❖ In the posttest on partograph, 0% of the staff nurses had inadequate knowledge, 23.3% of them had moderately adequate knowledge and 76.7% of them had adequate knowledge.
- ❖ The difference between the overall pretest and posttest mean scores was 9.45, which revealed the effectiveness of the self- instructional module on partograph. Hence there was a significant increase in knowledge of the staff nurses regarding partograph after their exposure to the self- instructional module on partograph.
- ❖ Further, the paired t test was used to find the significant difference between the overall pretest and posttest knowledge scores. The t value 25.97 was significant at $P < 0.05$. Hence there was significant difference between the overall pretest and posttest knowledge scores, and that difference was due to the exposure of the staff nurses to self- instructional module on partograph.
- ❖ There was significant association between the pretest knowledge of the staff nurses with the demographic variables namely educational qualification, years of experience and exposure to in- service education. There was no significant association between the pretest knowledge of the staff nurses with the demographic variable “age”.

- ❖ Staff nurses with Bachelor degree in Nursing had more knowledge on partograph when compared to other cadre nurses and those with experience more than 15 years had more knowledge on partograph when compared to nurses with experience less than 15 years. Staff nurses who had undergone in-service education on partograph had more knowledge on it when compared to nurses who had never been exposed to such programme.

CONCLUSION:

The main concept of this study was to make the staff nurses aware of the **modified WHO partograph** which proved to be simpler and easier to use than the traditional one. The specialty of this **modified WHO partograph** is that the latent phase has been removed and plotting on the partograph begins in the active phase when the cervix is 4 cm dilated. Keeping this advantage in mind, the researcher prepared a **self- instructional module on partograph** and distributed it to the staff nurses to increase their knowledge on partograph. It was found that the **self- instructional module on partograph** increased the knowledge of the staff nurses. This study proved to be very essential as partograph plays an important role in labour management and its role in preventing maternal and perinatal, mortality and morbidity is remarkable.

The study is based on the fact that “improving the professional competencies of the staff nurses by educating them about the current innovations is very essential”. This study could be considered as a part of continuing professional development of the staff nurses. Self- instructional module on partograph served that purpose and was effective in increasing the knowledge of staff nurses.

IMPLICATIONS FOR PRACTICE

The findings of the study have implications related to Nursing Administration, Nursing Practice, Nursing Research and Nursing Education regarding the increase in level of knowledge regarding Partograph among the staff nurses.

Nursing administration

- ❖ Nurse administrators must **encourage the staff nurses** to update their knowledge to meet the changing demands of health care consumers.
- ❖ Nurse administrators should assume **leadership roles in training** and educating the staff nurses under her commitment about partograph.
- ❖ Nurse administrators can arrange **visits for the staff nurses to tertiary health care centres** so that they become acquainted with routine standards of MCH care.
- ❖ Nurse administrator can recommend **the formulation of a policy which emphasizes the maintenance of partograph.**
- ❖ **Clinical auditing** should be performed routinely on a periodic basis to check the completeness of the partographs maintained during deliveries.
- ❖ Nurse administrator must conduct **periodic performance appraisals** to evaluate the inadequacies in the knowledge of the staff nurses.
- ❖ Nurse administrators should emphasize the importance of continuing professional development to the staff nurses, so that they can be protected against **negligence.**
- ❖ Nurse administrators should **utilize the available resources** which are technologically sound in teaching the staff nurses on partograph.

Nursing practice

- ❖ Nurses taking care of labouring women should have sound **professional knowledge** about partograph and its interpretation.
- ❖ Labour units should be **equipped with partograms** and other equipments essential to maintain partograph like Doppler or Fetoscope, sphygmomanometer, thermometer, sterile gloves, urine testing articles or uristix, so that the implementation of partograph is facilitated and it serves its purpose.
- ❖ **Community health nurses** who are in direct contact with the labouring women **must be taught about the partograph**, because of the fact that home deliveries are still conducted in our country.

Nursing education

- ❖ Midwives have the **utmost responsibility of protecting the health of the mother** by conducting safe delivery. They should perceive this and voluntarily involve in **In- service education programmes** related to MCH especially, partograph.
- ❖ **Partograph** is a concept upon which every staff nurse should have clear idea. Therefore, this concept must be added in the nursing curriculum to enlighten the future generation.
- ❖ **Nurse educator** should possess theoretical and practical knowledge on partograph.
- ❖ **Special courses on partograph or labour management** can be organised for the nurse educators, so as to enable them to deliver proper training to the nursing students.

Nursing research

- ❖ The findings of this study is helpful for the nursing professionals and nursing students to conduct further studies so as to find the **effectiveness of various methods of providing education on partograph**.
- ❖ It will in turn, strengthen nursing research pertaining to maternity nursing.
- ❖ There is a need for extensive and intensive research in this area so that **strategies for educating nurses on partograph** can be developed.
- ❖ Developing research in this area would help nurse to **deal efficiently and effectively**, thus reducing the maternal and perinatal, mortality and morbidity.

LIMITATIONS

When interpreting a research report readers are expected to be aware of the limitations that might have an impact on the interpretation of results and the researchers must acknowledge possible limitations when reporting their findings.

- ❖ The study was limited to sixty samples only.
- ❖ The study was limited to 6 weeks period only.
- ❖ Non- standardized tool was used for this study.
- ❖ The study was limited to staff nurses working in selected maternity hospitals.

RECOMMENDATIONS

Based on the findings of the study the following recommendations are made:

- ❖ The study can be replicated using a **large sample** to validate the findings on generalization.
- ❖ A similar study can be conducted by using **comparative approach** and comparison can be made between midwives with varying qualifications.
- ❖ This study can also be done to **assess the practice and attitude** of the staff nurses on partograph.
- ❖ The **Midwives of all the hospitals and nursing homes** can benefit from this self- instructional module on partograph since the procedures and inferences of this study apply to all the midwives. Hence it helps in reducing the maternal and peri-natal mortality and morbidity rates.
- ❖ Even though only 6.7 % of the samples had adequate knowledge in the pre-test, professionals who received formal training performed significantly better than those who were not formally trained. This brings into a sharp focus the **need to introduce some form of training** for the Auxiliary nurses who practice mainly in the private sector of the health care industry.
- ❖ The results of this study can be considered as a **performance appraisal of the staff nurses** and accordingly, in- service education can be given to them regarding labour management.

- ❖ Special courses on “**labour management**” can be started and the staff nurses completing such courses can be certified and allowed to practice in maternity centres.

SUGGESTIONS

- ❖ Practicing the maintenance of partograph can be encouraged and **needed resources** can be provided in the maternity wards so that the health care consumers can be benefitted.
- ❖ Training all health care workers who supervise parturient women on the use of the partograph and enforcing its use at all levels of care will be in keeping with provision of **Evidence- Led Obstetric Care**, which is one of the goals of the **Women and Children Friendly Services Initiative**.
- ❖ Training in Partograph can be imparted to the midwives under the auspices of “**World Midwifery Day**”, observed on **May 5**.
- ❖ Maternity centres should adopt recent innovations in MCH care eg. **The Modified WHO Partograph**, so that such innovations become meaningful. This should be followed by extensive training of the staff nurses on the adopted innovations for its correct implementation.
- ❖ Maternity centres should conduct periodic **In-service Programmes**, **Refresher and Re-entry Programmes** to keep the staff nurses informed on partograph.

CHAPTER VII

BIBLIOGRAPHY

BOOKS:-

1. Allot .W.A, (2008), **“THE LITTLE BLACK BOOK OF INTERNATIONAL MEDICINE”**, Jones & Barlett publishers, US, Pp: 401-409.
2. Annamma Jacob, (2005), **“A COMPREHENSIVE TEXT BOOK OF MIDWIFERY”**, 1st edition, Jaypee Brothers Pvt. ltd, New Delhi, Pp: 155.
3. Anna Nolte. A, (2008), **“THE PARTOGRPH AND HOW TO ASSESS LABOUR”**, Juta & Company Limited, Pp: 3-23.
4. Arul kumaran, (2004), **“ESSENTIALS OF OBSTETRICS”**, Jaypee Brothers Pvt. ltd, New Delhi, Pp: 234- 246.
5. Balin. R.E, (2005), **“TRENDS IN MIDWIFERY RESEARCH”**, Nova Publishers, Nigeria, Pp: 263- 268.
6. Bale JR et.al, (2003), **“IMPROVING BIRTH OUTCOMES: MEETING THE CHALLENGES IN THE DEVELOPING WORLD”**, National Academics press, US, Pp: 66- 71.
7. Basavanthappa BT, (2001), **“NURSING RESEARCH- PRINCIPLES AND METHODS”**, 6th edition, Jaypee brothers, New Delhi, Pp: 115-176.
8. Basavanthappa BT, (2006), **“TEXT BOOK OF MIDWIFERY AND REPRODUCTIVE HEALTH NURSING”**, Jaypee brothers, New Delhi, Pp: 355- 372.
9. Baum. J.D, (1993), **“BIRTH RISKS”**, Nestle Nutrition Services, Michigan, Pp: 15- 17.

10. Beischer NA. et.al, (1996), **“OBSTETRICS AND THE NEW BORN: AN ILLUSTRATED TEXT BOOK”**, 3rd edition, Elsevier Health sciences publishers, Australia, Pp: 1- 8.
11. Bobak MI and Jensen MD, (1987), **“ESSENTIALS OF MATERNITY NURSING- THE NURSE AND THE CHILD BEARING FAMILY”**, 2nd edition, Missouri, C,V Mosby Company, Pp: 8.
12. Broek. N.V, (2006), **“LIFE SAVING SKILLS MANUAL”**, RCOG Publications, US, Pp: 4- 10.
13. Daftary SN et.al, (2005), **“MANUAL OF OBSTETRICS”**, 2nd edition, Elsevier publications, India, Pp: 284- 287.
14. Dawn CS, (2003), **“TEXT BOOK OF OBSTETRICS AND NEONATOLOGY”**, 16th edition, Dawn Book publishers, Kolkata, Pp: 6-15.
15. Driscoll. K. O. et.al, (1993), **“ACTIVE MANAGEMENT OF LABOUR”**, 3rd edition, Mosby Company, Michigan, Pp: 54- 78.
16. Dutta DC, (2004), **“TEXT BOOK OF OBSTETRICS”**, 6th edition, New Central Book Agency (P) Ltd, Kolkata, Pp: 527- 529..
17. Edmonds. DK. et.al, (2001), **“DEWHURST’S TEXT BOOK OF OBSTETRICS AND GYNECOLOGY”**, 7th edition, Wiley- Blackwell publications, New Zealand, Pp: 516- 519.
18. Fraser DM et.al, (2003), **“MYLES’S TEXT BOOK FOR MIDWIVES”**, 14th edition, Elsevier publications, China, Pp: 449- 451.
19. Gold man M.B. et.al, (2000), **“WOMEN AND HEALTH”**, Gulf professional publications, England, Pp: 405- 409.
20. Henderson. C et.al, (1997), **“ESSENTIAL MIDWIFERY”**, Elsevier Health sciences, Australia, Pp: 113- 127.

21. Indrani, (2004), **“DOMICILIARY CARE IN MIDWIFERY”**, Jaypee brothers, New Delhi, Pp: 117- 122.
22. Itembu. L, (2002), **“MIDWIVES KNOWLEDGE IN THE USE OF THE PARTOGRAPH”**, S.N publications, Namibia, Pp: 31- 56.
23. Klossner N.J, (2005), **“INTRODUCTORY MATERNITY NURSING”**, Lippincott Williams and Wilkins, Philadelphia, Pp: 262- 269.
24. Kurjak. A et.al, (2006), **“TEXT BOOK OF PERINATAL MEDICINE”**, Volume 2, 2nd edition, CRC press, Pp: 1205- 1221.
25. Lowdermilk DL et.al, (2006), **“MATERNITY NURSING”**, 7th Edition, Mosby Elsevier publications, Canada, Pp: 407- 418.
26. Mc Court C, (2009), **“CHILD BIRTH: MIDWIFERY AND CONCEPTS OF TIME”**, Berghahn Books, US, Pp: 67- 89.
27. Misra. R, (2006), **“IAN DONALD’S PRACTICAL OBSTETRIC PROBLEM”**, BI publications Pvt Ltd, India, Pp: 74- 78.
28. Murray S.F, (1996), **“MIDWIVES AND SAFER MOTHERHOOD”**, Mosby publications, Michigan, Pp: 11- 16.
29. Nash B, (1980), **“THE COMPLETE BOOK OF BABY CARE”**, Octopus publishers, Sweden, Pp: 91, 92.
30. Repke. J. T, (1996), **“INTRAPARTUM OBSTETRICS”**, Churchill Livingstone publications, Michigan, Pp: 551- 554.
31. Sellers PM, (1993), **“MIDWIFERY VOLUME 2”**, Juta and Company Ltd, Geneva, Pp: 406- 412.
32. Warren.R. et.al, (2009), **“BEST PRACTICE IN LABOUR AND DELIVERY”**, Cambridge University Press, Pp: 250- 257.

JOURNAL REFERENCES:-

1. Adeyemi BA, (2007), **“JOURNAL OF THE TURKISH- GERMAN GYNECOLOGICAL ASSOCIATION- IMPACT OF TRAINING ON THE USE OF PARTOGRAPH”**, Vol.8 (2). Pp: 148-154.
2. Burgess HA, (1986), **“JOURNAL OF NURSE-MIDWIFERY- USE OF THE LABOR GRAPH IN MALAWI”**, Vol.31, Pp: 46-52.
3. Dr. Arul kumaran Aggarwal, (2005), **“INDIAN JOURNAL OF COMMUNITY MEDICINE- SKILLED CARE FOR MATERNAL AND NEONATAL HEALTH”**, Vol 30(3), Pp: 136-139.
4. Dr. Nkyekyer K, (2008), **“THE EUROPEAN JOURNAL, TROPICAL MEDICINE AND INTERNATIONAL HEALTH- PERIPARTUM REFERRALS TO GHANA HOSPITAL”**, Vol 5(11), Pp: 811-817.
5. Fawole A O et.al, (2009), **“AFRICAN JOURNAL OF REPRODUCTIVE HEALTH- KNOWLEDGE AND UTILIZATION OF THE PARTOGRAPH AMONG OBSTETRIC CARE GIVERS”**, Vol.12 (1), Pp: 22-29.
6. Groeschel.N et.al, (2001), **“THE AUSTRALIAN JOURNAL OF MIDWIFERY- THE PARTOGRAPH USED DAILY BUT RARELY QUESTIONED”**, Vol 14(3), Pp: 22-27.
7. Khan K S et.al, (1995), **“INTERNATIONAL JOURNAL OF GYNECOLOGY AND OBSTETRICS- THE PARTOGRAPH IN THE MANAGEMENT OF LABOUR FOLLOWING CAESAREAN SECTION”**, Vol. 50(2), Pp: 151-157.
8. Lennox.C.E et.al, (1998), **“INTERNATIONAL JOURNAL OF GYNECOLOGY AND OBSTETRICS- BREECH LABOUR ON THE WHO PARTOGRAPH”**, Vol. 62(2), Pp: 117-127.

9. Leigh B, (1986), **“JOURNAL OF TROPICAL PEDIATRICS-THE USE OF THE PARTOGRAM BY MATERNAL AND CHILD HEALTH AIDES”**, Vol.32, Pp: 107-110.
10. Letic M, (2008), **“JOURNAL OF MATERNAL- FETAL AND NEONATAL MEDICINE- COULD THE CENTRAL PART OF THE PARTOGRAPH, THE CERVICOGRAPH BE IMPROVED?”** Vol 21(12), Pp: 870-874.
11. Mathai et.al, (2009), **“CLINICAL OBSTETRICS AND GYNECOLOGY-THE PARTOGRAPH FOR THE PREVENTION OF OBSTRUCTED LABOUR”**, Vol 52(2), Pp: 256-259.
12. Mathews J E et.al, (2007), **“INTERNATIONAL JOURNAL OF GYNECOLOGY AND OBSTETRICS- COMPARISON OF TWO WHO PARTOGRAPHS”**, Vol 96(2), Pp: 147-150.
13. Orji O E et.al, (2008), **“NEPAL JOURNAL OF OBSTETRICS AND GYNECOLOGY- COMPARATIVE STUDY OF LABOUR PROGRESS AND DELIVERY OUTCOME”**, Vol 3(1), Pp: 24-28.
14. Seffah J D, (2003). **“INTERNATIONAL JOURNAL OF GYNECOLOGY AND OBSTETRICS- RUPTURED UTERUS AND THE PARTOGRAPH”**, Vol 80(2), Pp: 169-170.
15. The Lancet, (1994), **“WHO PARTOGRAPH IN MANAGEMENT OF LABOUR- WHO MATERNAL HEALTH AND SAFE MOTHERHOOD PROGRAMME”**, Vol 343(8910), Pp: 1399-1404.

WEBSITES

- ❖ www.amazon.com
- ❖ www.annals.org
- ❖ www.find-health-articles.com
- ❖ [www.obgyn.net/educational tutorials](http://www.obgyn.net/educational_tutorials)
- ❖ www.partograph.com
- ❖ www.popline.org/docs
- ❖ www.pphprevention.org
- ❖ www.thelancet.com/journals
- ❖ www.viamedica.pl/spis.phtml
- ❖ www.whoindia.org

ANNEXURE



17th November, 2009

RESEARCH PRESENTATION

Name of the student : Mrs. R. Manohari
Course : M. Sc Nursing (II-Year)
Institution : Dr. Mahalingam College Of Nursing,
Sakthi Nagar.
Presentation Date : 17.11.09

This is to certify that Mrs. R. Manohari , II-Year M.Sc Nursing, student of Dr. Mahalingam College Of Nursing , conducted her Research study in our 150-bedded Hi-tech multi specialty hospital, Erode in the Nursing department.

Topic - A study to Assess the effectiveness of Self instructional Module regarding partograph on knowledge among Staff Nurses working in selected Maternity Hospitals, Erode.

Mrs. E. RAMA PRABHA B.E, B.B.A (UK)
General Manager

**LOTUS HOSPITALS AND RESEARCH
CENTRE LIMITED,
90, THAYUMANAVA SUNDARAM ST
Poondurai Road
ERODE - 638 002**

Lotus Hospital and Research Centre Limited

Poondurai Main Road, Erode - 638 002. Tamil Nadu. India. Phone : 0424 - 2282828
Fax : 0424 - 2282849, Mobile : 98427 - 66666, E-mail : lotushospital@hotmail.com

General / Letter Pad single / MUTHU / 3.10.09 / 20 Pads



SRI ADICHUNCHANAGIRI SHIKSHANA TRUST®

Phone : 04256-247321

COLLEGE OF NURSING

DHARMARATHNAKARA Dr. MAHALINGAM INSTITUTE OF PARAMEDICAL SCIENCES & RESEARCH
(Kannada Linguistic Minority Institution)

Sakthinagar - 638 315. Bhavani Taluk, Erode District, Tamilnadu.

Ref. No. :

Date

To

DR. AMBIKA RAJAMANICKAM, MBBS MD DGO,
PGR HOSPITAL,
BHAVANI, ERODE .DT.

Dear Sir / Madam,

SUB: Dharmarathnakara Dr.Mahalingam Institute of Paramedical Sciences & Research, Sakthi Nagar – Permission to conduct study – Mrs.R.Manohari – Reg.

In anticipation to the above subject and as per the curricular requirement, I kindly request you to grant permission to Mrs.R.Manohari M.Sc., (N) II year Post graduate student to conduct Pilot study at your esteemed institution / Hospital.

Kindly oblige and grant her to undergo her study.

Thanking you,

Yours Faithfully,

(Prof.Mrs.R.Vasanthi)

Principal

PRINCIPAL,

COLLEGE OF NURSING

Dharmarathnakara Dr.Mahalingam Institute

of Paramedical Sciences and Research,

(Sri Adichunchanagiri Shikshana Trust)

Permitted
Ambika
Dr. AMBIKA RAJAMANICKAM, M.D., D.G.O.,
CONSULTANT OBSTETRICIAN & GYNECOLOGIST
REG. NO : 45843
P.G.R. HOSPITAL, BHAVANI

Head Office : Sri Adichunchanagiri Shikshana Trust®, Sri Adichunchanagiri Kshethra. PIN : 571 811.
Nagamangala Taluk, Mandya Dist., Karnataka. Phone : 08234 - 287333, 287444

LETTER SEEKING PERMISSION TO CONDUCT STUDY

From
Mrs.R.Manohari, M.Sc. (N) II Year,
(Specialty – OBG),
Dr. Mahalingam College of Nursing,
Sakthi Nagar (Po),
Bhavani (TK), Erode (DT),
Tamilnadu.

To
DR. E. S. USHA, MD DGO,
CONSULTANT GYNAECOLOGIST,
LOTUS HOSPITAL, ERODE.

Through:

The Principal,
Dr. Mahalingam College of Nursing,
Sakthi Nagar (Po),
Bhavani (TK), Erode (DT).
Tamilnadu


Respected Sir / Madam,

SUB: Permission to conduct study - Reg.

I am II year M.Sc., Nursing student of Dr. Mahalingam College of Nursing, Sakthi Nagar. As a partial fulfillment of Master of Science in Nursing, I have undertaken the following research study, which has to be submitted to The Tamilnadu Dr.M.G.R. medical University, Chennai.

RESEARCH STUDY:

“A Study to Evaluate the Effectiveness of Self Instructional Module Regarding Partograph on Knowledge among Staff Nurses Working in Selected Maternity Hospitals, Erode”.


PRINCIPAL,
COLLEGE OF NURSING
Jharmarathnakara Dr. Mahalingam Institute
of Paramedical Sciences and Research,
(Sri Adichunchanagiri Shikshana Trust)


.. 2 ..

I kindly request you to permit me to do reliability of the prepared tool to Evaluate the Effectiveness of Self Instructional Module Regarding Partograph on Knowledge among Staff Nurses Working in Selected Maternity Hospitals, Erode with effect from 12.11.09 to 30.11.09.

I kindly request you to permit me to conduct the proposed study and provide necessary facilities. Please do the needful.

Thanking you,

Date : Erode
Place : 11.11.09.

Yours Sincerely,

(R.Manohari)

Permitted
Manohari
11/11/09
Dr, E. S. USHA, M.D.D.G.O.,
Regd. No: 42072
LOTUS HOSPITAL,
ONDURAI MAIN ROAD, ERODE.

LETTER SEEKING PERMISSION TO CONDUCT STUDY

From

Mrs.R.Manohari, M.Sc. (N) II Year,
(Specialty – OBG),
Dr. Mahalingam College of Nursing,
Sakthi Nagar (Po),
Bhavani (TK), Erode (DT),
Tamilnadu.

To

DR. SRIMATHI MURUGESAN, MD DGO,
SRIMATHI MURUGESAN HOSPITAL,
ERODE.

Through:

The Principal,
Dr. Mahalingam College of Nursing,
Sakthi Nagar (Po),
Bhavani (TK), Erode (DT).
Tamilnadu

Respected Sir / Madam,

SUB: Permission to conduct study - Reg.

I am II year M.Sc., Nursing student of Dr. Mahalingam College of Nursing, Sakthi Nagar. As a partial fulfillment of Master of Science in Nursing, I have undertaken the following research study, which has to be submitted to The Tamilnadu Dr.M.G.R. medical University, Chennai.

RESEARCH STUDY :

“A Study to Evaluate the Effectiveness of Self Instructional Module Regarding Partograph on Knowledge among Staff Nurses Working in Selected Maternity Hospitals, Erode”.

P. V. Lakshmi
10/11/18
PRINCIPAL,
COLLEGE OF NURSING
Dharmarathnakara Dr. Mahalingam Institute
of Paramedical Sciences & Research,
(Sri Adichunchanergiri Sivasana Trust)

.. 2 ..

I kindly request you to permit me to do reliability of the prepared tool to Evaluate the Effectiveness of Self Instructional Module Regarding Partograph on Knowledge among Staff Nurses Working in Selected Maternity Hospitals, Erode with effect from ~~14.11.09~~ to ~~30.11.09~~.

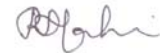
I kindly request you to permit me to conduct the proposed study and provide necessary facilities. Please do the needful.

Thanking you,

Date : Erode .

Place : 13/11/2009 .

Yours Sincerely,



(R.Manohari)

Permitted


Dr. K. MURUGESAN, M.S., M.Ch.,
General Surgeon & Urologist
Regn. No. 27719
SRIMATHI MURUGESAN HOSPITAL
40/1, Kalaimagal Kalvi Nilayam Road
ERODE - 638 001

LETTER SEEKING EXPERT OPINION FOR TOOL VALIDATION

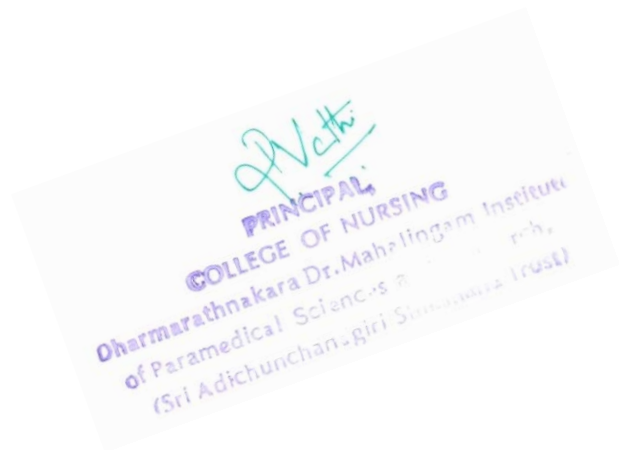
From

Mrs. R. Manohari M.Sc., (N) II Year
(Specialty – Obstetrics and Gynecological Nursing),
Dr.Mahalingam College of Nursing,
Sakthi Nagar (Po),
Bhavani (TK),
Erode (DT),
Tamilnadu.

To

Through,

The Principal,
Dr.Mahalingam College of Nursing,
Sakthi Nagar (Po),
Bhavani (TK),
Erode (DT).



Respected Sir /Madam,

Sub: Request for the validation the tool-reg.

I am II year M.Sc., Nursing student of Dr.Mahalingam College of Nursing, Sakthi Nagar. As a partial fulfillment of Master of Science in Nursing, I have undertaken the following research study, which has to be submitted to The Tamilnadu Dr.M.G.R.Medical University, Chennai.

“A study to evaluate the effectiveness of self-instructional module on partograph in terms of knowledge among the staff nurses working in selected Maternity Hospitals at Erode”.

CONTENT VALIDITY CERTIFICATE

This is to certify that the student Mrs. R. Manohari is studying in Final M.Sc., (N) Post graduate Degree course of Dharmarathnakara Dr. Mahalingam Institute of Paramedical sciences and Research, Sakthi Nagar.

Topic Entitled:

“A STUDY TO EVALUATE THE EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE ON PARTOGRAPH IN TERMS OF KNOWLEDGE AMONG THE STAFF NURSES WORKING IN SELECTED MATERNITY HOSPITALS AT ERODE”.

Her content for the study is validated and was found reliable.

Date :

Place :



Signature of guide with seal

Dr. AMBIKA RAJAMANICKAM, M.D., D.G.O.,
CONSULTANT OBSTETRICIAN & GYNAECOLOGIST
REG. NO : 45843
P.G.R. HOSPITAL, BHAVANI

CONTENT VALIDITY CERTIFICATE


This is to certify that the student Mrs. R. Manohari is studying in Final M.Sc., (N) Post graduate Degree course of Dharmarathnakara Dr. Mahalingam Institute of Paramedical sciences and Research, Sakthi Nagar.

Topic Entitled:

“A STUDY TO EVALUATE THE EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE ON PARTOGRAPH IN TERMS OF KNOWLEDGE AMONG THE STAFF NURSES WORKING IN SELECTED MATERNITY HOSPITALS AT ERODE”.

Her content for the study is validated and was found reliable.

Date : 15/10/ 09


Signature of guide with seal

Place : Coimbatore

CONTENT VALIDITY CERTIFICATE

This is to certify that the student Mrs. R. Manohari is studying in Final M.Sc., (N) Post graduate Degree course of Dharmarathnakara Dr. Mahalingam Institute of Paramedical sciences and Research, Sakthi Nagar.


Topic Entitled:

“A STUDY TO EVALUATE THE EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE ON PARTOGRAPH IN TERMS OF KNOWLEDGE AMONG THE STAFF NURSES WORKING IN SELECTED MATERNITY HOSPITALS AT ERODE”.

Her content for the study is validated and was found reliable.

Date : 18/10/09

Place : Salem


Signature of guide with seal

CONTENT VALIDITY CERTIFICATE


This is to certify that the student Mrs. R. Manohari is studying in Final M.Sc., (N) Post graduate Degree course of Dharmarathnakara Dr. Mahalingam Institute of Paramedical sciences and Research, Sakthi Nagar.

Topic Entitled:

“A STUDY TO EVALUATE THE EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE ON PARTOGRAPH IN TERMS OF KNOWLEDGE AMONG THE STAFF NURSES WORKING IN SELECTED MATERNITY HOSPITALS AT ERODE”.

Her content for the study is validated and was found reliable.

Date : 20/10/09


Signature of guide with seal

Place : Salem

CONTENT VALIDITY CERTIFICATE

This is to certify that the student Mrs. R. Manohari is studying in Final M.Sc., (N) Post graduate Degree course of Dharmarathnakara Dr. Mahalingam Institute of Paramedical sciences and Research, Sakthi Nagar.

Topic Entitled:

“A STUDY TO EVALUATE THE EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE ON PARTOGRAPH IN TERMS OF KNOWLEDGE AMONG THE STAFF NURSES WORKING IN SELECTED MATERNITY HOSPITALS AT ERODE”.

Her content for the study is validated and was found reliable.

Date : 12/10/09

Place : Thiruchengodu

K. Govilalan
Signature of guide with seal

K. Govilalan,
Ass. Prof. Vivekanandhe
College of NSG
Thiruchengodu.

LIST OF EXPERTS

1. Dr.Ambika Rajamanikam MBBS,MD,DGO,

Reg.No:45843

P.G.R Hospital, Bhavani.

2. Mrs.Gokilavani M.Sc.,(Nursing)

Asst. Professor,

Vivekanandha College of Nursing

Trichengodu.

3. Mrs.Renuka M.Sc., (Nursing)

Asst. Professor,

KMCH College of Nursing,

Coimbatore.

4. Mrs.Amutha M.Sc., (Nursing),

Asst. Professor,

Gokulam College of Nursing,

Salem.

5. Mrs.Thilagavathi M.Sc (Nursing)

Asst. Professor,

Shanmuga College of Nursing,

Salem.

6. Prof. Mr. Dhanapal, M.Sc., M.Phil, Ph.D.,

Department of Statistics,

J.K.K. Nataraja Dental college,

Komarapalayam,


Namakkal District.

CERTIFICATE BY THE EDITOR

This is to certify that the dissertation entitled “A study to evaluate the effectiveness of self-instructional module on partograph in terms of knowledge among the staff nurses working in selected Maternity Hospitals at Erode” is a bonafide research work done by Mrs. R. Manohari, II Year M.Sc., (Nursing) student of Dharmarathnakara Dr.Mahalingam Institute of Paramedical Sciences & Research, Sakthi Nagar, Bhavani Taluk, Erode District. Mrs.T.S.Sumithra Devi., M.A., (M.Phil) edited this manuscript on behalf of the partial fulfillment of the prerequisite for the degree of **Master of Science in Nursing** (Obstetrics and Gynecological Nursing).

Date:

Place: Sakthi Nagar



Signature of the Editor

STRUCTURED KNOWLEDGE QUESTIONNAIRE

INSTRUCTION TO THE PARTICIPANTS:

This questionnaire is to assess the knowledge on Partogram. It has 2 sections.

Section I: - It includes items regarding the demographic variables of the participants.

Section II: - It includes questions to test the knowledge of the participants regarding partograph. Each question has 4 options. Select the most appropriate answer from the options given below.

SECTION- I

Demographic data.

Sample No.

1. Age (in years).
 - a. Less than 20 years. []
 - b. 21 – 25 years. []
 - c. 26-30 years. []
 - d. 31-35 years. []
 - e. More than 35 years. []

2. Educational qualification.
- a. ANM. []
 - b. Diploma in Nursing. []
 - c. BSc Nursing. []
 - d. MSc Nursing. []
3. Years of experience as staff nurse.
- a. Less than 5 years. []
 - b. 6-10 years. []
 - c. 11- 15 years. []
 - d. More than 16 years. []
4. Have you attended any in- service programme on Partograph?
- a. Yes. []
 - b. No. []

SECTION – B

Questions related to labour:-

- 1) How many stages are there in labour?
- a. 4. []
 - b. 3. []
 - c. 2. []
 - d. 1. []

- 2) When does the first stage of labour start?
- a. It starts with rhythmic uterine contractions. []
 - b. It starts with full cervical dilatation. []
 - c. It starts with birth of the baby. []
 - d. It starts with delivery of the placenta. []
- 3) When does the active phase of labour start?
- a. At 2 cm cervical dilatation. []
 - b. At 3 cm cervical dilatation. []
 - c. At 4 cm cervical dilatation. []
 - d. At 5 cm cervical dilatation. []
- 4) What is the average length of Active phase in Primigravida?
- a. 1-2 hrs. []
 - b. 2-3 hrs. []
 - c. 3-4 hrs. []
 - d. 4-5 hrs. []

Questions related to Partograph:-

General questions:-

- 5) Who was the first to develop the idea of recording the progress of labour on a chart?
- a. Malmstrom. []
 - b. Philpott. []
 - c. Friedman. []
 - d. Chamberlen. []

- 6) What is meant by partograph ?
- a. It is a graph to record labour pain. []
 - b. It is a graphic recording of the salient features of labour. []
 - c. It is a graph to record maternal temperature. []
 - d. It is a graph to record maternal blood pressure. []
- 7) In which stage of labour is the partograph used ?
- a. I stage of labour. []
 - b. II stage of labour. []
 - c. III stage of labour. []
 - d. IV stage of labour. []
- 8) What is the most important use of Partogram?
- a. It provides necessary information about labour at a glance. []
 - b. It saves time. []
 - c. It facilitates hand- over procedure. []
 - d. It serves as an early warning in case of impending problems.[]
- 9) Which of the following components are included in the partogram ?
- a. Maternal vital signs and FHR. []
 - b. Cervical dilatation, effacement and descent of fetal head. []
 - c. Liquor amni, uterine contractions and drugs given. []
 - d. All the above. []

Specific Questions:-

Fetal :-

10) What is the normal range of FHR?

- a. 80- 120 bpm. []
- b. 100-140 bpm. []
- c. 120-160 bpm. []
- d. 140-180 bpm. []

11) What is marked fetal tachycardia?

- a. FHR more than 120 bpm. []
- b. FHR more than 140 bpm. []
- c. FHR more than 160 bpm. []
- d. FHR more than 180 bpm. []

12) What are the causes of abnormal FHR ?

- a. Hypoxaemia. []
- b. Fetal sleep. []
- c. Drug effects. []
- d. All the above. []

13) What is the colour of meconium stained amniotic fluid?

- a. Bright red. []
- b. Green. []
- c. Golden yellow. []
- d. Muddy yellow. []

14) What does the markings 'C' and 'M' indicate with regard to amniotic fluid ?

- a. Correct, Membranes intact []
- b. Clear, Meconium stained []
- c. Clean, Membranes ruptured []
- d. None of the above. []

15) Which of the following odours of amniotic fluid indicate intrauterine infection?

- a. Rotten egg odour. []
- b. Foul smell. []
- c. Pungent odour. []
- d. Pleasant odour. []

Maternal:-

16) What are the two special lines present in partogram ?

- a. Start and end lines. []
- b. Ready and steady lines. []
- c. Alert and action lines. []
- d. None of the above. []

17) Which of the following indicates Normality?

- a. When cervicograph is in Zone 1. []
- b. When cervicograph crosses Alert line and reaches Zone 2 []
- c. When cervicograph crosses Action line reaches Zone 3 []
- d. None of the above. []

18) What is indicated when the Cervicograph crosses the Action line?

- a. Maternal & fetal condition is good. []
- b. Labour occurs very shortly. []
- c. Labour should be critically assessed. []
- d. Termination of labour should be planned. []

19) How much is the full cervical dilatation?

- a. 8 cm. []
- b. 10 cm. []
- c. 12 cm. []
- d. 14 cm. []

20) What do you mean by cervical effacement?

- a. Widening of the cervical os. []
- b. Softening of the cervix. []
- c. Hardening of the cervix. []
- d. Merging of the cervix into the lower uterine segment. []

21) What does the term "FREQUENCY" denote with regard to uterine contraction?

- a. The time in-between the beginning of one contraction to the beginning of next contraction. []
- b. Strength of a contraction. []
- c. Resting tone. []
- d. Regularity of contractions. []

22) What are the degrees of uterine contractions ?

- a. Primary, secondary, Tertiary. []
- b. Low level, Middle level, High level []
- c. Mild, Moderate, Strong []
- d. None of the above. []

23) What is the nature of the fundus during strong contractions ?

- a. Soft fundus []
- b. Slightly tense fundus []
- c. Firm fundus []
- d. Rigid board like fundus. []

24) What is the duration of weaker contractions ?

- a. 0-20 sec []
- b. 20-40 sec []
- c. 40-60 sec []
- d. 60-80 sec. []

25) What is the duration of Moderate contractions ?

- a. 0-20 sec []
- b. 20-40 sec []
- c. 40-60 sec []
- d. 60-80 sec []

26) What is the duration of stronger contractions ?

- a. More than 10 seconds. []
- b. More than 20 seconds. []
- c. More than 30 seconds. []
- d. More than 40 seconds. []

27) How are the uterine contractions measured ?

- a. No . of contractions in a 2-mt period. []
- b. No . of contractions in a 5-mt period. []
- c. No . of contractions in a 10-mt period. []
- d. No . of contractions in a 15-mt period. []

28) What is the charting pattern for contractions with du uration of more than 40 seconds?

- a.  []
- b.  []
- c.  []
- d.  []

29) How frequently is the BP checked & recorded in partograph ?

- a. Every 30 minutes. []
- b. Every 1 hr. []
- c. Every 2 hrs. []
- d. Every 3 hrs. []

30) How frequently is the pulse rate checked and recorded in partograph ?

- a. Every 5 mins. []
- b. Every 15 mins. []
- c. Every 30 mins. []
- d. Every hour. []

31) How frequently is the temperature checked and recorded in partograph ?

- a. Every 2 hrs. []
- b. Every 3 hrs. []
- c. Every 4 hrs. []
- d. Every 5 hrs. []

32) How much rise in Blood pressure during labour is considered as normal ?

- a. 10 mmHg. []
- b. 20 mmHg. []
- c. 30 mmHg. []
- d. 40 mmHg. []

33) What does pyrexia during labour indicate?

- a. Haemorrhage. []
- b. Fetal distress. []
- c. Infection. []
- d. Fetal death. []

34) What does proteinuria indicate?

- a. Diabetes . []
- b. Preeclampsia . []
- c. Shock . []
- d. Dehydration . []

35) Which of the following condition indicates prolonged labour ?

- a. Sluggish or non descent of the presenting part even after full cervical dilatation []
- b. Presence of variable degrees of moulding []
- c. Caput formation []
- d. All the above. []

SELF- INSTRUCTIONAL MODULE ON PARTOGRAPH

“Give a man a fish, and you have given him meal.

Teach a man to fish, and you have given him livelihood”

- An ancient Chinese proverb



THE PARTOGRAPH

INTRODUCTION:

The nurse's record of labour is a legal document & must be kept meticulously. Each event must be written down immediately after its occurrence & should be authenticated with the midwife's full signature. An accurate record of the early part of labour provides the basis for management of labour progresses.

In recent years the partogram or partograph has been widely accepted as an effective means of recording the progress of labour.

The idea of recording the progress of labour on a chart was started by **FRIEDMAN** who used a graphic record of cervical dilatation in labour. This approach was further developed & extended by **PHILPOTT**.

DEFINITION OF PARTOGRAPH:

“It is a chart on which the salient features of labour are entered in a graphic form & therefore provides the opportunity for early identification of deviations from normal.”

“It is a labour graph used to compare the progress of an individual women's labour in terms of dilatation & fetal descent with expected norms.”

LABOUR:



Definition of labour:

“Series of event that take place in the genital organs in an effort to expel the viable products of conception out of the womb through the vagina into the outer world is called labour.”

Stages of labour:

There are 3 stages of labour:-

First stage:

It starts with rhythmic uterine contractions & ends when full cervical dilatation ie. **10 cm** is attained.

Second stage:

The second stage is that of expulsion of the fetus. It begins when the cervix is fully dilated & the woman feels the urge to expel the baby. It is complete when the baby is born.

Third stage:

The third stage is that of separation & expulsion of placenta & membranes; it also involves the control of bleeding. It lasts from the birth of the baby until the placenta & membranes have been expelled.

Fourth stage:

It is the duration of 4 hours following the birth of the baby.

- The Partograph is maintained during the I stage of labour.
- The first stage of labour (from the onset of labour to full dilatation of the cervix) is divided into 2 periods:-
 - 1) The latent phase
 - 2) The active phase

Latent phase:

This phase begins with the onset of labour & lasts until the beginning of the active phase of cervical dilatation. In this phase the uterine contraction become regular & the cervix is softened & effaced. The slope of the curve on a Partogram is nearly flat, the cervical dilatation averages only **0.2 to 0.3 cm per hour**. Due to this reason, the modified WHO Partograph, starts with Active phase. At the end of latent

phase the cervix is around **3 cm dilated**, well- effaced & soft. The duration of latent phase is **6-8 hours** in primigravida mothers, & **4-5 hours** in others.

Active phase:

The active phase lasts from the end of the latent phase to the full dilatation of the cervix. The curve changes from almost horizontal slope of the latent phase to a nearly vertical inclination in this phase of rapid cervical dilatation. Effective labour begins with the active phase, the period of steady & rapid cervical dilatation.

The linear curve on the graph paper allows early recognition of deviations from the normal average. When there is flattening of the curve (indicates a reduction in the rate of cervical dilatation) it needs immediate investigation of the cause & necessary intervention.

In the primigravida the average length of the **active phase is 4-5 hours**. The rate of cervical dilatation is from **1.2 to 1.8 cm per hour**. A rate under **1.2 cm per hour** is below normal & suggests dysfunctional labour.

In a multipara the average length of the active phase is **2-3 hours**. A rate of cervical dilatation **less than 1.5 cm per hour** is abnormal.

ASSESSMENT OF PROGRESS OF LABOUR

It is done by 1) abdominal palpation & 2) vaginal examination

1) Abdominal palpation:

- ❖ To be done for **10 minutes**, every **half an hour**.
- ❖ It is to assess uterine contractions- duration, frequency, intensity and the descent of the head.

- ❖ Monitor the fetal heart rate.

2) Vaginal examination:

- ❖ Measure the rate of cervical dilatation & fetal descent during the active phase
- ❖ Assess further fetal descent during the second stage.
- ❖ Progress of the first stage of labour should be plotted on a partograph once the woman enters the active phase of labour.

Plotting of vaginal examination findings on the partograph:

Vaginal examinations should be carried out at least once in **every 4 hours** during the first stage of labour & after rupture of the membranes.

At each vaginal examination, record the following,

- Colour of amniotic fluid
- Cervical dilations
- Descent (can also be assessed abdominally)
- Caput & moulding.

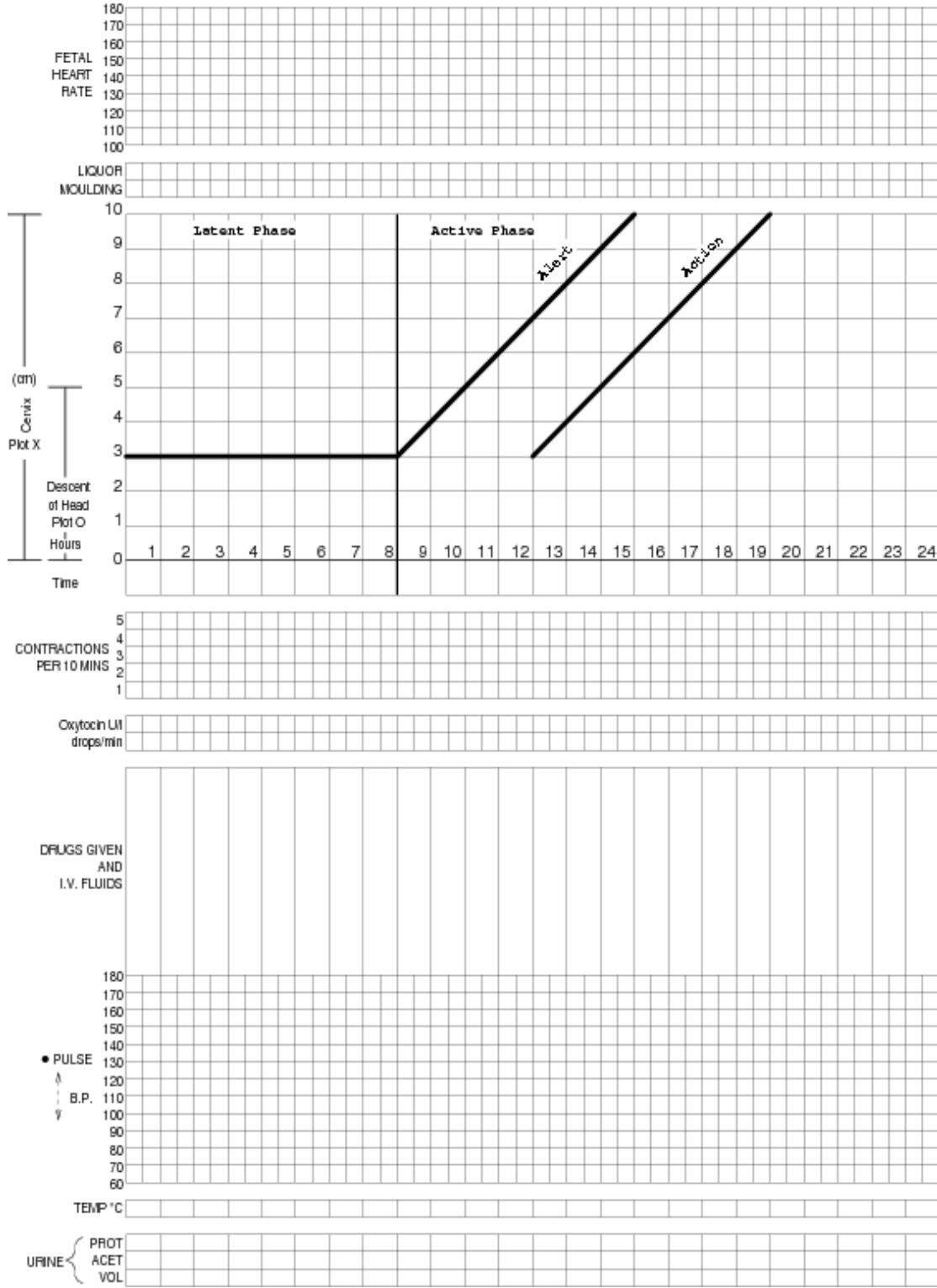
If contractions persist, re-examine the woman after **4 hours** for cervical changes. At this stage, if there is effacement & dilation, the woman is in labour, if there is no change, the diagnosis is false labour.

- ❖ In the late active phase of labour, perform vaginal examinations once in every 2 hours provided the fetal heart rate is normal, in the 2nd stage, wait for **1 hour** & reassess again, if she is not delivering.

TRADITIONAL PARTOGRAPH

Name..... Gravida..... Para..... Hospital No.

Date of Admission..... Time of Admission..... Ruptured membranes.....hrs

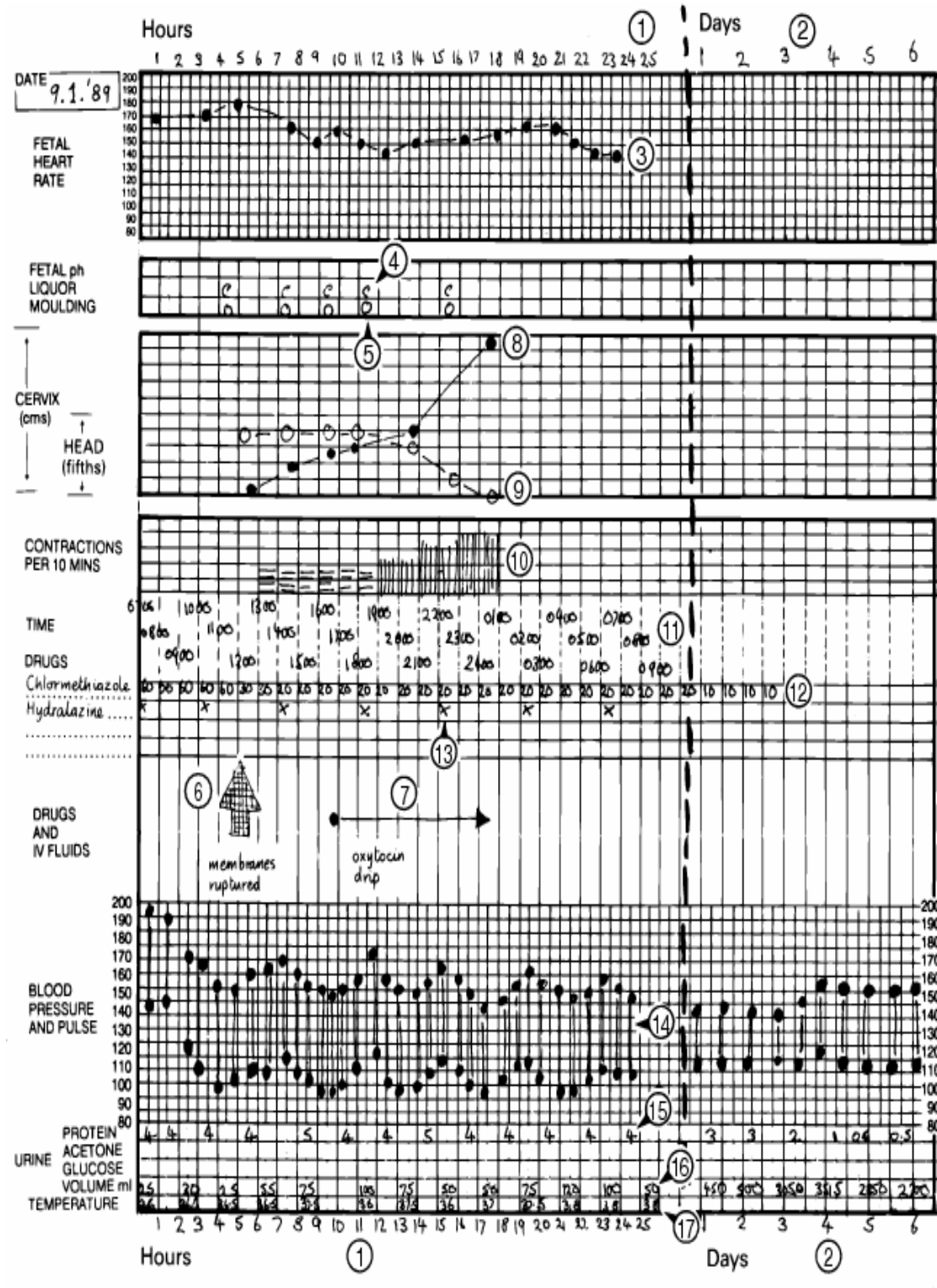


WHO MODIFIED PARTOGRAPH

Name	Gravida	Para	Hospital number
Date of admission	Time of admission	Ruptured membranes	hour

Fetal heart rate	200 190 180 170 160 150 140 130 120 110 100 90 80	
Amniotic fluid Moulding		
Cervix (cm) [Plot X]	Descent of head [Plot O]	Time
	10 9 8 7 6 5 4 3 2 1 0	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%; border-left: 1px solid black; border-right: 1px solid black; height: 100px; position: relative;"> <div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); font-weight: bold; font-size: 2em;">Alert</div> </div> <div style="width: 45%; border-left: 1px solid black; border-right: 1px solid black; height: 100px; position: relative;"> <div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); font-weight: bold; font-size: 2em;">Action</div> </div> </div>
Contractions per 10 mins	5 4 3 2 1	1 2 3 4 5 6 7 8 9 10 11 12
Oxytocin U/L drops / min		
Drugs given and IV fluids		
Pulse * and BP	180 170 160 150 140 130 120 110 100 90 80 70 60	
Temp °C		
Urine {	protein acetone volume	

PARTOGRAPH MAINTAINED IN AN ECLAMPTIC CLIENT



COMPONENTS OF PARTOGRAPH:-

- Identification data of the patient
- Fetal heart rate
- Liquor amni
- Moulding
- Cervicograph (cervical dilatation)
- Descent of head
- Time
- Uterine contractions
- Oxytocin
- Drugs given: IV fluids & oral fluids
- Vital signs: BP, pulse & temperature
- Urine: protein, acetone & volume.

Identification data of the patient:

This section includes name, age, parity, hospital bed no, date & time of admission & the time at which membranes ruptured.

FHR:



Fetal heart rate with its rhythm & intensity should be noted **every half hour** in the first stage & **every 15 mts** in second stage or following rupture of the membranes. To be of value, the observation should be made immediately following uterine contraction. The count should be made for **60 seconds**. Fetoscope or Doppler ultrasound apparently may be placed on the abdomen at the point where the FHR is heard at maximum intensity. The baseline fetal heart rate criteria are as follows:-

- Marked tachycardia: - FHR > 180 bpm.
- Moderate tachycardia: - FHR 160-180 bpm.
- Normal heart rate : - 120-160 bpm.
- Moderate bradycardia:-100-120 bpm.
- Marked bradycardia :- < 100 bpm.

The following are some of the causes of abnormal FHR:-

Hypoxaemia, prematurity, maternal fever, fetal arrhythmia, drug effects, fetal movement, fetal sleep, maternal hypothyroidism, technical artifacts.

Evidences of distress:-

- An increase in FHR to over **160 /min** or a decrease in rate to less than **120 /min**.
- FHR takes a long time to come back to its normal rate after the contraction passes off.
- Irregularity.

Amniotic fluid:



The amniotic fluid should normally remain clear following the rupture of the membranes. If the fetus remains hypoxia, he may pass meconium because hypoxia causes relaxation of anal sphincter. As a result of meconium staining, the amniotic fluid becomes green in colour. (Meconium staining of the liquor following ROM gives a crude idea of fetal jeopardy. Its presence in breech presentation may be of no values).

The colour of amniotic fluid should be recorded at every vaginal examination.

The marking criteria are as follows:-

- Membranes intact = I
- Membranes ruptured, clear fluid = C
- Meconium- stained fluid = M
- Blood – stained fluid = B

The following are the colors of amniotic fluid in normal conditions:-

COLOUR	CONDITION
➤ Greenish	➤ Due to the presence of meconium, indicative of past or present fetal distress.
➤ Golden yellow.	➤ Due to the presence of bilirubin.
➤ Greenish yellow.	➤ In post maturity.
➤ Prune juice.	➤ Observed in presence of retained dead fetus.
➤ Blood stained (ie) bright red.	➤ Vasa praevia or low- lying placenta.
➤ Port-wine coloured.	➤ Premature separation of the placenta.
➤ Muddy-yellow coloured.	➤ Previous fetal distress from which the fetus has recovered.

Assessment of amniotic fluid characteristics:-

CHARACTERISTICS OF FLUID	NORMAL FINDING	DEVIATION FROM NORMAL FINDING
Colour	Pale, straw coloured; may contain white flecks of vernix caseosa, lanugo, scalp hair.	Greenish brown colour yellow – stained fluid port wine coloured.
Viscosity and odour.	Watery; no strong odour.	Thick, cloudy, foul smelling.
Amount (normally varies with gestational age).	400 ml (20 wk gestation) 1000 ml (36 – 38 wk gestation)	>2000 ml (32 – 36 wk gestation) <500 ml (32- 36 wk gestation).

Moulding:

Overlapping of cranial bones or shaping of the fetal head to accommodate & conform to the bony & soft parts of the mother’s birth canal during labour. The marking criteria is as follows;-

- Sutures apposed = 1
- Sutures overlapped but reducible = 2
- Sutures overlapped & but reducible = 3

MOULDING OF THE FETAL HEAD



Cervicograph:

This is the graphical representation of cervical dilatation. The WHO Partograph has been modified to make it simpler & easier to use. The latent phase has been removed & plotting on the Cervicograph begins in the active phase when the cervix is **4 cm** dilated.

Cervical dilatation rate (Cervicograph) is plotted in relation to “**alert line**” & “**action line**”.

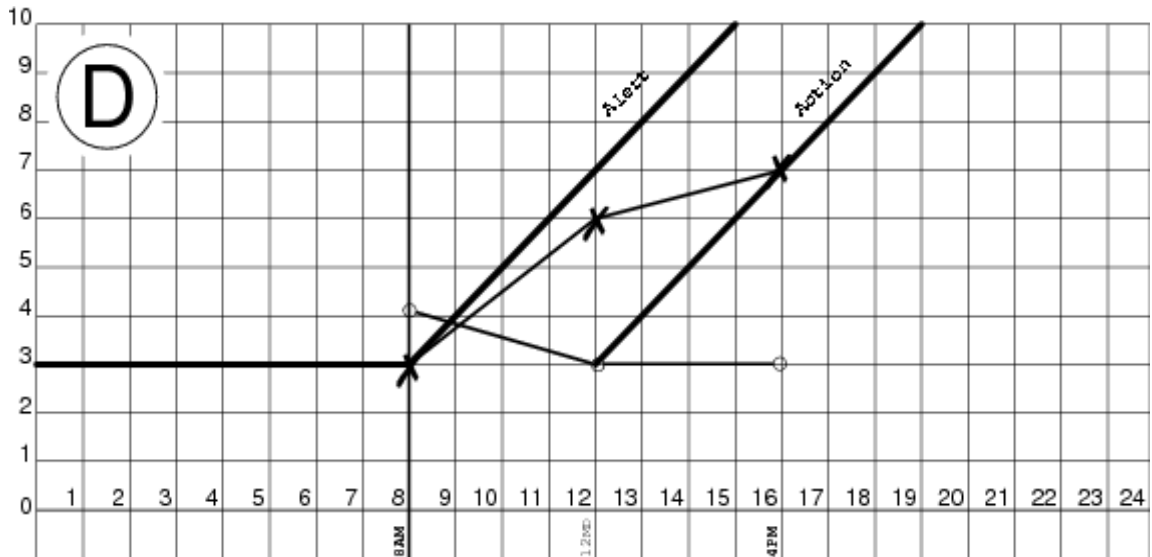
“**Alert line**” starts at the beginning of active phase (**4cm** cervical dilatation) & ends with full dilatation of the cervix (**10 cm**) in **6 hours**. (ie. **1cm/hr** dilatation rate).

The “**Action line**” is drawn four hours to the right of the alert line, parallel to it.

In a normal labour, the Cervicograph (cervical dilatation) should be either on the ‘**alert line**’ (or) to the left of it. Labour is considered abnormal when Cervicograph crosses the alert line & falls on **zone 2**, it needs to be critically assessed. When the Cervicograph crosses the action line & falls on **zone 3**, it should be

reassessed by a senior person & intervention is required. Decision is to be made either for termination of labour (caesarean section) or for Augmentation of labour (Amniotomy & or Oxytocin).

Cervicograph showing abnormality:-



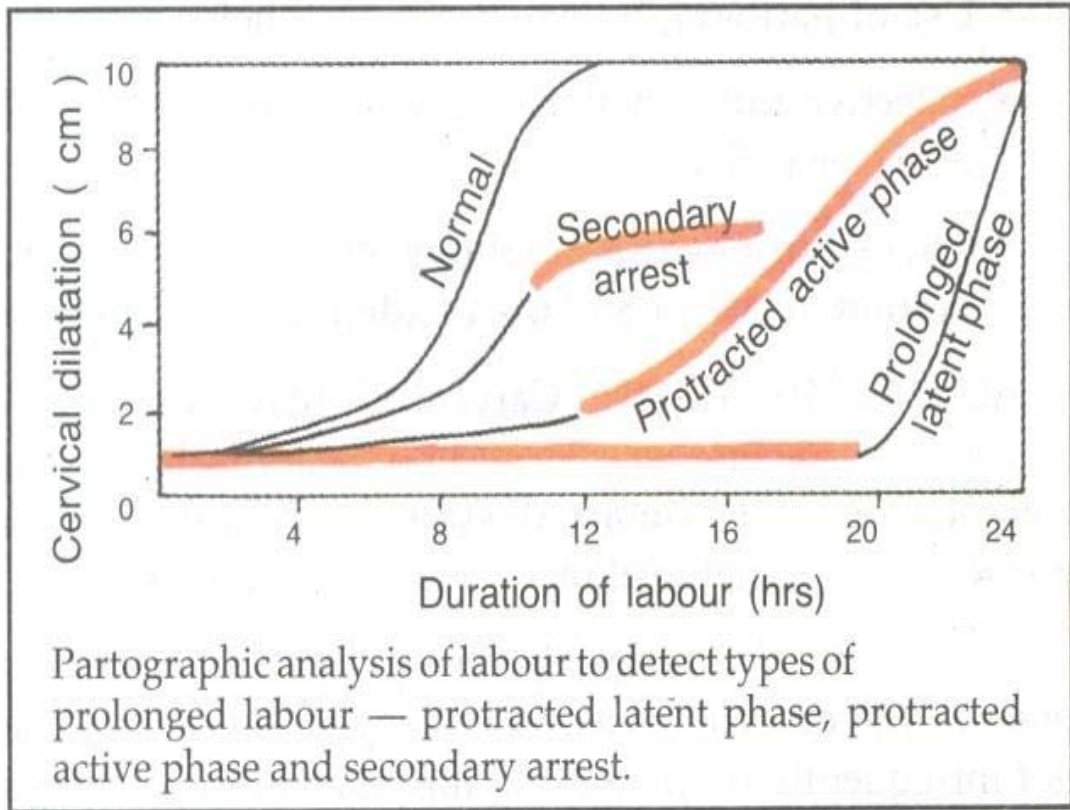
Secondary arrest:-

It is defined when the active phase of labour (cervical dilatation) commences normally but stops or slows significantly for **2 hours or more** prior to full dilatation of the cervix. It is commonly due to malposition or CPD.

Cervical effacement:-

Inclusion of the cervix in the lower uterine segment is called cervical effacement. It is otherwise called as “Taking up of the cervix”. It is the preparation of the cervix for labour.

DIAGRAM



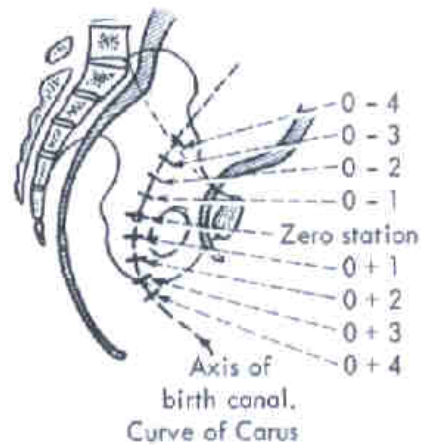
Descent of the head:

It refers to the part of the head (**divided into 5 parts**) palpable above the symphysis pubis (brim). It is recorded as a circle (0) at every abdominal examination.

The marking criteria are as follows:-

- Sinciput & Occiput above the brim = 5/5
- Sinciput prominent & Occiput Ascending = 4/5
- Sinciput rising & Occiput can be tipped = 3/5
- Sinciput not so prominent = 2/5
- Sinciput & Occiput not felt = 1/5
- Head on pelvic floor = 0/5.

STATION OF THE HEAD



Hours:

It refers to the time elapsed onset of active phase of labour (observed or extrapolated).

Time:

Actual time should be recorded in this column.

Uterine contractions:



Uterine contractions are the primary powers that act involving to expel the fetus & the placenta from the uterus.

Each contraction exhibits a wave like pattern. It begins with a slow increment (the “building up” of a contraction from its onset), gradually reaches an acme (intrauterine pressure **less than 80 mmHg**), & then diminishes rapidly (decrement, the “letting down” of the contraction). An interval of rest (intrauterine pressure **less than 20 mmHg** with a duration of atleast **30 seconds**) ends when the next contraction begins.

A uterine contraction is described in terms of the following characteristics:-

Frequency:-

It is usually assessed in minutes from the beginning of one contraction to the beginning of the next contraction.

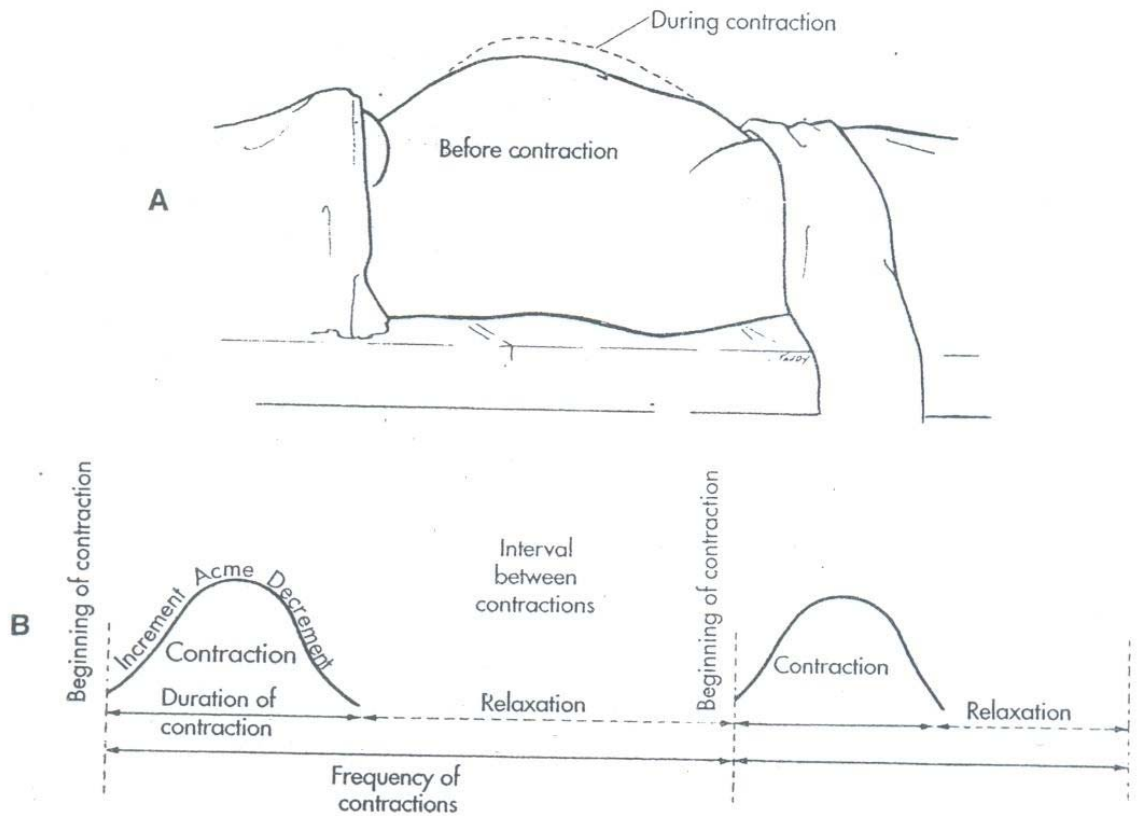
Intensity:-

It is the strength of a contraction at its peak. Intensity of contraction increases as labour progresses, from weak contraction noted early in labour to strong expulsive contraction.

Resting tone:-

It is the tension in the uterine muscle between contractions; ie. relaxation of the uterus.

DIAGRAM



Assessment of uterine contractions. **A**, Abdominal contour before and during uterine contraction. **B**, Wavelike pattern of contractile activity.

The following terms are used to describe the degrees of uterine contractions:-

- **Mild:** - Slightly tense fundus that is easy to indent with fingertips (feels like touching finger to tip of nose).
- **Moderate:** - Firm fundus that is difficult to indent with fingertips (feels like touching finger to chin).
- **Strong:-** Rigid, board like fundus that is almost impossible to indent with fingertips (feels like touching finger to forehead).

Uterine contractions should be monitored **every 15-30 mts** during phase of labour.

Charting of uterine contractions should be done every half an hour, palpating the

number of contractions in **10 minutes** & their duration in seconds. The charting pattern is as follows:-

Less than **20** seconds:



Between **20 & 40** seconds:



More than **40** seconds:



The nurse's responsibility in the monitoring of uterine contractions is to ascertain whether they are powerful & frequent enough to accomplish the work of expelling the fetus & the placenta.

Oxytocin:

The concentration of Oxytocin is noted on the upper line & the rate of the infusion in drops per minute on the bottom line from the time the intravenous drip is started. This should be charted **every 30 minutes**.

Drugs given, IV fluids & oral fluids:

- ❖ All drugs given during labour, their dosage & route of administration is recorded in the appropriate boxes (with reference to time).
- ❖ IV fluids given should be charted & time should be marked.
- ❖ The quantity of oral fluids taken is recorded.

Vital signs:**Blood pressure:-**

The BP is measured **every 30 minutes** during the Active phase of labour & it should be marked with arrows. The BP should be monitored very closely. The effect of labour may be to further elevate a raised blood pressure & the midwife must bear this in mind when caring for a woman who has had pre-eclampsia or essential hypertension during pregnancy. During the period of uterine contraction, the BP will be **raised by 10mm**.

Hypotension may be caused by the supine position shock.

Temperature:-

The temperature should be recorded **every 4 hrs** during Active phase of labour. The normal body temperature is **98.6° F**.

Temperature monitoring is very essential, so that signs of infection (eg. chorioamnionitis) or a fluid deficit (eg. Dehydration associated with inadequate intake of fluids) can be identified.

Maternal temperature **> 38° C** in presence of adequate hydration. (straw-coloured urine) is indicative of infection.

A steady pulse rate is an indication of good maternal condition. If the rate increases to **more than 100 beats** per minute, it may be indicative of infection (chorioamnionitis), ketosis or haemorrhage. A raising pulse rate is also an important sign of ruptured uterus. Pulse rate should be recorded **every 30 minutes** with a dot(*).

Urine:

A clean – catch urine specimen may be obtained to gather further data about the pregnant women's health. It is a convenient & simple procedure that can provide information about her hydration status (eg. Specific gravity , colour, amount), nutritional status (eg. ketones), infection status (eg. Leukocytes), & the status of possible complications such as pre eclampsia, shown by finding protein in the urine. The results can be obtained quickly & help the nurse determine appropriate interventions to implement. The presence of protein, acetone & the volume of urine should be recorded every time urine is passed.

ADVANTAGES OF PARTOGRAPH:

- ❖ A single sheet of paper can provide details of necessary information at a glance.
- ❖ It is easier to keep, rather than making detailed notes at intervals.
- ❖ Records are straight forward & objective, both nursing & medical staff can see the progress of labour at a glance.
- ❖ It facilitates handover procedure.
- ❖ It serves as an early warning in case of impending problems. It can predict deviation from normal duration of labour early. So appropriate steps could be taken in time.
- ❖ Introduction of partograph in the management of labour has reduced the incidence of prolonged labour& caesarean section rate. There is decrease in maternal morbidity, perinatal morbidity & mortality.
- ❖ It has a predictive value. It is possible to estimate the expected time of delivery, in case every thing is normal.

SIGNS OF POTENTIAL COMPLICATIONS DURING LABOUR:-

- Contractions consistently lasting **> 90 sec.**
- Contractions consistently occurring **< 2 min.**
- Fetal bradycardia, tachycardia, decreased variability not associated with fetal sleep cycle or temporary effects of CNS depressant drugs given to the woman, or late or severe variable deceleration.
- Irregular fetal heart rate; suspected fetal dysrhythmias.
- Appearance of meconium- stained or bloody fluid from the vagina.
- Arrest in progress of cervical dilation or effacement, descent of the fetus, or both.
- Maternal temperature of **>38° C**
- Foul- smelling vaginal discharge.
- Continuous bright or dark- red vaginal bleeding.

CONCLUSION:

Partograph is one of the most important advances in modern obstetrics. It identifies women in need of an obstetric intervention. The WHO Partograph should be promoted for use by Midwives who care for labouring women in a Maternity home.

PHOTOGRAPHS TAKEN DURING THE STUDY



