“Evaluating Effectiveness of One-Day Workshop on “Use of Partograph” attended by Staff Nurses of District Hospital, Jehanabad Bihar”

A Dissertation submitted in partial fulfillment of the requirements for the award of

Post-Graduate Diploma in Health & Hospital Management

By

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TO WHOM IT MAY CONCERN

This is to certify that Ms. Priyanka Kumari worked as Hospital Manager in Amar Shaheed Jagdeo Prasad Sadar Hospital, Jehanabad from 7th February 2013 to 12th August 2013.

She has also completed her dissertation on **Evaluating Effectiveness of training on use of Partograph attended by staff nurses of Sadar Hospital Jehanabad.** She handled major responsibilities as Hospital Manager in a competent capable manner during her six month tenure and we found her to be a duty bound, self motivated employee.

We at Amar Shaheed Jagdeo Prasad Sadar Hospital, Jehanabad Administration wish her all success in her future endeavors

12.8.13

उपाधीक्षक
सदर अस्पताल जहानाबाद

Deputy Superintendent
Amar Shaheed Jagdeo Prasad
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Certificate from Dissertation Advisory Committee

This is to certify that Ms. Priyanka Kumari, a graduate student of the **Post-Graduate Diploma in Health & Hospital Management** has worked under our guidance and supervision. She is submitting this Dissertation titled **"Evaluating Effectiveness of One-Day Workshop on Partograph as part of SBA Training among Staff Nurses"** in partial fulfillment of the requirements for the award of the **Post-Graduate Diploma in Health & Hospital Management.**

This Dissertation has the requisite standard and to the best of my knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

Dr.Nitish Dogra
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Certificate for Approval

The following dissertation titled "Evaluating Effectiveness of One-Day Workshop on "Use of Partograph" attended by Staff Nurses of District Hospital, Jehanabad Bihar" is hereby approved as a certified study in management carried out and presented in a manner satisfactory to warrant its acceptance as a prerequisite for the award of **Post-Graduate Diploma in Health & Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of Dissertation

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FEEDBACK FORM

Name of the Student	:	Priyanka Kumari
Summer Training Institution	:	Sadar Hospital, Jehanabad
Area of Dissertation	:	Maternal Health
Attendance	:	100%
Objectives met	:	Smooth conduct of activities related to Governments schemes like JBSY, ADY, Family Planning, timely reporting various reports (Daily, Weekly and monthly) to District Health Society
Deliverable	:	Ensuring smooth day to day operation of hospital, Implementation of activities related to government schemes. Conducted monthly meeting, monitored services delivered by outsourced and reports submitted
Strength	:	Ability and desire to learn, being outgoing friendly and easy to work with Punctual and Honest.
Suggestions for improvement	:	Need to be calm her nerves and be more patient.

30.4.13

Signature of Officer-in-Charge

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Date: 30-04-2013
Place: Jehanabad

Abstract

An estimated number of 287,000 maternal death means everyday approximately 800 women die from preventable causes related to pregnancy and child births. In the developing world, too, Maternal Mortality remains one the major problems today. Prolonged labor is considered as one the major cause of maternal death. Partograph is a graphical tool which is used for charting and visualizing the progress of labor and salient conditions of the mother and fetus plotted against time in hours. But it is observed across the world knowledge regarding Partograph, its use, purpose and plotting is very low among nursing staff especially in developing countries. Several studies across India have been conducted to assess the level of awareness and knowledge about Partograph among different health personnel most importantly the nursing staff. These studies also indicate that training programs indeed increase the level of knowledge by assessing it pre- and post training. In Sadar Hospital, Jehanabad as well there take place huge number, nearly 25-30, of deliveries daily. Thus it becomes essential to ensure quality intra-partum care. Monitoring of labor using Partograph is key factor in ensuring quality intra-partum care as it act as decision making tool to decide whether an intervention is required if labor does not progress normally. The present study assess the level of knowledge of staff nurses of Sadar Hospital Jehanabad before and after the staff nurses attended 21 days of SBA training program designed by JHPIEGO which includes One-Day workshop on Partograph. It was found that the mean score of staff nurses increased from 11.10 before training to 17.72 after training. They were scored on the basis of a closed ended questionnaire. Paired t test was applied to test the hypothesis and it was observed that calculated t value was higher than tabulated value which shows that hypothesis can be accepted. This study also tries to identify the factors, through an open ended question, that may play any role in promoting or preventing use of Partograph. Top two factors were found to be experience of staff nurse and training. Because this study only evaluates the immediate effects of training as no follow up was done long term effects of training cannot be evaluated. Based on the findings of the study, we can say that training indeed helps in improving the knowledge regarding Partograph so regular training would promote use of Partograph by nursing staff. Motivation and supportive supervision would further help in its promotion.

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Part 1

Internship Report

Background

Shaheed Jagdev Prasad Sadar Hospital is a single District level Hospital of Jehanabad District of Bihar. It is a 100 bedded hospital with 75 functional beds. Cases from the entire districts are referred to Sadar Hospital. It was built more than 20 years ago; however, Out-patient Department building is newly built. This hospital is located in the district headquarters. Jehanabad has a history of naxalite activities though these activities are now restricted to distant places from the district headquarters. The hospital has following departments:

OPD: the out-patient department is located in a separate newly built building and all the outpatient services are provided here from registration counter to consultation regarding ophthalmology, gynecology & obstetrics, surgical and dental problems. There are two pathology labs; one is a government run while other one is out-sourced. Certain tests like Hepatitis B which is not available in the Government pathological lab can be done in private lab for which charges are fixed. Besides these services, outpatient building also includes centre for HIV counseling and Immunization centre for MCH. Administrative office of National Rehabilitation centre (NRC) is also inside this building.

IPD: this department includes four wards and each ward has 8 beds.
1 General Male Ward
1 General Female ward
2 labor wards

Emergency: Emergency department is located at one of the entrances of the hospital so that patients can be referred or admitted to and from the ambulance without difficulties. This department has 3 sub-departments; emergency ward with 8 beds, medicine room where ARV drug is given and a dressing room.

Labor room: labor room is very important and crucial part of the hospital with huge number of deliveries taking place daily reaching up to 25-30 deliveries per day. In one block of Jehanabad, same number deliveries take place in a month. Labor room has just 4 delivery tables and New Born care Corner is attached to Labor room. NBCC has one radiant warmer machine which is used for new born especially in potential hypothermic case. NBCC have Phototherapy machine which is used to treat newborns suffering from jaundice. Both machines are in functional state. In addition to these two machines, there is one oxygen

concentrator which concentrates the atmospheric oxygen. Labor room has one another part which is utilized as storeroom. Adjacent to it, there is office room of nurses. Labor room is also the central point for collection of Bio-medical waste management. Bio medical waste generated in the hospital is collected near the labor room and is carried away by the out-sourced bio-medical waste management agency (Synergy waste management) which is common for most of the districts of Bihar.

Operation theatre (OT): there were two beds in OT and is located near to ICU.

ICU: ICU of Sadar Hospital Jehanabad is not in functional state mainly because of shortage of manpower (Doctors and IV Grade employees). There are four beds in ICU each with its own pulse and Cardiac monitors, drug trolley and oxygen cylinders.

Family Planning Counseling Corner: There is separate room given to the family planning counselor. Room has been under repair for a month so family counselors counseled ANC women in the Gynae OPD, PNC women at the site of cheque dispatch where beneficiaries of 'Janani Bal Suraksha Yojana' come in large numbers.

Other Departments: there are certain Departments like TB centre, National Rehabilitation Centre and administrative offices of medical Board are located in separate buildings within the premises of the hospital. Administrative District Health Society is also located within the hospital premises. Medicine Distribution counter is located in the main hospital building.
Hospital administrative Block comprise of Deputy Superintendent Chamber, Accounts section, Hospital Store and administrative office.
There are separate in-charges for different departments who are responsible for smooth functioning of their respective departments and each department has its own separate stores.

Programs & Schemes

There are different programs and scheme introduced at the state level and district hospital play an important role in implementing these programs. Some of these schemes which are implemented at Sadar Hospital Jehanabad are discussed below:

Janani Bal Suraksha Yojana: Under this program, the beneficiaries are given monetary incentive of Rs. 1400/ and Rs 1000/ depending up on the area they belong; rural or urban respectively. With so many deliveries taking place daily, ensuring regular payment to the benefecieries becomes a challenge. ASHA is also paid incentive of Rs 600 per delivey. There are a total of 871 ASHAs in entire District of Jehanabad.

Sterilization: under this scheme, for promoting tubectomy and vasectomy. For this, incentive is paid not only to the patient who have undergone operation but also to anesthetist, surgeon, lab attendant and motivator. In 3 months I have observed number tubectomy is much higher than vasectomy. Patient and ASHA is also given a certificate of sterilization.

Adarsh Dampati Yojana: this scheme was also introduced to achieve family planning goals. As per this, any ASHA who motivates either a couple or one of the partner to undergo sterilization that are having only 2 children will be given an incentive of Rs. 1000/per couple. However, Couple is not rewarded. First payment under this scheme was made only at Sadar Hospital, Jehanabad.

RSBY (Rashtriya Swasth Bima Yojana): though it has been more than a year that Sadar Hospital has become an empanelled hospital, there has not been single registration under RSBY despite the fact that services provided under RSBY would generate tremendous funds for Hospital

As a Hospital manager I was involved in a number of tasks including routine visit to all the departments of hospital to ensure cleanliness and hygiene is maintained. Over all I am responsible for smooth management and functioning of the hospital services. I am also given "**Imprest Fund**" of Rs. 10,000 which can be used for urgent requirement like small repair works. A problem as small like interrupted supply of water in labor room can lead to bigger problems within hours if not solved in time. Following are some of my achievements:

ISO certification: Sadar Hospital of Jehanabad has been audited two times before being rejected to be ISO certified. According to last year audit report, 17 Non- Conformities were found out. Out of these most of the NCs was fulfilled by the previous hospital manager and few NCs remained, some of which were calibration of instruments, AERB approval for X-ray facility, and external validation of diagnostic lab. These NCs were covered before this year's

audit that took place on 12th & 13th March. It is an achievement for me that this time Sadar Hospital has been certified ISO.

Initiation of RSBY services: Sadar Hospital has been an empanelled hospital for RSBY since more than a year but no registration has been done under this scheme. This is mainly because of lack of data entry operators. For providing 24*7 RSBY service, at least, 3 data operators would be needed each for one 8-hour shift. Since there is only one sanctioned post for Data Entry Operator, start of RSBY services has not been possible. However, I took responsibility of this and made 5 registrations out of which two patients have been operated.
Backlog of ASHA payment: Forms were taken from ASHAs for the last against institutional deliveries that they have motivated in the past two years in January and strong emphasis is paid on removal of this backlog as this may have negative implications on motivation of ASHA workers.

Rogi Kalyan Samiti (RKS) meeting: hospital Manager is the convener of RKS and it is his/her responsibility to ensure regular meetings are conducted. Last meeting was held in the month of December 2012 and I organized the meeting in the month of April. Meeting agenda was prepared in consultation with Deputy Superintendent and was discussed in the meeting. Minutes of meetings are to be recorded by the hospital manager and to make sure that the meeting proceedings are sent to each and every member of RKS.

Other duties & responsibilities: As a hospital manager, I am also responsible to carry out certain administrative work. Certain files are initiated by Hospital manger only. Verification of the bills of diagnostic services (pathology, X-ray and Ultrasound) is also done by hospital manager.

Challenges faced: It is a well known saying that with great power comes great responsibility. And great responisiblity brings with it many challenges. Some challenges that I come across:
Staff of the hospital is more or less cooperative but for some reason there is difference in behavior of permanent staff towards the contractual staff.
Previously there was no accountant and entire work was looked after by previous hospital manager. This resulted in huge pile up of pending work which was to be taken care along with routine tasks.

Overall challenge remains huge number of patients; be it delivery patients or general patients. This huge load of patients which is referred from the entire district results in increased load of patients.

Moreover, I would say that so far my experience has been enriching. Deputy Superintendent Dr. K.K. Roy is very supportive. District Program Manager (DPM) also has the responsibility to support Hospital manager. I must mention Mr. K.Q.Q. Daudi (Ex-Hospital manager) who has shown tremendous support and is acting as a facilitator for me to learn.

Part 2

Dissertation

INTRODUCTION

Despite a significant reduction in the number of maternal deaths – from an estimated 543 000 in 1990 to 287 000 in 2010 – the rate of decline is just over half that needed to achieve the MDG target of a three quarters reduction in the mortality ratio between 1990 and 2015 [1]. An estimated number of 287,000 maternal deaths mean everyday approximately 800 women die from preventable causes related to pregnancy and child births. In the developing world, too, Maternal Mortality remains one the major problems today. In India, Maternal mortality ratio is 212 deaths per 1, 00,000 live births.

Major causes for maternal mortality are pre- eclampsia/ eclampsia (26%), haemorrhage (21%) obstructed labour (13%) and sepsis (7.7%). Causes of deaths can be divided into direct causes that are related to obstetric complications, during pregnancy, labour, or post partum period and indirect causes. And studies reveal that major cause of maternal mortality is prolonged labor which demands quality intra partum care. This can be explained as prolonged labor, which is primarily because of cephalo-pelvic disproportion, may also contribute to maternal infection or hemorrhage and neo-natal infection. [2] If her labor does not progress normally, the woman may experience serious complications such as obstructed labor, dehydration, exhaustion, or rupture of the uterus. Labour has been termed the most dangerous journey a human ever undertakes. The reason being that although it is a natural process, complications can arise at any time during its course[3].

Skilled management of labor using a Partograph, a simple chart for recording information about the progress of labor and the condition of a woman and her baby during labor, is a key to the appropriate prevention and treatment of prolonged labor and its complications. Figure 1 shows a picture of unfilled Partograph.

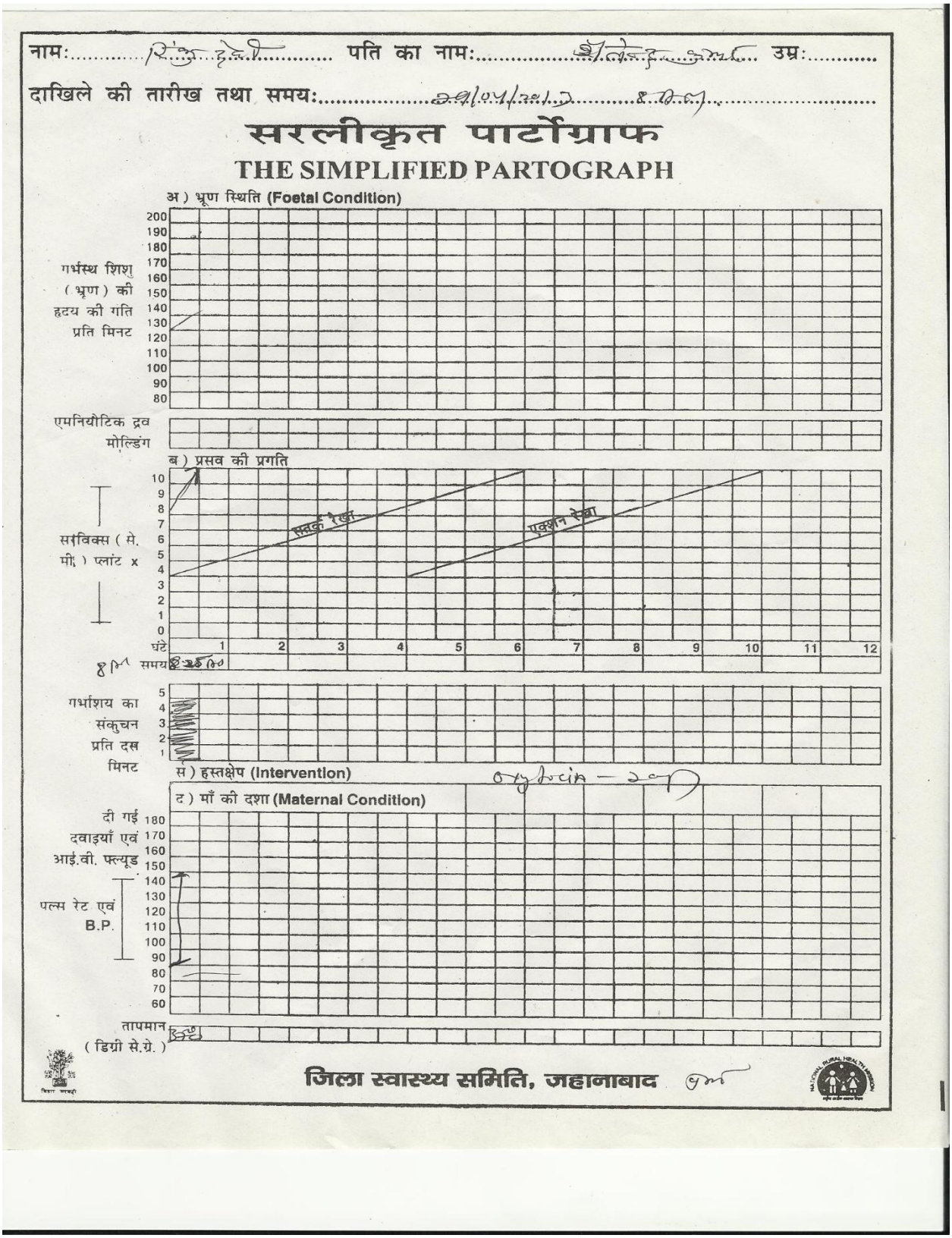

Figure 1 Partograph

Across the world Partograph is considered to be a valuable tool for improving Intra Partum care. It is a graphical tool, developed by Freidman in 1950s, for charting and visualizing the progress of labor and salient conditions of the mother and fetus plotted against time in hours.

It was later enhanced by Philpott by addition of an "action line"; crossing this line indicates that labor is not progressing normally and the caregiver should intervene.[4, 5, 6] The early detection of abnormal progress of labor using Partograph will prevent prolonged labor and its associated risks of past partum hemorrhage and sepsis; eliminate obstructed labor, uterine rupture and its subsequent events; all of which are the major causes of maternal mortality and morbidity.

Worldwide various designs of Partograph are in use, all which displays intra partum details in a pictorial manner. Its central feature is the graphic recording of dilatation of cervix assessed by the vaginal examination. **The WHO recommends partogram with a 4- hour action line from alert line, denoting the timing of intervention for prolonged labour; others recommend earlier intervention to allow for referral.**

This tool is now widely used across African Countries to monitor labour progress, foetal and maternal wellbeing. The core issue is to prevent obstructed labour through early detection of abnormal progress of labour and appropriate clinical responses rendered in accessible, equipped and staffed health units. Appropriate use of partogram requires adequate number of skilled health workers with a positive attitude towards its use especially midwives at various levels of health care facilities and actual availability of the partogram tools at all times[7].

Rationale: There take place nearly 25-30 deliveries daily at Sadar Hospital Jehanabad. With only 3 lady doctors for three shifts lady medical officers remain on 'on call' duty. This increases the responsibility of staff nurse. As stated before, Partograph is a valuable and a important tool in this regard to make decision whether an intervention is needed and lady doctor has to be called. All these conditions make it necessary that each and every staff nurse is well trained in plotting Partograph. But no study has been carried out at Sadar hospital, Jehanabad to assess the knowledge of staff nurse regarding Partograph. This study would not only help in assessing knowledge level about Partograph but would also help in proving whether training helps in improvement of use of Partograph as a result of increased knowledge.

The majority of the deaths and complications could be prevented by cost effective and affordable health interventions like the Partograph and indeed the measures that would prevent maternal deaths would also prevent morbidity and improve neonatal as well as maternal outcome. Partograph is an effective tool in managing labor. This is through enabling

clinicians examination findings from their assessment on the partogram. Partograph is a tool graphically representing key events during labour. The Partograph is used to plot the following parameters for progress of labour: cervical dilatation, descent of foetal head, uterine contractions, foetal heart rate, membranes, liquor and moulding of foetal skull. Additionally, the Partograph can be used to monitor pulse, blood pressure, temperature, urine, drugs, IV fluids and oxytocin. This tool is recommended for routine monitoring of labour as an early warning system. It helps to diagnose slow progress of labour and thus helps to prevent obstructed labour.[8]

Dr Julius sama DOHBIT in his study on "Study of Labour Partograph in Cama hospital, Jalandar",(2009) he concluded that implementation of Partograph has greatly improved the Labour outcomes. This study helped the investigators a strong basis or foundation for conducting this particular study because it showed very impressive results which helped the investigators to move to move further in their own study.[9]

O.J. Daniel, A.O. Dadabhai ,New Delhi, 2010 In their study on "Knowledge and use of the Partograph among Health Care personnel at the peripheral Maternity Centres in Nigeria" they suggested that urgent referring of the cases which are found of having obstructed labour and providing effective training to care providers regarding the referral system.[10] Various trainings are being provided to the nursing staff to promote use of Partograph so that quality of care during delivery can be improved. Also, it becomes necessary to evaluate the effectiveness of such training modules to assess whether such teaching and training programs are actually improving skills, knowledge and practice of using Partograph among staff nurse.

Problem statement:

Maternal mortality remains of the major problems in public health today especially in developing countries which is estimated to be 550 per 1,00,000 live births, which is 100 times higher than in developed countries. Causes of maternal mortality according to WHO are unsafe abortion, sepsis, obstructed labor, hemorrhage , indirect causes, other direct causes and hypertensive disorders. About 2-3rds of labor are normal, in the rest, increased surveillance and sometimes action is required to prevent maternal and fetal problems. All the primary caregivers need to be able to recognize such variation and to take appropriate action.[11] One of the method introduced to reduce the high incidence of maternal and neonatal

mortality in developing countries, is the 'partogram', which has transformed the subjective management of labor in to an objective exercise[12].

WHO defines an SBA as someone **"trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns".** One very important aspect of a SBA is practicing Partograph[13]. The present study is done to assess the effectiveness of one day- workshop on use of Partograph among staff nurse. This one day workshop was a part of a SBA training program by JHPEIGO which is for 21 days. In fact Partograph training is a very important part of the SBA training program. The focus is mainly on use of Partograph as it was observed in many previous audits that use of Partograph in District Hospital, Jehanabad is not significant and no attention is paid to plot Partograph and utilize this tool to monitor progress of labor. Thus, promoting use of Partograph becomes key objective of the SBA training and by evaluating its effectiveness would not only help in knowing whether such trainings are helpful but would also help in further improvement of the current training module.

The study also pays attention to reasons for not using Partograph from the perspective of staff nurse to identify key factors that may affect its utilization to monitor progress of labor by nursing staff of the concerned hospital. Moreover, the pre-training assessment of staff nurse on use of Partograph would reflect the prevalent level of knowledge about Partograph as in a cross-sectional study.

REVIEW OF LITERATURE

WHO Maternal and safe Motherhood Programme issued a series of 4 inter related documents which are now updated as "Preventing Prolonged Labour: a practical guide- The Partograph."

The 4 documents are as follows:

- First Document: Principles and Strategy"
- Second Document: "User's Manual"
- Third Document: "Facilitator's Guide"
- Fourth Documents: "Guidelines for operational Research"

The above mentioned all the 4 documents provide useful resources for the introduction, the content and the making the tool and the analysis of the data collected.(WHO module, 2008)

Diana and Margaret, (2009) in their study on "Study of Labour" they concluded that Partograph as a "GOLD" standard for assessing process in labour. This particular study helped the investigators in finding differences between the labours of multiparous and nulliparous women and induced labour and non induced labours.[14]

A study was conducted in Bangladesh with an aim to assess the impact of training on use of the partograph for labour monitoring among various categories of primary health care workers among 56 health workers over a period of 7 months in Bangladesh through hospital based survey and the result revealed that 242 partograph of women in labour were plotted and out of this 76.9% of them correctly plotted and 6.6% were inappropriate. The author concluded that effective training to use the partograph among primary health care workers can contribute towards improved maternal outcomes in developing countries.[15]

Hemant pandey Gijagi university, Madhya pradesh. (2009) A study was done in Dhule with the objective to assess the effectiveness of promoting the use of the World Health Organization (WHO) partograph by midwives for labor in a maternity home by comparing outcomes after birth. 20 midwives, who regularly conducted births in maternity homes, were randomly allocated into two equal groups. The design of the study was cluster randomized-control trial. Under supervision from a team of obstetricians, midwives in the intervention group were introduced to the WHO Partograph, trained in its use and instructed to use it in

subsequent labors. There were 304 eligible women with vertex presentations among 358 laboring women in the intervention group and 322 among 363 in the control group. Among the intervention group, 304 (92.4%) Partograph were correctly completed. From 71 women with the graph beyond the alert line, 42 (65%) were referred to hospital. Introducing the Partograph significantly increased referral rate, and reduced the number of vaginal examinations, oxytocin use and obstructed labor. The proportions of caesarean sections and prolonged labor were not significantly reduced. Apgar scores of less than 7 at 1min were reduced significantly, whereas Apgar scores at 5mins and requirement for neonatal resuscitation were not significantly different. Fetal death and early neonatal death rates were too low to compare. A training programme with follow-up supervision and monitoring may be of use when introducing the WHO partograph in other similar settings, and the findings of this study suggest that the appropriate time of referral needs more emphasis in continuing education. The study concluded that the WHO partograph should be promoted for use by midwives who care for laboring women in a maternity home.[16]

Another study was conducted with an objective to evaluate the knowledge and use of the partogram among 396 maternity care providers over a two month period in University Teaching Hospital, Nigeria through the questionnaire based survey and the results revealed that only 39 (9.8%) of all the personnel routinely employed the partogram for labour management and almost half of these individuals had a poor level of knowledge. The author concluded that training should be given to the care providers especially junior personnel for the effective use of the partogram.[17]

Pettersson KO, Svensson ML, Christensson K. (2009 June) A study was done with the objective to evaluate the impact of an educational intervention of midwives' use of the Angolan model of the World Health Organization's (WHO) partograph. The setting used was a peripheral delivery unit with approximately 1500 deliveries per year, run by eleven midwives in south India. The quasi-experimental, One-Group Pre-test-Post-test design was used in this study. Fifty partographs plotted with an initial dilatation < 8 cm were randomly selected from the first period of six month to form sample I, and another fifty from the second six-month period to form sample II. In-service education (theory and practice) performed by a team of midwives and an obstetrician. The study reported that when comparing sample II with sample I, statistically significant improvements were found in seven of 10 measured variables. This indicates a positive effect of the educational intervention on a proper use of

the partograph. Due to the small sample size, however, this study cannot evaluate action taken in relation to prolonged labor. The in-service educational programme may be of use when introducing the WHO partograph in similar settings and the findings of this study may indicate which parts of the programme need more emphasis. Conclusion of the study was that the midwives improved in general their documentation of the partograph. However, they tended to exceed established criteria for responsibilities at the peripheral delivery unit, a fact supported by an increased number of missed transfers. The study did not, however, answer the question why the midwives acted as they did in the referred cases.[18]

Fawole A O, Robinson Albert James**. (2010 June)** conducted a study with the objective to assess knowledge about the partograph and its utilization among maternity care providers in primary health care in Srinagar. Two hundred and seventy-five maternity care providers comprising of 64 CHEWS (23.3%), 74 Auxiliary midwives (26.9%), 123 Nurses/midwives (44.7%) and 14 medical doctors (5.1%) were interviewed in primary health centres and private hospitals in three states in Jammu Kashmir using a multi-stage sampling strategy. Knowledge about the partograph and assessment of labour were assessed with an interviewer-administered questionnaire. The study resulted that about a quarter of respondents, 75 (27.3%) had received prior training on the partograph. Only 25 (9.1%) reported that the partograph was available in their labour wards. Knowledge about the partograph was poor; only 18 (16.0%) of all respondents correctly mentioned at least one component part of the partograph, 21 (7.6%) correctly explained function of the alert line and 30 (10.9%) correctly explained function of the action line. Prior training significantly influenced knowledge about the partograph (gamma2 = 49.2; $p < 0.05$). Knowledge about assessment of labour was also poor: less than 50% of all respondents knew the normal duration of labour and just about 50% understood assessment for progress of labour. The study concluded that the partograph is not utilized for labour management in Srinagar. Knowledge about partograph and assessment during labour is grossly deficient. Findings suggest poor quality intrapartum care. Effective interventions to improve labour supervision skills and partograph utilization are urgently required.[19]

Fahdhy M. Chongsuivatwong V conducted a study to assess promoting use of WHO Partograph by midwives. 20 midwives who are regularly conducted births in maternity homes, randomly allocated in two equal groups. Introducing the Partograph significantly increased referral rate and reduced the number of vaginal examinations, oxytocin use and obstructed labor, cesarean section and prolonged

labor were not significantly reduced; fetal death and early neonatal death rates are also low to compare. So it was concluded that WHO should be promoted for use by midwives who care for laboring women in maternity facilities.[20]

A.O. Fatusi (2008 Jan) A study was done in Gujarat with the objective to assess the impact of training on use of the partogram for labor monitoring among various categories of primary health care workers. Fifty-six health workers offering delivery services in primary health care facilities were trained to use the partogram and were evaluated after 7 months. The study resulted that total of 242 partograms of women in labor 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%). Inappropriate action based on the partogram occurred in 6.6%. No statistically significant difference was recorded in the rate of correct plotting and consequent decision-making between nurse/midwives and the CHEWs. The study concluded that 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.[21]

OBJECTIVES

General Objective: To evaluate the effectiveness of a one day workshop on "Partograph" as a part of SBA training program and identify factors affecting limited use of Partograph among staff nurse of District Hospital, Jehanabad

Specific Objectives:

a. To assess the knowledge and practice of Partograph among staff nurses before and after the SBA training.
b. To evaluate the effectiveness of the workshop
c. To identify factors affecting limiting implementation of Partograph
d. To recommend measures to increase use of Partograph by staff nurses

Hypothesis of the study:

There will be a significant increase in knowledge about Partograph before and after the SBA training program among staff nurses of the district Hospital, Jehanabad.

Operational Definitions:

Partograph: refers to a tool to assess the progress of labour and recognize need for action at the appropriate time and timely referral; a graphic recording of progress of labour and salient conditions of mother and fetus.

Effectiveness: This term refers to the significant gain in knowledge scores of nurses regarding partogram after conducting structured teaching program.

Knowledge: refers to the correct response of the nurses to the structured knowledge questionnaire method related to partograph.

Nurse: refers to a person who is trained in both nursing and midwifery and focuses on the management of women's health care particularly pregnancy, child birth, the post partum period, care of the new born and Gynaecology.

DATA AND METHODS

Study Design- This is analytical as well as exploratory study in nature. A pre- and post assessment of knowledge is done among the same group of staff nurse. Thus a Before-after study design is adopted.

Study Settings- The present study is conducted among the nursing staff of the Sadar (District) Hospital of Jehanabad, Bihar.

Study Population- This includes all the ANMs and A-Grade nurses who are working in the District Hospital of Jehanabad and have undergone the SBA training including both contractual and permanent staff.

Study Sample and Sample Size – Sample size is 29 which is the total number of staff nurses and ANMs in Sadar Hospital, therefore, sample population includes the entire study population.

Sampling Technique – Purposive sampling is used to collect data.

Sampling Criteria:

Inclusion Criteria – all the nurses working in Sadar Hospital and have undergone the SBA training Program designed by JHPIEGO and also attended the One-Day workshop on Partograph.

Exclusion Criteria – **a**. Medical Professionals other than the staff nurses.
b. Staff nurses who are working in Sadar Hospital Jehanabad but did not attend the workshop
c. Staff nurses who have attended the workshop but are working in health facility other than Sadar Hospital, Jehanabad.

Study Variables: Knowledge of staff nurses regarding Partograph is the dependent variable and independent variable is attending Workshop on Partograph.

Data Collection Tool – Data was collected using a questionnaire which has two parts:

Part I includes a structured (Closed-ended) set of questions to assess the knowledge of staff nurses regarding Partograph. This section includes multiple-choice questions under different aspects of Partograph such as meaning and definition, purpose, significance, charting Partograph etc. Each questions has 3 options with 1 correct answer and each correct answer will be given '1' score while there is '0' score for each wrong response.

Part II includes only one question to list two main factors that may affect use of Partograph. This section is kept open-ended to explore as many factors as possible.

Data Collection process: Prior permission was taken from the concerned authorities. Data was collected at the beginning of the training program and at the end of the training program. In other words 1st stage of data collection completed at one day prior to start of the training program and 2nd stage of data collection was done after 21 days as SBA training is for 21 days. The second section of questionnaire i.e. part II was asked only once after the training program.

Data Analysis: Quantitative analysis technique is adopted. Assessment of knowledge about Partograph among staff nurses was analyzed using range, frequency, mean and standard deviation. However, Paired t-test was used to analyze the statistical significance of the effectiveness of the workshop.

Knowledge level is categorized on the basis of score in following ways:

1. *Poor knowledge*- less than 50% score (< score 12)
2. *Moderate knowledge*- between 51-75% score (score 13-19)
3. *Good Knowledge*- more than 75% (> score 19)

RESULTS AND FINDINGS

Demographic Characteristics	Category	Respondents	
		Number	Percent
1. Age	18-24 years	7	24.1
	25-35 years	9	31.0
	Above 35 years	13	44.9
2. Marital Status	Single	4	13.8
	Married	25	86.2
3. Education Level	ANM	21	72.4
	B.Sc. (Nursing)	8	27.6
4. Experience	1-2 years	6	20.7
	3-9 years	12	41.4
	10+ years	11	37.9

Table I: Demographic Details

The above table 1 shows that majority of the staff nurses of Sadar Hospital, Jehanabad are above 35 Years of age (44.9%) and most of them are married (86.2%). Table 1 also indicates that most of the nursing staff comprises of ANMs (72.4%) and there are few A-Grade nurses (27.6%). It was also found that most of the staff is experienced with 41.4% having experience of 3-9 years and 37.9% have more than ten years of experience. Gender is not included in the demographic information as all the nursing staff is female.

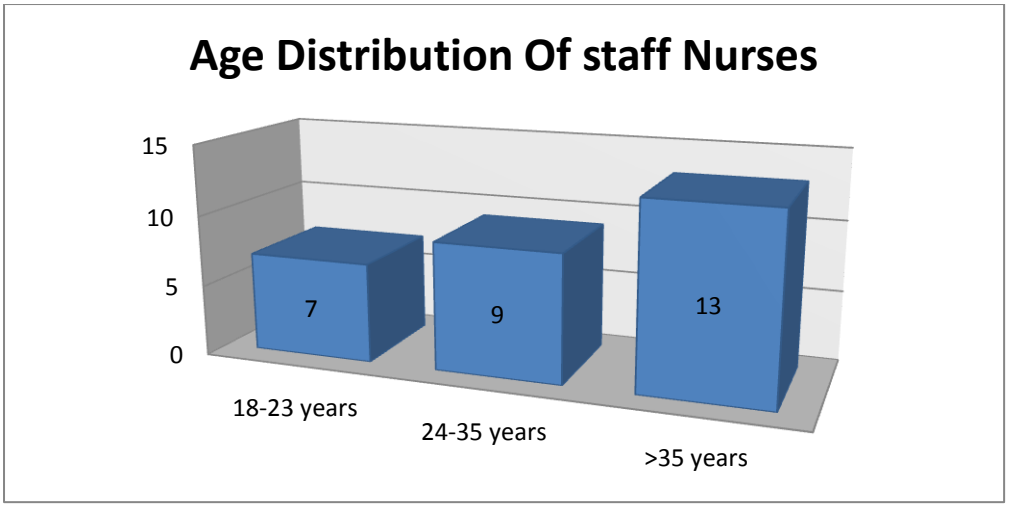

Figure 2: Age Distribution of Staff Nurses

Above figure 2 shows that majority of Respondents fall in third category of age group above 35 years of age.

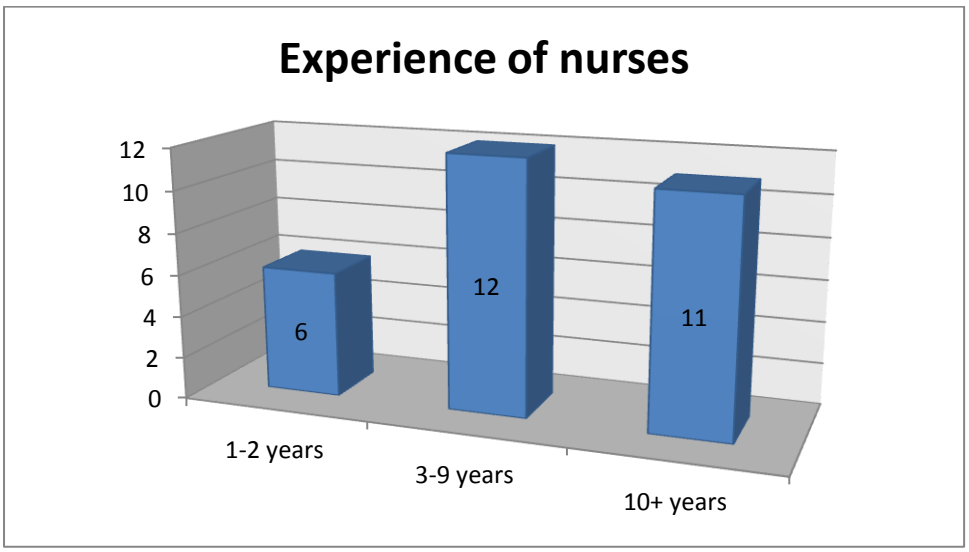

Figure 3: Years of Experience of Staff Nurses.

Staffs nurses of Sadar Hospital, Jehanabad have good experience with 11 out of total 29 nurses have more than 10 years of experience as depicted in figure 3.

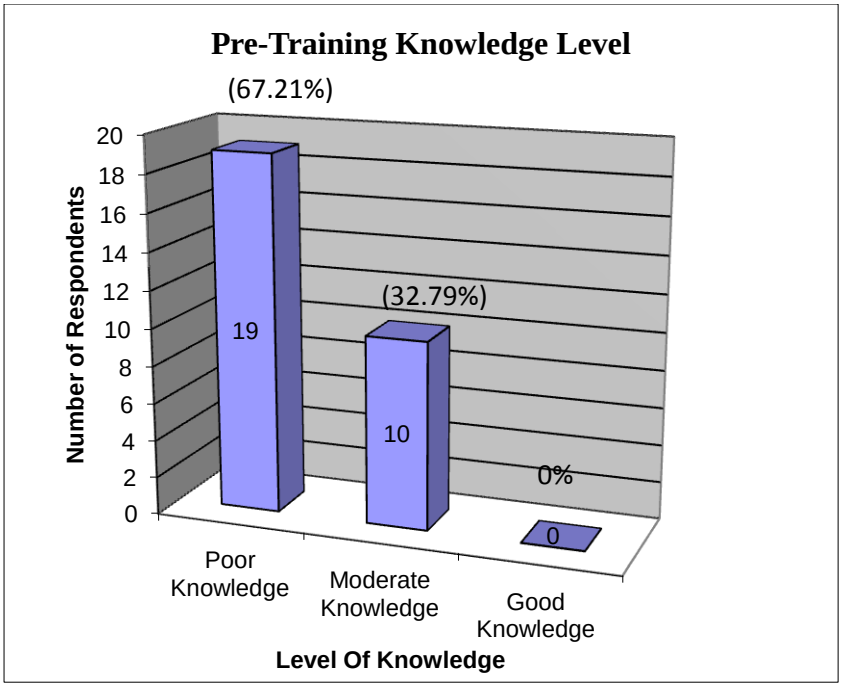

Figure 4: Level of Knowledge among staff nurses before attending the training program

Figure 4 depicts that before the training program majority of staff nurses had poor knowledge regarding Partograph (67.21%) while 10 nurses out of total 29 nurses (32.79%) had moderate knowledge about Partograph and no one had good knowledge about the same. This can also be explained as 19 out of total nurses who seemed to have poor knowledge scored less than12 and no one could score more than 19 to be able to have been considered as having good knowledge. Nurses who had moderate knowledge means there score lied between 13 &19. This information also indicates a dire need of training regarding Partograph as majority of nurses failed to score more than 12.

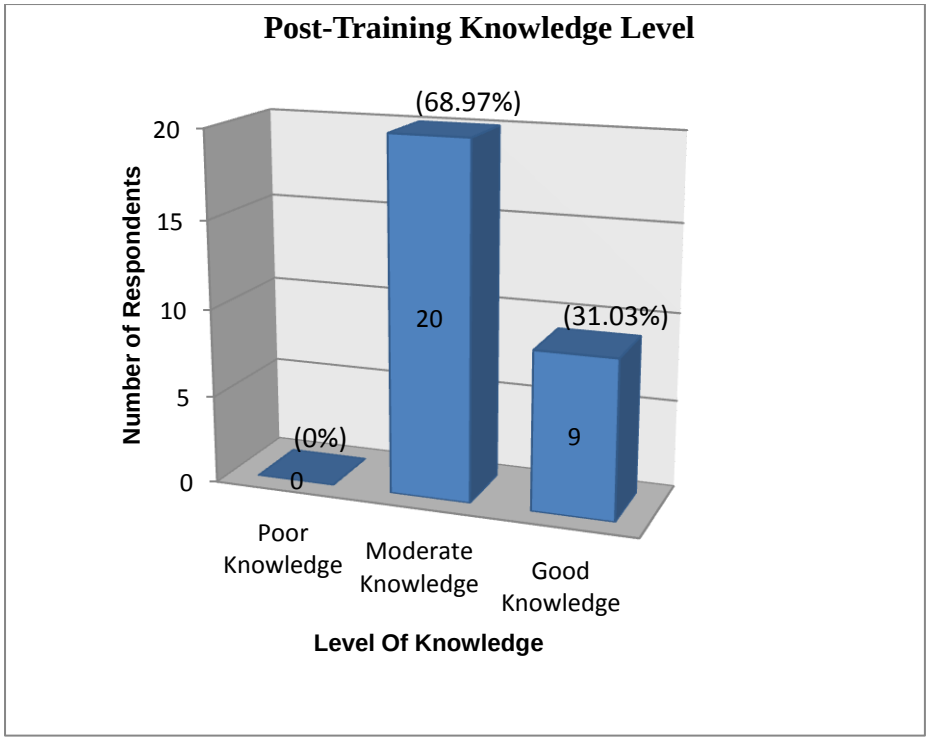

Figure 5: Knowledge level of staff nurses after attending the training program

Figure 5 represents the knowledge level of staff nurses after 21 days when the training ended. This graph shows that after attending the training there is indeed change in the level of knowledge. Every one scored more than 12 has 0 respondents had poor knowledge. Percentage of nurses having moderate knowledge is highest (68.97%) as 20 out of total 29 nurses interviewed had moderate knowledge after attending training program. There were 9 nurses (31.03%) who scored more than 19 and thus considered to have good knowledge.

Knowledge Assessment Before and after the Training

Knowledge assessment	Mean	Mean Difference	S.D.	df	Calculated Paired 't' value	Table Value
Pre-Training	11.10	6.62	3.54	28	9.1314*	1.96
Post- Training	17.72		2.89			

*Significant at 5% level of Significance

Table II : Analysis of effectiveness by applying paired t test

CALCUALTIONS:

Formula used: $t = |d| / [SD(d)/ \sqrt{n}]$

Where SD (d) = $[(d_i - d)^2 / n-1]$

n = sample size (29)

Results:

As calculated't' value is greater than tabulated value, i.e.
Calculated t value (9.13) > Tabulated value (1.96) at 5% significance level shows that there was a significant difference between the scores before & after attending the workshop.
Thus, the following Hypothesis is accepted:

Hypothesis: There was significant difference in the scores attained by staff nurses before and after attending workshop which was a part of SBA training.
This fact is also highlighted by the mean scores attained by staff nurses before and after the training program as mean score of staff nurses after attending training program was found to

be 17.72 which is higher than the mean score attained by staff nurses before attending training program which was found to be 11.10.

Beside the questionnaire to test their knowledge before and after the training program, respondents were also asked to list two main factors which according to them could affect use of partgraph in labor room.

Following factors were listed by staff nurses:

1. Lack of Structured Training Program
2. Experience
3. Unawareness among staff about importance of Partograph
4. Different versions for filling Partograph
5. Frequent Updates to fill Partograph
6. Age of Nurse
7. Lack of supply of Partograph in labor room

DISCUSSION

The present study was conducted with an objective to test the effectiveness of the workshop on Partograph which was a part of 21 days SBA training attended by staff nurses of the Sadar (District) hospital, Jehanabad. Only staff nurse were included in the study because while monitoring progress of labor Partograph is maintained by the concerned nurse and by doctors. Therefore, staff nurses including all ANMs and A-Grade nurses were key persons responsible for preparing Partograph so that continuous monitoring of the maternal and fetal condition. SBA training Module has been prepared by JHPIEGO and this study only tries to see whether there is any change in the level of knowledge of staff nurses after attending the workshop. To achieve this, pre- and post- training assessments is done and mean score is compared for before and after situation. A Hypothesis is also generated and paired t test is applied to test the hypothesis which reveals that the hypothesis can be accepted. On analysis of demographic data it was found that majority of the respondents was above 35 years of age and is married. Also, most of them had many years of experience. But instead of this, pre- training score of most of the respondents were low. This study not only reveals change in level of knowledge regarding Partograph but also indicates which areas need more emphasis.

As stated in a study conducted in University Teaching Hospital, Nigeria training has been proved to be effective method of increasing utilization of Partograph. Like found in many other studies, training program proved to be effective as the man score attained by staff nurse after attending training was more than before attending it. One such study was conducted in among primary health workers which also suggested that they can be effectively trained to use Partograph.[15]

When nurses were interviewed before training, no one could score as high so that they can be considered to have “good” level of Knowledge. The findings were different after the test as each nurse score more 12 and were either considered to have “moderate” or “good” level of knowledge while no one had “poor” level of knowledge. In other words, all the nurses scored better than before. Paired t test is applied to test hypothesis in case of before and after trials. The calculated t value was found to be higher than the tabulated value of t at 5% level of significance which shows that there is indeed a significant increase in level of knowledge among staff nurse before and after the training was conducted.

Another question asked to nurses and ANMs was to name factors that may affect use of Partograph and they can list such two factors based on difficulties faced by them or any other factor observed by them. But this study has its limitations as well. Assessment of post-knowledge level is done the very day at end of the training program but there was no follow up to check how much knowledge did nurses retain after few days or few weeks. It means only immediate effects of training could be assessed and not the long term effects. Moreover, the sample size is very small as it included staff nurses from one district hospital. Increasing the sample size by including staff nurses of other facilities may give a better understanding. Though some demographic data is collected but no analysis or association has been tested for knowledge level. Data on factors relating to use of Partograph is based on respondents' perspective; thus there can be bias.

CONCLUSION & RECOMMENDATIONS

Based on findings of the present study several conclusions can be drawn. Firstly, pre-training assessment of knowledge reading Partograph indicates that staff nurses had inadequate knowledge regarding use and purpose and charting of Partograph and there was a need of training to be given to them. Lack of knowledge would result in less use of Partograph which is a valuable tool for recording maternal and fetal condition during labor which is a very crucial condition. However, after training mean score was improved reflecting that the workshop has been effective in improving level of knowledge and has met its goal.

The study also to identify factors which may play any role in promoting or preventing use of Partograph by nurses and ANMs. Top two most voted factors were found to be Training and experience. Other two factors includes different versions and frequent new updates keep introducing that may lead to confusion and consequently affecting use of Partograph among staff nurse. Based on these observations following suggestions are recommended:

1. It was observed in pre-training knowledge assessment that all nurses have either poor or moderate level of knowledge. This points that periodic on-the-job training must be provided to ANMs and nurses regarding Partograph through a structured training program like SBA training program by JHPIEGO.
2. One of the factors indentified that may affect utilization of Partograph is unawareness about its importance. Thus regular motivation by doctors and supportive supervision is also required to encourage nursing staff to use Partograph for recording maternal and fetal condition.
3. To further encourage and ensure regular use of Partograph, it could be made hospital policy that has to be carried out.
4. Another interesting factor that was highlighted was supply of Partograph in the labor room. Although, this particular problem is not faced by staff nurses of Sadar Hospital, Jehanabad as there is uninterrupted supply of Partograph paper in labor room, sufficient supply must be ensured.

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Questionnaire

Socio-demographic data:

Code:

Age:

Marital status:

Education:

Experience:

Knowledge assessment on use of partograph

1. What is partograph:
    a. A graphic Representation of Antenatal Care
    b. A visual means of evaluating labor process
    c. A graphic representation of pregnancy

2. What is the purpose of partograph
    a. Monitoring the progress of labor
    b. Monitoring the fetal Development
    c. Only recording of BP, Pulse and Temperature

3. When does the active phase of labor commence
    a. At 1cm cervical dilatation
    b. At 2cm cervical dilatation
    c. At 4cm cervical dilatation

4. Latent phase of labor should not last longer than
    a. 2 hours
    b. 4 hours
    c. 6 hours

5. How often can we perform the vaginal examination the vaginal examination?
    a. Every 1 hour
    b. Every 2 hour
    c. Every 4 hour

6. What are the maternal parameters recorded on partograph?
    a. Vital signs, drugs, contraction and urine analysis
    b. Metabolism, membranes and temperatures
    c. Pelvic proportion, drugs, maternal response

7. What are the components of partograph?
    a. Only Progress of labor and maternal conditions
    b. Only fetal conditions
    c. All of the above

8. What are the fetal parameters recorded on partograph?
    a. Cervical dilatation
    b. FHR, mouldings and membranes
    c. Pulse, blood pressure and temperature

9. Where does the cervical dilatation line lie in active phase of labor?
    a. On alert line or to left of alert line
    b. On to the right side of alert line
    c. On action line

10. How many phases are there in active stage of labor?
    a. 4 phases
    b. 3 phases
    c. 2 phases

11. In which phase the cervical dilatation will be slow?
    a. Latent phase
    b. Active phase
    c. Prolonged phase

12. When admission to hospital takes place in the active phase, the admission dilatation is immediately plotted
    a. On Alert line
    b. Between alert line and action line
    c. On Action line

13. How to identify the descent of the fetal head?
    a. Through vaginal examination
    b. Through auscultation
    c. Through palpitation

14. How to identify the weak contraction?
    a. If contraction are <40 seconds
    b. If contractions are between 40-20 seconds
    c. If contractions are <20 seconds

15. How much is the normal FHR?
    a. 60-70 beats per minute
    b. 120-160 beats per minute
    c. 50-60 beats per minute

16. Which is the best time to listen to fetal heart rate?
    a. Just before the contraction has begun
    b. Just after the contraction has passed its strongest phase
    c. Just after the contractions has commenced

17. What it indicates if FHR is low?
    a. Good Progress
    b. Gradual progress
    c. Distress

18. Which colour indicates that the liquor amnii is normal?
    a. Straw color
    b. Golden color
    c. Orange color

19. Which letter is used to record on partograph when the membranes are intact?
    a. **‘**I’
    b. ‘M’
    c. ‘A’

20. Which letter is used to record on partograph when the amniotic fluid is meconium stained?
    a. ‘I’
    b. ‘M’
    c. ‘A’

21. If moulding is present, it is marked as
    a. ‘+’
    b. ‘K’
    c. ‘C’

22. What does severe moulding indicate?
    a. Fetal skull abnormality
    b. Abnormal labor progess
    c. Cephalo-pelvic disproportion

23. What progresses in proportion to uterine contraction?

a. Maternal blood pressure
b. Moulding
c. Cervical dilatation

24. What is essential for good progress of labor?

a. Uterine contractions
b. Fetal heart rate
c. Maternal awareness

25. What should be done if cervicograph moves to the right of the alert line

a. Must be treated as normal
b. Must be transferred and managed immediately
c. Must be provided comfortable position

QUESTIONNAIRE

1- ikVksxzkQ D;k gksrk gS \
   a. izlo iwoZ tk¡p dh xzkfQd fjdkZfMax
   b. izlo dh izxrh dks vkadus dk lk/ku
   c. xHkZ dh xzkfQd izfr:i

2- ikVksxzkQ dk iz;kstu D;k gksrk gS\
   a. izlo dh izxfr dh fuxjkuh j[kuk
   b. Hkzq.k dh fodkl dh fuxjkuh j[kuk
   c. Dsoy ch-ih-] Iyl vkSj rkidze dh fjdkZfMx djuk

3- izlo dh ,fDVo Qsl dc ‘kq: gksrh gS \
   a. ,d lsaVhehVj cervical dilatation ij
   b. 2 lsaVhehVj cervical dilatation ij
   c. 4 lasVhehVj cervical dilatation ij

4- izlo dh ysVsu Qsl fdrus ?kaVs ls vf/kd ugh gksuh pkfg,A
   a. 2 ?kaVs
   b. 4 ?kaVs
   c. 6 ?kaVs

5- izlo ds nkSjku fdruh ckj ;ksuh dh tk¡p gksuk pkfg,A
   a. gj 1 ?kaVs esa
   b. gj 2 ?kaVs esa
   c. gj 4 ?kaVs es

6- eka ds LokLF; ds fdu ekin.Mks dks ikVksxzkQ ij fjdkZM fd;k tkrk gSA
   a. egRoiw.kZ ladsr] nok] ladqpu-
   b. p;kip;] esecszu vkSj rkidze
   c. Jksf.kd vuqikr] nok] eka dh izfrfdz;k

7- ikVksxzkQ es D;k&D;k fjdkZM fd;k tkrk gS\
   a. dsoy izlo dh izxfr vkSj eka dh voLFkk
   b. dsoy Hkzw.k dh voLFkk
   c. mij ds lHkh ekina.M

8- Hkwz.k ds fdu ekin.Mks dks ikVksxzkQ es fjdkZM fd;k tkrk gS\
   a. cervical dilatation
   b. Hkzw.k dh àn;xrh] Hkwz.k dh <+ykbZ vkSj eseczsu
   c. ukM+h] ch-ih- vkSj rkidze

9- izlo dh ,fDVo Qsl esa cervical dilatation dh js[kk dgk iM+rh gS\
   a. ,yZV ykbZu ij ;k ,yZV ykbZu ds ckbZ vksj
   b. ,yZV ykbZu ds nkbZ vksj
   c. ,D'ku ykbZu ij

10- izlo dh ,fDVo LVst es fdruh voLFkk, gksrh gS\
   a. pkj
   b. rhu
   c. nks

11- fdl Qst es /kheh gks tkrh gS\

a. lysVsu Qsl
b. ,fDVo Qsl
c. izkyksaXM Qsl

12- ;fn vLirky es ejht dh HkrhZ ,fDVo Qs les gks rks cervical dilatation dks rqjar dgk¡ vkysf[kr fd;k tkuk gS\

a. ,yZV ykbZu ij
b. ,yZV ykbZu vkSj ,D'ku ykbZu ds fcp es
c. ,D'ku ykbZu ij

13- Hkzw.k ds lj ds vorj.k dk irk dSls yxk;k tk,\

a. ;ksfu ds tk¡p ds }kjk
b. Stethescope ds }kjk dks[k es gjdr lqudj
c. àn; dh /kM+du lqudj

14- ladqpu ds nqcZy gksus dk irk dSls yxk;k tk;s]

a. ladqpu 40 lsdsaM ls de gks
b. ladqpu 40&20 lsdsaM ds fcp gks
c. ladqpu 20 lsdsaM ls de gks

15- Hkwz.k dh àn;xfr vkerkSj ij D;k gksrh gS\

a. 60&70 /kM+du@feUkV
b. 120&160 /kM+du@ feUkV
c. 50&60 /kM+du @ feuV

16- Hkzw.k dh àn;xfr lquus dk loZJs"B le; dc gS\

a. Ladqpu ds 'kq: gksus ds rqjUr igys
b. ladqpu ds lcls izcy voLFkk ds rqjUr ckn
c. ladqpu ds 'kq: gksus ds rqjUr ckn

17- Hkwz.k dh àn;xfr dk /khek gksuk D;k ladsr djrk gS\

a. Bhd izxfr
b. /kheh izxfr
c. izxfr es dfBukbZ

18- Liquor Amnii dk Bhd gksuk fdl jax ls irk pyrk gS\

a. gYdk ihyk jax
b. lqugjk
c. larjh

19- esecszu dh v[kaM gksus dh voLFkk vxzsth ds fdl v{kj ls n’kk;hZ tkrh gS\

a. I
b. M
c. A

20- fdl v{kj ;k fpUg }kjk fn[kk;k tkrk gS fd xHkksZnd es ¼uotkr f’k’kq dk izFke ey½ \

a. +
b. K
c. M

21- Hkwz.k dh <+ykbZ fdl izdkj n’kk;hZ dh tkrh gS\

a. +
b. K
c. M

22- Hkwz.k dh <+ykbZ xaHkhj gks tkuk D;k n’kkZrk gS\

a. Hkwz.k dh lj dh fod`fr
b. fod`r izlo izxfr
c. Hkwz.k ds lj ds ekrk dh Jksf.k ls gksuh okyh fo”kerk (Cephalo-pelvic disproportion)

23- xHkkZ’k; ds ladqpu dh izxfr ds lkFk D;k izxfr djrk gS\

a. eka dk jDrpki
b. Hkwz.k dh <+ykbZ
c. cervical dilatation

24- izlo dh izxfr ds fy, D;k t:jh gS\

a. xHkkZ’k; dk ladqpu
b. Hkwz.kZ dh àn;xfr
c. izlo ds nkSjku eka dh tkx:drk

25- Cervicograph ds ,yZV ykbZu ds nkbZ vksj igqp tkus ij D;k djuk pkfg,\

a. lk/kkj.k :i ls mipkj
b. rqjUr Js”Brj vLirky es LFkkUrafjr djuk pkfg, vkSj rqjar mfpr izca/k djuk
c. eka dks vkjkenk;d ;k ‘kkafrizn LfFkfr es j[kuk

ANSWER KEY

Question no.	Correct Response
1.	b
2.	a
3.	c
4.	b
5.	d
6.	a
7.	c
8.	b
9.	b
10.	b
11.	a
12.	c
13.	a
14.	c
15.	b
16.	b
17.	c
18.	a
19.	a
20.	b
21.	a
22.	c
23.	d
24.	a
25.	b