ASSESS THE PREVALENCE OF LOW BIRTH WEIGHT BABIES AND ITS RISK FACTORS AMONG POSTNATAL MOTHERS IN WARDHA DISTRICT.

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ABSTRACT

Background: Babies of low birth weight includes 2,499 g or less weight as stated by WHO. LBW consists of VLBW which is below 1500g and extremely low birth weight which is lesser than 1000g. Normal gross-weight of the infant at the time of delivery is 2500-4200g. The cause of LBW is preterm birth, or slow prenatal growth rate. The survival rate is determined by baby's birth weight. Several risk factors are also associated such as multiple pregnancies, poor nutrition, hypertension, drug addiction or intake of alcohol. It is very necessary to prevent LBW rather than treating it after birth.

Objective: This study is planned to assess low weight infants and chance of LBW babies among postnatal mothers.

Methodology: It is descriptive research design used for data collection procedure will be required 1 week per plan. 3-4 normal vaginal deliveries take place in a day accordingly data will be collected. Firstly, to take oral permission to do the study from selected hospital of Wardha district. And will introduced myself to staff and explained about the study requirements. The number of underweight infants will be gathered from register which is maintain while delivery and followed according to normal vaginal delivery and caesarean section. Soon after the delivery the weight of baby will be checked. Then interview will be taken with the following questionnaires prepared according to the risk factors. The newborns and their mothers will be selected by purposive sampling technique.

Ethics approval was obtained from (DMIMS(DU)/IEC/DEC-2019/8640). The conclusion will be drawn from the result.

Expected Results: In this present study, will able to know about the currency babies and the risk of mothers soon after the delivery.

Key words: Low birth weight, preterm, gestation, dehydration, hyperthermia, hypothermia.

Introduction:

The healthy citizens are the strong pillars of a nation. Mothers play a vital role in providing healthy citizens from the beginning of their life in the womb by taking care of them. New born period is the most crucial period in which the new born undergoes various transitional process and gets accustomed with the external environment. The neonates are soft, Tender and they require physical as well as psychological support in order to get adjusts to the external environment.[1]

This adjustment requires the fullest developmental process in new born baby whereas in case of low birth weight this is lacking. LBW refers to all new born which are below weight 2500 grams ignoring the time at gestation. (WHO 2005)

Weight of the neonate is a difficult to determinant for survival in the neonatal period and for further growth of neonate. Weight at birth is known to be biggest factor, which the new born infant to adapt the surroundings.[2]

Lesser weight babies are 46 times had chance for infection . Low birth weight and Preterm like to die before their first birthday and Survivors may suffer from a number of health problems and very lesser weight infants are 200-fold more risk of neonatal death. (Dansayaker p, 2007)

The Average birth weight of a new born baby in our country is less around 2800 to 3000 grams. A neonate who weighs less than 2500gms at birth decreased weight. (IAP 2006)

Approximately 80 percent of infant's death and half of infant's deaths occur among the low birth weight neonates. Lesser weight is a harmful for life.

A low birth weight babies easily develop hypothermia or hyperthermia, hypoxia, respiratory distress, difficulty in digestion and feeding, frequent regurgitation, abdominal distention, diarrhea, dehydration, poor growth, neurological problems and other problems, frequently exposure to infections, sepsis and death. Infants less than 1500/2500 grams birth weight are risk for significant Nutritional deficiencies, poor pulmonary and renal outcome, poor drug interaction, brain immature, low resistance and delayed Neurological development.[3]

Rational of the study: Low birth weight is a major problem which India is dealing with. The nutritional status is based on directly to the health status of mother. The lack of awareness and understanding leads to minimum intake of nutrition by mothers which affects the health of the baby. As country is fighting against the malnutrition India has the more rate of babies with poor weight after birth.[4]

Descriptive method is used for data collection, mothers will be sample for finding more chance of LBW.

Objective: To evaluate the low birth weight infant and to rate the factors of low birth weight among postnatal mothers

Methodology:
The data collection procedure will be required 1 week per plan. 3-4 normal vaginal deliveries take place in a day accordingly data will be collected. Firstly, to take oral permission to do the study from selected hospital of Wardha district. And will introduced myself to staff and explained about the study requirements. The list of low birth weight new-borns will be collected from admission register and followed according to normal vaginal delivery and caesarean section. Soon after the delivery the weight of baby will be checked. Then interview will be taken with the following questionnaires prepared according to the risk factors. The new-borns and their mothers will be selected by purposive sampling technique.

Inclusion criteria:
- Postnatal mothers with their babies
- Mothers those are willing to participate and available during study

Exclusion criteria:
- Mothers with high risk of postnatal complications to mother as well as baby.

Withdrawal criteria:

- Mothers with more complication's after delivery.
- Babies those are admitted in NICU.
- **Sample size**

$$N \quad \frac{}{d^2} \quad = \quad 2\alpha/2^2 .P(1-p)$$

$2\alpha/2^2$ – It is the level of significant at 5% i.e. 95% confidence interval = 1.96

P - Prevalence of low birth weight babies = 4.1% = 0.041

D - Derived error of margin = 7% = 0.007

$$N = \frac{1.96^2 \times 0.041 \times (1-0.041)}{0.07^2}$$

$$= 30.82$$

$$N = 35$$

Randomization – All the participants will be assigned randomly by sequentially numbered system. The allocation will be isolated for both the centers and will be done by assigned research officer.

Blinding - The participants and the clinicians will not be blinded during the clinical trial. but outcome assessors will be blinded.

Interventions – The study consist of finding out the prevalence of LBW babies and finding out the risk factor among the postnatal mothers. The weight of baby is checked soon after the delivery and the questions are asked to mothers regarding nutritional status and sickness during pregnancy.

Outcome Measures:

Primary outcome: It includes the assessment of LBW neonates soon after the delivery of mother weight is checked.

Secondary outcome: Consist of the risk of postnatal mother which are responsible for underweight babies.

Data management and monitoring:
Data collection will be conducted for a single month span. This research will be carried out after receiving authorization from the authorities concerned.

Tool for data Collection

A: Demographic variables of the mothers are age, income, occupation, parity, gravida, nutritional status.

B: It consist of child such as, children in family, sex of the baby, and gestational weeks

Classification of low birth weight babies according to WHO.	
Categories	weight
Moderate low birth weight	1500-2500 grams
Very low birth weight	1000-1499 grams
Extreme Low birth weight	Less than 1000 grams

Statistical analysis

Descriptive method: For analysis of demographic data will be going used frequency and mean, mean percentage and standard deviation will be used for assessing the prevalence of LBW babies and its risk factor among postnatal mothers.

Inferential statistics: For association between prevalence of low birth weight babies and its factor mothers after delivery.

Ethics and dissemination-

The study is sanctioned by the Institutional Ethics group of DMIMS (DMIMS. All participants will asked to read and sign the informed consent. Proper explanation about purpose of study and nature of adjustment scale involved in the study was given to the samples. Information about the samples was handled properly so that confidentiality and anonymity are maintained. Information will not use or released outside the terms of the agreement.

Expected Outcomes/Results: In this present study, will able to know about the currency babies and the risk of mothers soon after the delivery.

Discussion: A study will be evaluated the prevalence of low birth weight babies and its risk factor among post-natal mothers in selected hospital of Wardha district. Descriptive research design is selected for the study. There will be 35 participants mothers. Standardize risk assessment scale will be used for assessing the risk factor among postnatal mothers, it will help to determine the risk factor among postnatal mothers and obtained data was analyzed using descriptive, inferential statistic and was interpreted in terms of objective of the study. H1 Hypothesis there will be a significant relationship between low birth weight and its risk factor among Postnatal mothers. It is stated that prevalence of low birth weight is increasing per year. According to research it has been confirmed that in India every year 20 millions babies are born and among them 7.5 million are low birth weight babies. In India where most pregnant woman have little or no antenatal care and existing health care facilities remain grossly underutilized. Park (1998) states that the prevalence of low birth weight in developing countries is high (20% to 40%) and in India it varies from 30 to 40%. Articles on infant and young child nutrition in this region are available [5,6]. Patel et al reported a review about impact of neonatal resuscitation trainings on neonatal and perinatal mortality[7]. Kogade et al have reported about socio-cultural determinants of infant and young child feeding practices in rural India[8]. Mittal et al reported about care seeking behaviour of families for their sick infants and factors impeding to their early care seeking in rural part of Central India[9]. Swarnkar et al assessed effect of kangaroo mother care on growth and morbidity pattern in low birth weight infants[10]. Quazi et al assessed the challenges and patterns of complementary feeding for women in employment[11]. Nero-muscular and psychiatric issues in children were studied by Dhote et al [12] and Khairkar et al [13]. Some rare cases of children have been reported [14,15]. Taksande et al assessed risk factors of acute respiratory infection in under-fives[16]. Few other related studies have been reported by Khatib et al [17] and Garg et al[18].

Conclusion: Conclusion will be drawn from the statistical analysis.

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Low birth weight risk assessment scale

1   OBSETRICAL FACTOR

•   I had severe morning sickness.

•   I experience unpleasant symptoms headache.

•   At pregnancy routine, I was said about health condition.
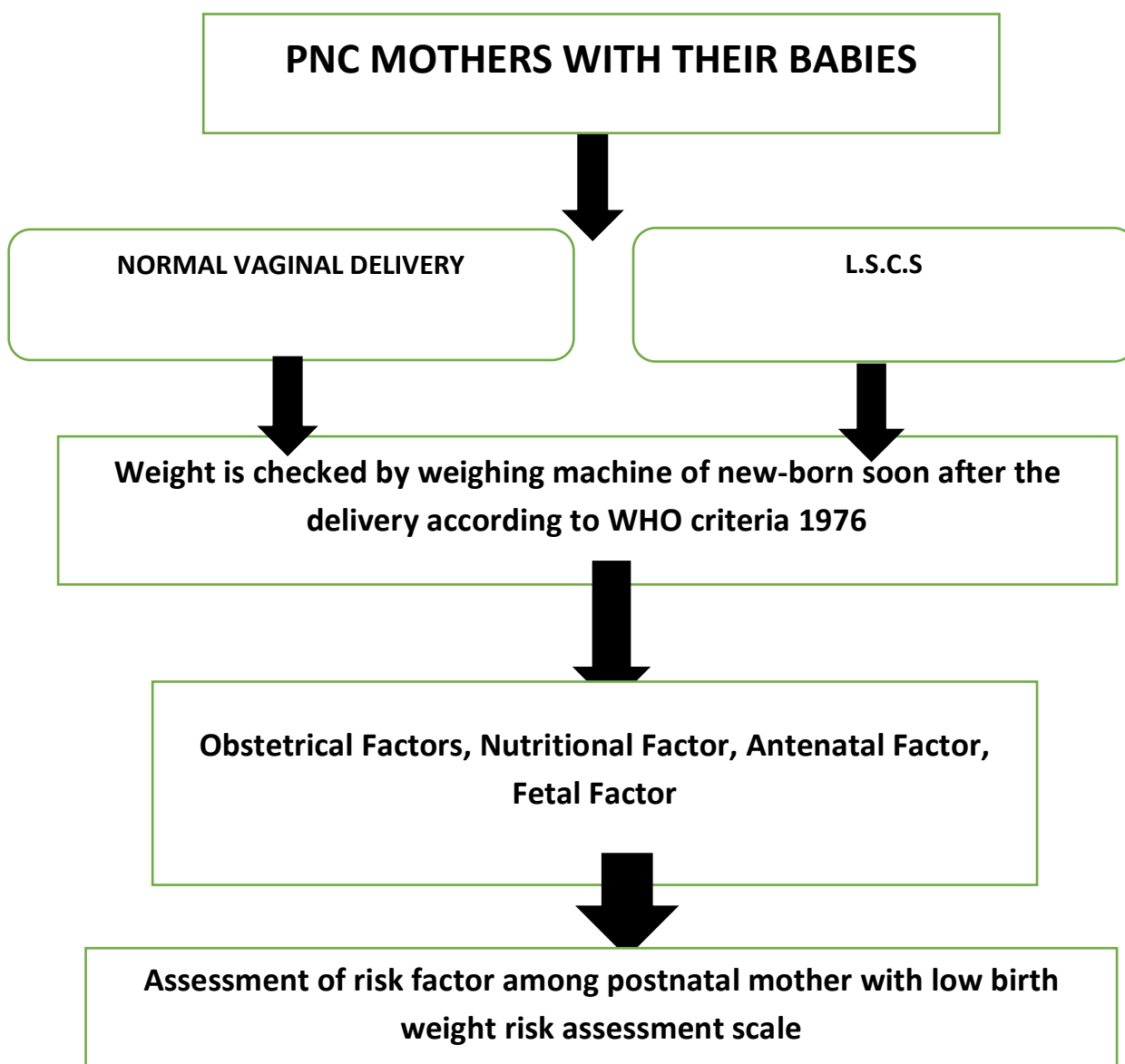
2   ANTENATAL FACTOR

•   I consumed alcohol.

•   I thought about the effects of smoking on fetus.

•   I feel good after my sleep.

•   I took adequate rest.

3   NUTRITIONAL FACTOR

•   I am conscious about my weight.

•   I tried to eat well balanced meals.

•   I reduced eating salt.

4   FETAL FACTOR

•   I had done all the screenings to check fetal growth.

•   I had done all blood investigations.

•   I had attended regular follow-ups and my routine checkups.

•   I had taken medicines properly.

PNC MOTHERS WITH THEIR BABIES

NORMAL VAGINAL DELIVERY

L.S.C.S

Weight is checked by weighing machine of new-born soon after the delivery according to WHO criteria 1976

Obstetrical Factors, Nutritional Factor, Antenatal Factor, Fetal Factor

Assessment of risk factor among postnatal mother with low birth weight risk assessment scale

FIG. SCHEMATIC DIAGRAM FOR METHODS OF DATA COLLECTION