Assessment of Low Birth Weight Neonates in District Bharuch, Gujarat (An Assessment for Early Intervention to Improve Health Indicators)

By

Ekta Bhagat

Dissertation submitted for the partial fulfillment of the
MBA Hospital and Health Management

Academic year, 2016-2018

The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Sanganer, Airport
Jaipur 302029, Rajasthan
Ph: 0141 3924700, Fax: 3924738
Website: **www.iihmr.edu.in**

Assessment of Low Birth Weight Neonates in District Bharuch, Gujarat (An Assessment for Early Intervention to Improve Health Indicators)

By

Ekta Bhagat

Dissertation submitted for the partial fulfillment of the
MBA Hospital and Health Management

Academic year, 2016-2018

National Health Mission, Gujarat

The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Sanganer, Airport
Jaipur 302029, Rajasthan
Ph: 0141 3924700, Fax: 3924738
Website: **www.iihmr.edu.in**

INSTITUTE OF HEALTH
MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

TO WHOMSOEVER MAY CONCERN

This is to certify that **Dr. Ekta Bhagat** student of MBA Hospital Management from The IIHMR University, Jaipur has undergone dissertation at **National Health Mission, Gujarat from 5th Feb 2018 to 5th May-2018.**

The Candidate has successfully carried out the study designated to her during dissertation training and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her all success in all her future endeavors.

Dr (Col) Ashok Kaushik
Dean, Academics and Student Affairs
The IIHMR University, Jaipur

18/5/18
Dr. Ranjan Kumar Prusty
Assisstant Professor
The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Near Sanganer Airport, Jaipur- 302029, Rajasthan, India.
Ph.: 0141- 3924700, 2791431- 32, Fax: 0141 3924738, E-mail: iihmr@iihmr.edu.in, Web.: www.iihmr.edu.in

The Certificate is awarded to

Dr. Ekta Bhagat

In recognition of having successfully completed her

Internship in the department of

Health and Family Welfare Department Gandhinagar,
At District Bharuch

And has successfully completed her Project on

ASSESSMENT OF LOW BIRTH WEIGHT NEONATES IN DISTRICT BHARUCH, GUJARAT
(An assessment for early intervention to improve health indicators)

5 FEB 2018 to 5 MAY 2018

She comes across as a committed, sincere and diligent person

who has a strong drive and zeal for learning

We wish her all the best for future endeavors

District R. C. H. Officer
District Panchayat Bharuch

Date : 17/05/2018
Place : Bharuch

IIHMR UNIVERSITY

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation **Assessment of LBW neonates in District Bharuch, Gujarat (An assessment for early intervention to improve health indicators)** submitted by **Dr. Ekta Bhagat** Enrollment No- **IIHMR-U/01/2016-18/0413** under the supervision of **DR. Ranjan Kumar Prusty** for award of MBA in Hospital and Health of the University carried out during the period from **1st FEBRUARY 2018** to **5th MAY 2018** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.

Signature

ACKNOWLEDGEMENT

I would take this opportunity to express my profound gratitude to my institute, Institute of Health Management and Research, for providing me a platform to gain enough knowledge and skills in different aspect of Health Management. I express my deep indebtedness to Dr.V.S Tripathi Chief District Health Officer Bharuch, Dr. Anil Vasava (RCHO, Bharuch), the whole team of District Health Society for their advice,support,encouragement and guidance throughout my dissertation period.

My sincere thanks to my respected mentor,my guiding spirit, Dr.Ranjan Kumar Prusty, Professor for his support throughout the project. Without his guidance and support, this work would not have materialized. I alsowish to thank all the eminent people whose insights and experiences have shaped the content of this report.Special thanks to all the working staff of this organization for all the assistance and information. I am really grateful for this opportunity which gives me real practical exposure to public health, i.e exposure to practical reality of the field.

I would like to thank my parents, family and friends from the core of my heart for their blessings and support. Last but not the least I am thankful to God, for getting an opportunity to learn from this organization

Ekta Bhagat

21ST BATCH

IIHMR, Jaipur.

Contents

LIST OF FIGURES

ABBREVATIONS

LBW	Low birth weight
ANC	Ante Natal Care
PNC	Post Natal Care
ELBW	Extremely low birth weight
HBNC	Home based new born care
WL	Work load
VLBW	Very low birth weight
NFHS	National family health survey
CMTC	Child malnutrition treatment centre
NRC	Nutrition rehabilitation centre
FRU	First referral unit
NBSU	New born stabilization unit
SNCU	Sick New Born Care Unit
AFHC	Adolescent Friendly Health Clinic
PHC	Primary Health Centre
CHC	Community Health Centre
NHM	National Health Mission
WHO	World Health Organization
MMU	Mobile Medical Unit
DPMU	District Program management unit
SPMU	State Program management unit
CDHO	Chief District Health Officer
RCHO	Reproductive Child Health OFFICER
RT	Referral Transport
NHM	National Health Mission
HPT	High priority taluka

ABOUT NHM

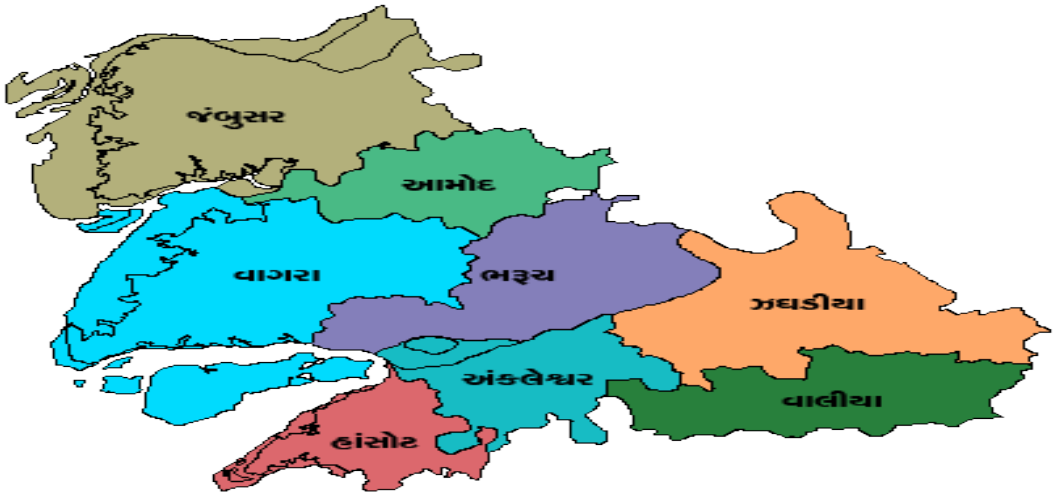
National Health Mission gives us a platform to explore the health system in depth. There are so many programs which are being run under this and has an impact on different health indicators. It brings about broad network of health care and medical care facilities along with this it provides primary focus on the poor and marginalized weaker section.

It provides accessible, affordable and quality health care to different population, especially the marginalized one. The main challenge is to strengthen the poor public health system.Working under national health mission gives ground level, real time exposure to the field and exposure will help us to understand problems of the society which helps us to understand the real situation in the field. NHM composed of different national programmes namely, the Reproductive and child health, the national disease control programmes and integrated disease surveillance. It also focuses on Ayurvedic Yoga, Unani, Siddha, Homeopathy and Ayush.

The best advantage to work in NHM is exposure to the reality of public health as we get direct contact with the community. So, this helps to know the problems within the community directly on the basis of field reality that helps us to take desirable and appropriate action plan.

It also helps to know the validation of data and cross verification of the work which is done in the field by different health workers.

ABOUT BHARUCH DISTRICT



Bharuch is a beautiful place located in the southern part of Gujarat, near the Gulf of Khambhat in Arabian Sea. This District has 3 high priority Taluka named Jagadia, Netrang and Valia. It has total 10 CHC and 41 PHCs among them there are total nine 24*7 PHCs in the District.

There are total 241 sub centre's which is the first point of contact for community to seek health care facilities. There are total 9 CMTC centre's along with NRCs which helps to provides the nutritional support to LBW neonates and child. The admission rate of these centre's need to be strengthened in order to reach the maximum need based community.

These tribal areas are the main focus of concern in the study, indicating poor health indicators due to certain socio economic factors and the cultural norms among the community. The data reveals that the Bharuch district has 23% cases of LBW which is due to certain factors related to maternal health which might be responsible for poor neonates poor health. This studyhelp to bring about certain action plans in order to strengthen poor health indicators leading to LBW.

So, the overall focus is to bring necessary intervention to improve child and mother health.

CHAPTER 1

INTRODUCTION

Low birth weight (LBW) is defined by the World Health Organization as a birth weight of an infant of 2,499 g or less, regardless of gestational age.It has further Subcategories which includes very low birth weight (VLBW), which is less than 1500 g , and extremely low birth weight (ELBW), which is less than 1000 g . Normal weight at term delivery is 2500–4200 g.

In public health it is a strong predictor of neonatal long term health outcomes, factors such as preterm delivery (typically less than 37 weeks of gestation), restricted intrauterine development and others Maternal health factors such as nutrition, body mass index (BMI) and exposure to conditions such as malaria, tuberculosis, underweight and HIV may affect birth weight.

Various studies reveals that Low birthweight is a major health determinant of infant mortality.Maximum infant deaths occur in the first 4 weeks of life, the neonatal period and most among them are a consequence of inadequate fetal growth, as indicated by low birthweight. The risk of mortality increases as the birth weight decreases; very low birthweight infants (1,500 grams or less) are at greatest risk .In addition to greater risk of mortality LBW also increases the greater risk of illness among infants.

The relative risk of morbidity among low birthweight infants is high. Moreover, a low-weight birth and the infant's health problems may place substantial emotional and financial stress on a family.

RATIONALE

Low birth weight is the major health determinant of neonatal health. In Bharuch district Lbw is found to be 23% at present and is one among the major contributing factor of mortality as well as morbidity in a District.

Further it is found that LBW has 20% higher risk of death than normal babies, so taking this into consideration there is a need to assess different factors in the district related to maternal health which are the contributing factors leading to poor neonatal health outcomes. This study in result may leads to strengthen the early and timely intervention for improving health indicators in this District.

LITERATURE REVIEW

World health organization estimates that 25 million LBW babies are born annually worldwide and 95% among them found in developing countries[1][1]Neonatal death among infants weighing 1500–2500 grams is 20 times higher than among infants of normal weight[2] [2]

More than 20 million infants worldwide representing 15.5% of all births are born with low birth weightand95.6% of them in developing countries[3] [3].

Globally more than 20 million LBW infants (15.5% of total births) are born every year, of which about 95% are from developing countries. LBW babies have a 20 times higher risk of death than babies with normal birth weight, and have a higher probability of lifetime morbidity, irrespective differencesin the ethics across the populations internationally

In India it is estimated that 30% of babies are low birth weight, with nearly half being born to full term[4]

Low birth weight (LBW) is one of the major problems in the developing world, that includes India. The WHO estimates that, globally, incidence of LBW is 15.5%, that means about 20.6 million such infants are born each year, 96.5% of them in developing countries. The level of LBW in developing countries (16.5%) is more than double the level in developed regions

[1] OBS AND GYNAE INTERNATIONAL 2017

[2]*International Journal of Gynecology & Obstetrics*. 2009;

[3]Sharma S. R., Giri S., Timalsina U., et al. Low birth weight at term and its determinants in a tertiary hospital of nepal: a case-control study. *PLoS ONE*. 2015.

[4]Low Birthweight: Country, regional and global estimates. Accessed June 6, 2016.

(7%).Further studies reveal that India is one of the countries with the highest incidence of LBW. About 27% of babies born in India are of LBW, and mortality rate during the first year of life is very highamong them is very high. The infant mortality rate is found to be 20 times greater for all LBW babies than for other babies. According to international journal of Medical sciences 2015, South Asia has the highest incidence, with 28% of all infants with LBW. [5]

WHO studies reveals that the birth weight of an infant is the most important determinant of its chances of survival, healthy growth, and development and it also depends on many maternal factors. A healthy mother delivers a healthy baby, and a malnourished mother contributes to LBW baby.

According to WHO it is estimated that 15 million babies are born preterm every year – more than 1 in 10 babies around the world and this number is rising. Preterm birth complications iscausing an estimated 1 million deaths in 2015 globally. Many survivors of preterm birth face different lifetime of disability, that includes learning disabilities, visual and hearing problems.Preterm birth (born before 37 weeks of pregnancy) and being small for gestational age, are the other factors for low-birth-weight (LBW), are indirectly causes neonatal deaths. LBW contributes to 60% to 80% of all neonatal deaths. Countries can reduce their neonatal and infant mortality rates by improving the care for the mother during pregnancy and of LBW infants.[6]

Infants who weigh 2,000-2,499 gm at birth have a four-fold higher risk of neonatal death than those who weigh 2,500-2,999 gm, and a ten-fold higher risk than those weighing 3,000 - 3,499 gm.

In developing countries most of the children are exposed to poor nutrition, high levels of infections, and other conditions of poverty, thus, their long term development to large extent is dependent on the quality of their environment. Since LBW occurs more often in deprived

[5] International Journal of Medical Science and Public Health | 2015 | Vol 4 | Issue 9 1287

[6] WHO

environments, it can be serve as a marker for the associated poor outcomes throughout life. A stunting would be the best predictor of motor and mental development deficits[7]

As per the recent report of National Family Health Survey (NFHS) - 4, 2015-16, 35.7% children under 5 years of age are underweight and 38.4% are stunted indicating a reduction from the previous data captured in NFHS - 3, 2005-06, which reported 42.5% children under 5 years of age as underweight and 48% stunted.[8]but still the reporting is high.

A baby's weight at birth is a strong indicator of maternal and newborn health. It also indicates the nutrition status. Undernourishment in the womb increases the risk of death in the early months and years of a child's life.[9]

Among regions, South Asia has the highest incidence of low birthweight, with one in four newborns weighing less than 2,500 grams. South Asia also has the highest rate of infants not weighed at birth, at 66 per cent. Although data on low birthweight are adjusted to account for under-reporting, they are still likely to underestimate the true magnitude of the problem in the region. [10]

OBJECTIVES

The overall objective of the study is to assess the recent situation of LBW among neonates in Bharuch districts of Gujarat.

The specific objectives are:

- To study the possible factors affecting low birth weight among neonates in the district.
- To suggest the innovative solutions for improving LBW cases at district Bharuch.

[7]National low birth survey, 2015

[8] NFHS 4 and NFHS 3.

[9]**Unicef updated, 2014-**Undernourishment in the womb can lead to diminished potential and predispose infants to early death.

[10]UNICEF global databases, 2014, based on Multiple Indicator Cluster Surveys (MICS), Demographic and Health

RESEARCH QUESTION

1. What is the reason for rising neonatal lowbirth weight cases in district Bharuch since last year (April, 2017 to March, 2018)?
2. What are the factors associated with low birth weight cases in district Bharuch?
3. What is the impact of maternal health problems on neonatal health focusing on LBW?

DATA AND METHODOLOGY

The data source is primary data collection as well as data available in the district health society, Bharuch. Primary data was was collected through structured interview conducted face to face.The secondary data for this study was gathered through different national and international research articles and journals and at the same time data available at District Health society was collected, compiled and analyzed.

The **study design** is Descriptive Cross-sectional which is used to assess the frequency and distribution of a LBW cases in a defined population of Bharuch. The data is collected on the study population at a single point in time to examine the relationship of LBW and other variables of interest . Data was collected using a pretest structured questionnaire after taking the consent of the participants , the tool was translated from English to Gujarati for the better and effective result. The questionnaire is prepared based on certain socio- economic and cultural factors, health indicators such as Anemia, high risk, ANC registration, utilization of services during ANC period, Family Planning, Gap between two children, dietary factors, education status of both husband and mother, Age of the mother, Gravida, Iron folic acid consumption and other maternal factors that are responsible to affect the health of neonate.

Then the data is entered, cleaned and analyzed using MS Excel and SPSS software. The study area was selected using purposive sampling. The study period is of 90 days i.e 05/02/2018 to 06/05/2018.

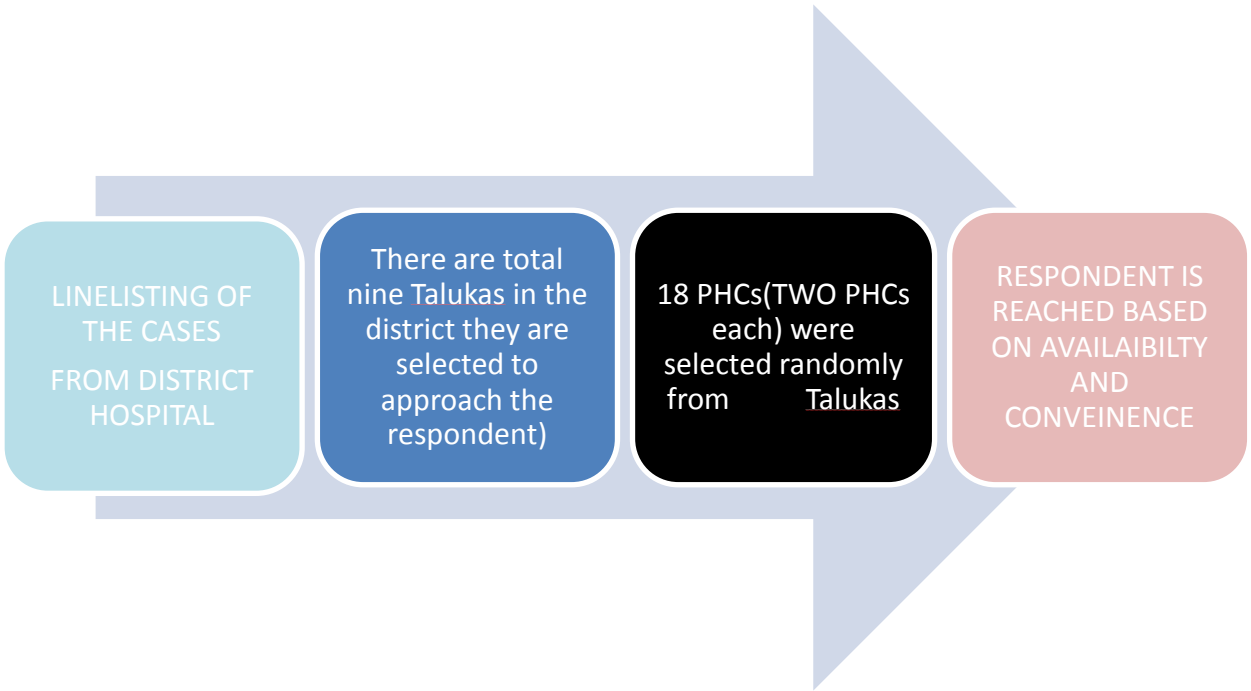
STUDY DESIGN:

The study design is Descriptive correctional.

METHOD OF SAMPLING-

he method of sampling is Purposive. The sampling method is multistage, based on the line listing of LBW cases obtained from the District Health society of four months' time periodate from January, 2018 to April, 2018. This time period was intentionally, selected in order to reduce the chances of non respondents.

The overall sampling is multistage as such:



STUDY AREA:

The study was carried out in 9 Talukas of Bharuch District, Gujarat.

SAMPLING POPULATION:

It includes all the PNC mothers of different Talukas who has delivered normal and LBW child in past four months time period. The study excludes still birth and preterm babies who are born low birth in the four months time period.

SAMPLE SIZE:

Sample size includes: 131 PNC mothers who delivered LBW and normal child in past four months. At the same time sample is compared with the last one year data available at District Health society.

TOOLS:

Structured Questionnaire and Available data of District Health Society was used as a tool. The study type is quantitative, containing both closed and open ended questions.

DATA COLLECTION:

The **primary data** for this study was gathered through structured interview conducted face to face.

Secondary data: The secondary data for this study was gathered through different national and international research articles and journals and at the same time data available at District Health society was collected, compiled and analyzed.

DATA ENTRY:

After filling the questionnaire, with the help of face to face interview from the respondent the data entry was done on the EXCEL sheet on daily basis. After completion of data entry the data was imported to SPSS software forfurther analysis.

DATA CLEANING:

Data cleaning is the important part needs to be done before analysis in order to reduce the error in the findings. The data cleaning was done on the regular basis side by side while entering the data.

DATA ANALYSIS:

Both SPSS software and Excel was used to analyze the result of the study. In SPSS the analysis is done by using cross tabulation and after running frequency of few variables. Graphs are prepared using EXCEL software.

CHAPTER 2

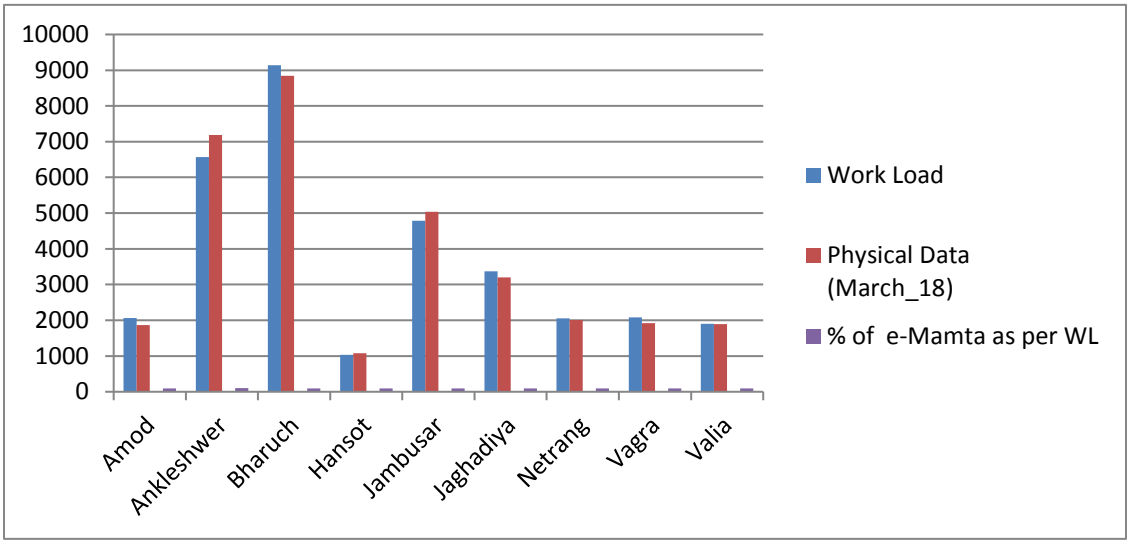
FINDINGS

SITUATION ANALYSIS OF BHARUCH

ANC REGISTRATION

Fig1Comparison of physical data and e- mamta data on ANC registration of one last year with respect to work load

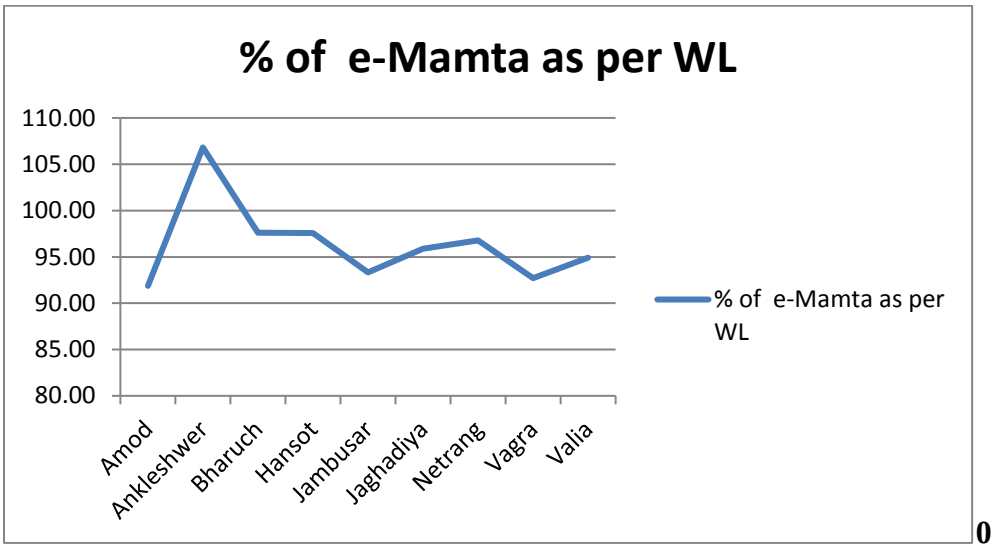
Fig.1 (n=30,000)



The data reveals that the ANC registration of the all the talukas is less comparatively to the work load, further it is found that the data entry in the e- mamata needs to be strengthened as compare to the available physical data.ANC is the important part of maternal care that gives a time of 9 Months to improve the health status of the pregnant mother, so this part of registration needs to be strengthened for every Taluka inorder to take timely action for improving maternal health.

Fig 1.1 Comparison of e- mamata data of ANC registration as per the work load.

n=30,000

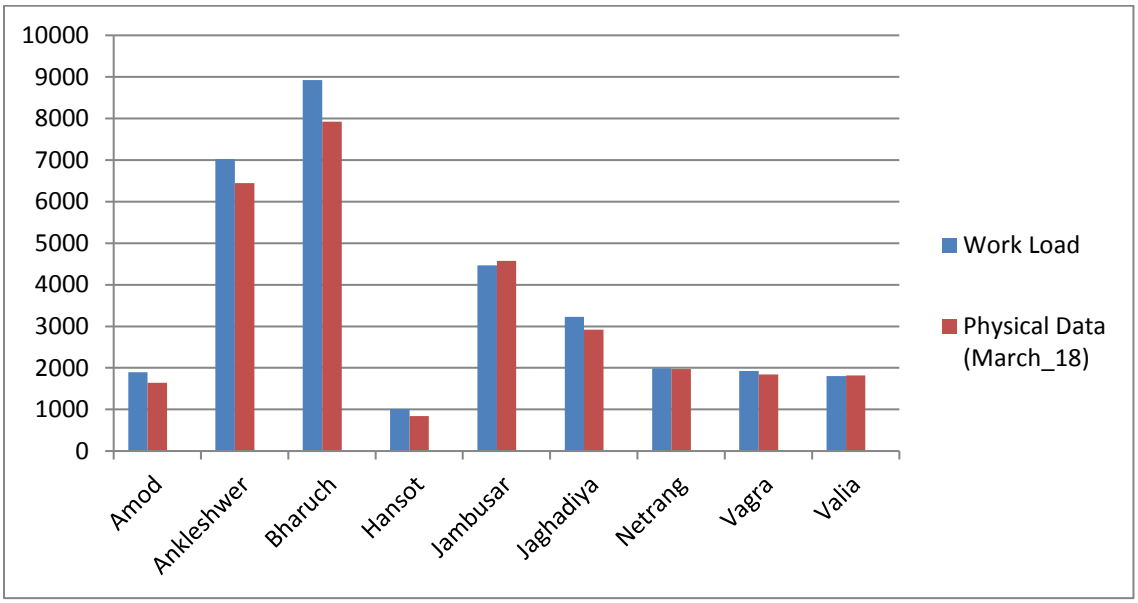


0

Ideally,an e- mamta data act as an evidence to identify the real time situation in the district. The above data reveals that the e- mamta entry of Taluka is under reporting as compare to physical data available. So, here is a need to strengthen the data entry part which can be done by regular follow up of the same, specifically by the data manager and health officials at District level so that real time data should be available to take necessary intervention.

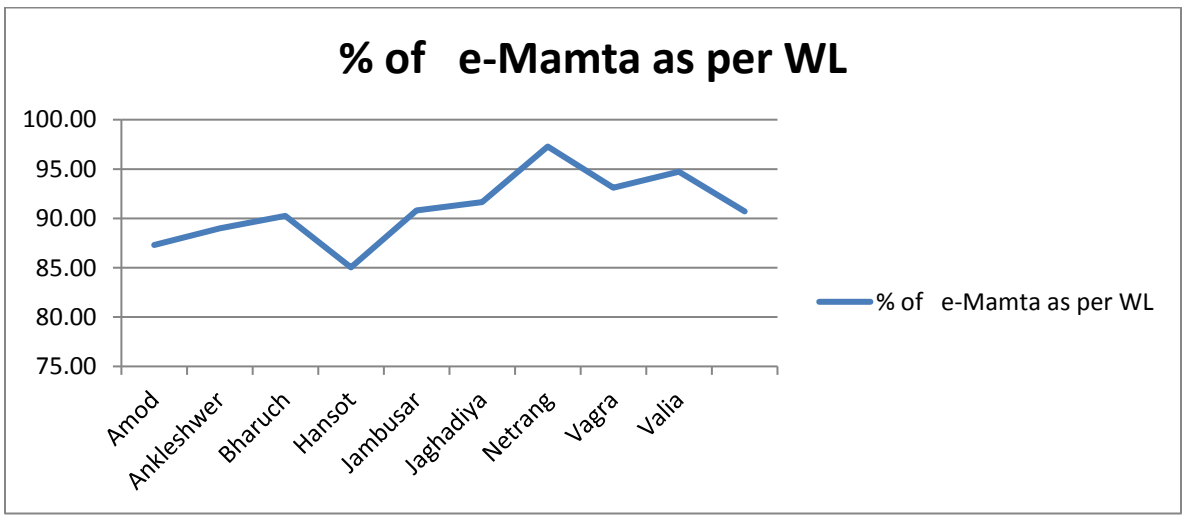
3RD ANC CHECKUP

Fig.2 Represents 3rd ANC check up as compare to work load (n=30000)



The data represents the total number of 3rd ANC checkup which is found to be less as compare to the available work load, further it was found that Bharuch Taluka has the maximum difference as compare to the Valia Taluka, which is found to be matched with the work load.

Fig 2.1 Representing the e- mamata data as per the work load against 3rd ANC Check upN=30,000

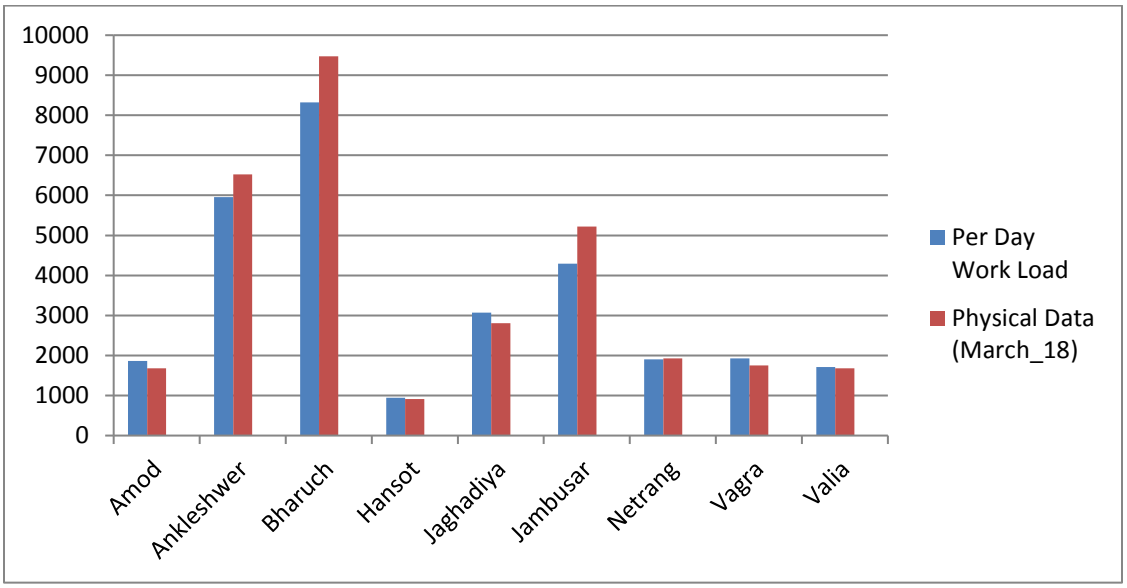


Again the data reveals the under reporting of e- mamta data entry as compare to the work load.

DELIVERY REGISTRATION

Fig. 3 The delivery registration as per work load

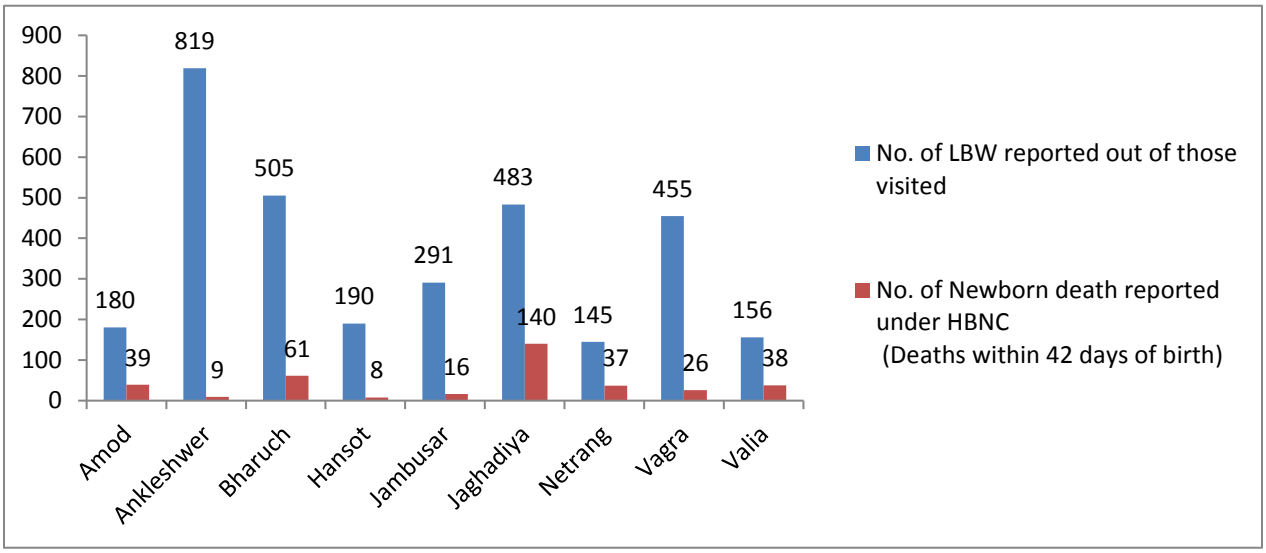
N=30000



The data reveals that the number of delivery registration is higher as compare to work load in three Talukas named Jambusar, Bharuch and Ankleshwar, showing more number of deliveries taking place as compare to work load, so here we need to identify the reasons for increasing number of deliveries in these three talukas identified.

Fig.4 Neonatal death out of LBW reported cases.

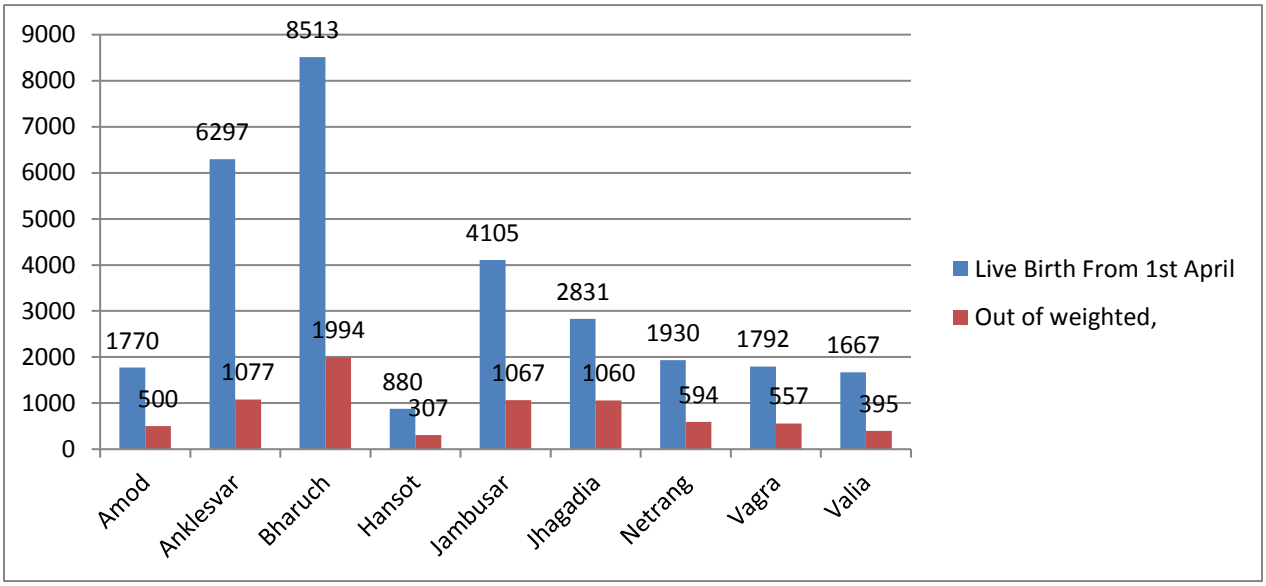
N=30,000



The data reveals that out of total LBW reported cases around ten percent is found to cause death of the new born in the last year. Further it represents the maximum cases of LBW is found to be in Ankleshwar Taluka of Bharuch. So, there is a need to identify the reasons for the same.

Fig.5 the comparison of weight measure against the live birth.

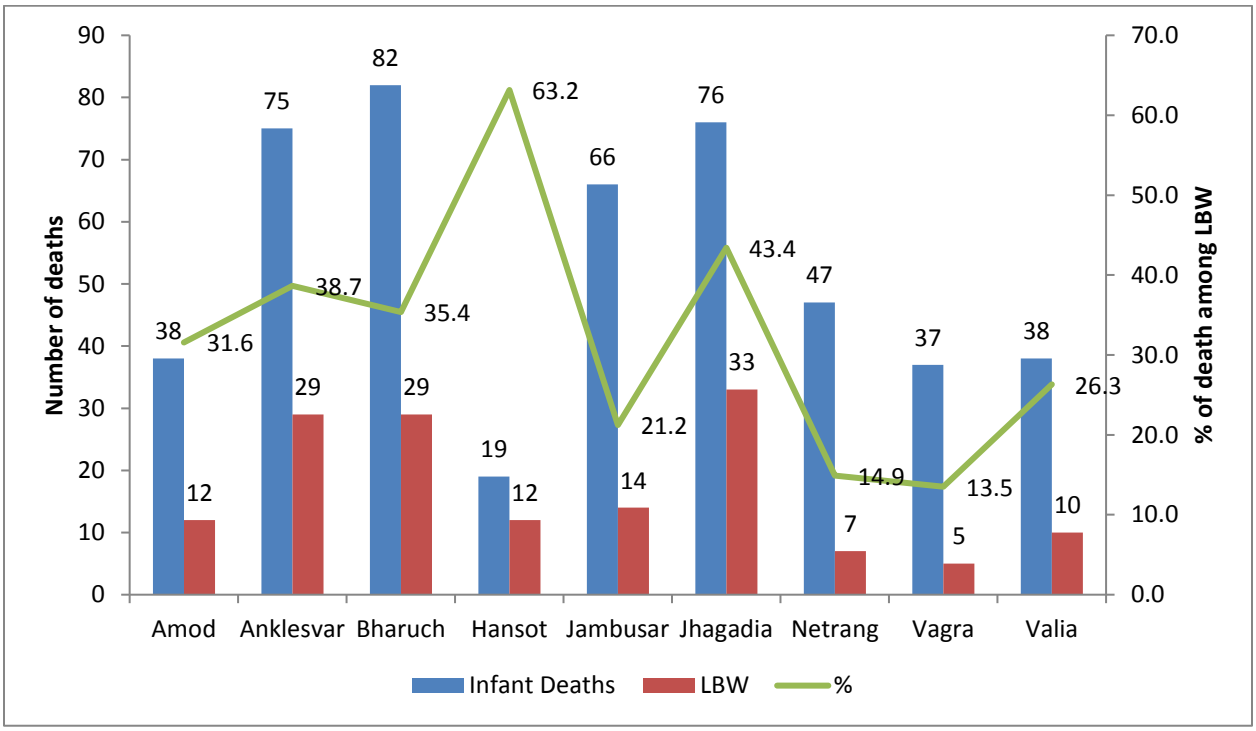
N=30000



Ideally, the weight of the live child should be measured, atthe time of delivery, but here the data reveals that the number of child who were weighed among live birth is very less and is found to be less in all Taluka's of Bharuch.

Fig.6 Infant death due to LBW in the District.

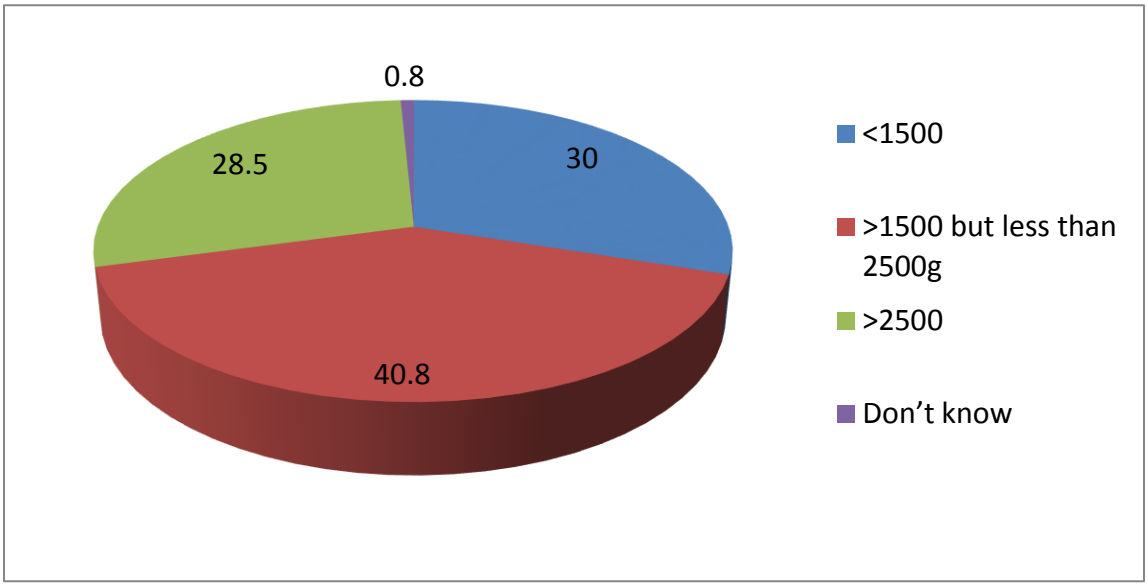
N=30000



The data reveals that the maximum number of LBW cases in terms of percentage is found to be in Bharuch Taluka, taking into consideration the population size of the same taluka. Further the data shows that the maximum number of cases of infant death in terms of percentage is higher in Hansot Taluka which is found to be 63 percent.

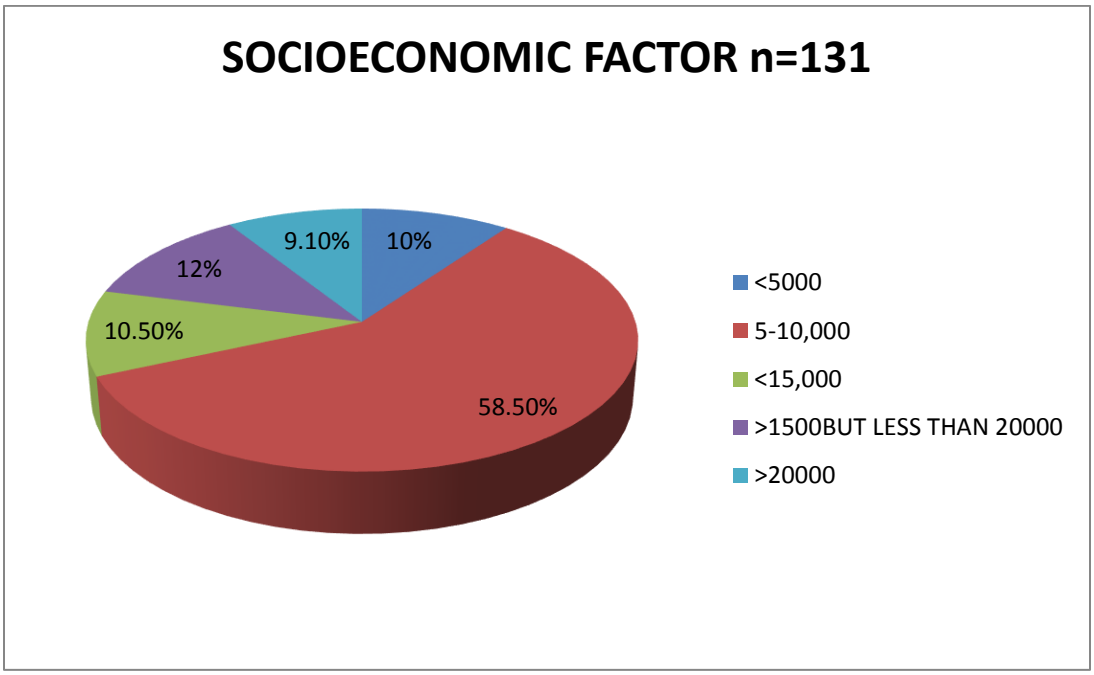
FINDINGS OF PRIMARY DATA

Fig.7 The different categories of weight of the respondent= 131



The data reveals that the maximum respondent's weight that is around 41percent falls between 1500 to 2500g. Further the data shows that there are around 30 percent of the respondent whose weight is even less than 1500g. It is also found that around 1 percent of the respondent was not aware of the weight.

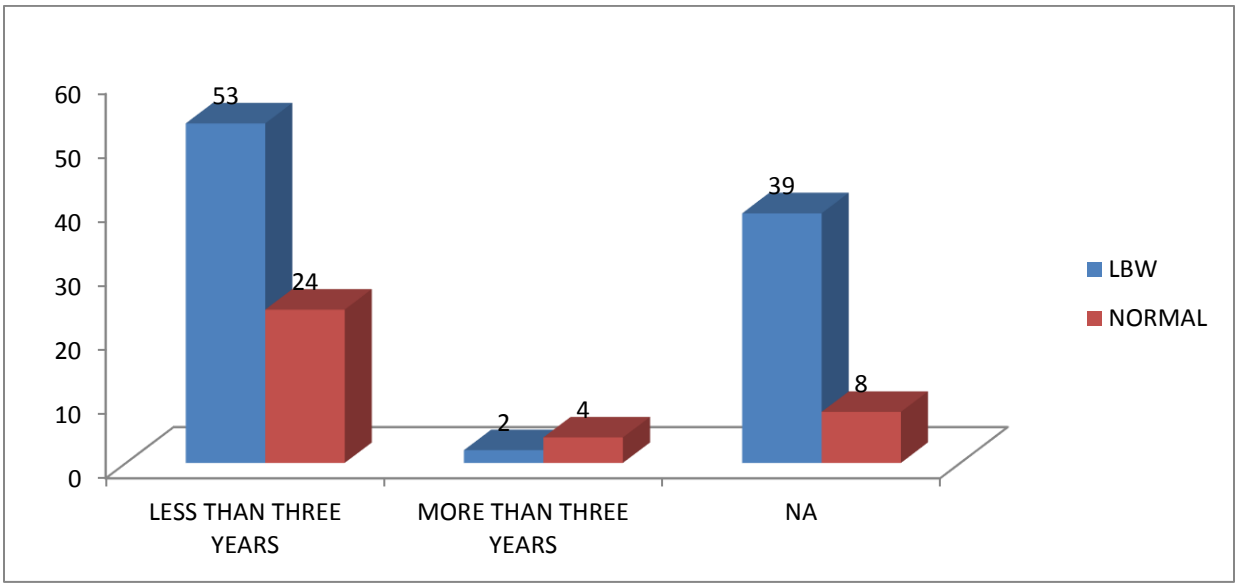
Fig8. SOCIOECONOMIC STATUS OF THE RESPONDENTS



The analysis reveals that maximum of the respondents falls under low socioecomic status

Fig.9FAMILY PLANNING INDICATORB SHOWING GAP BETWEEN TWO CHILDREN

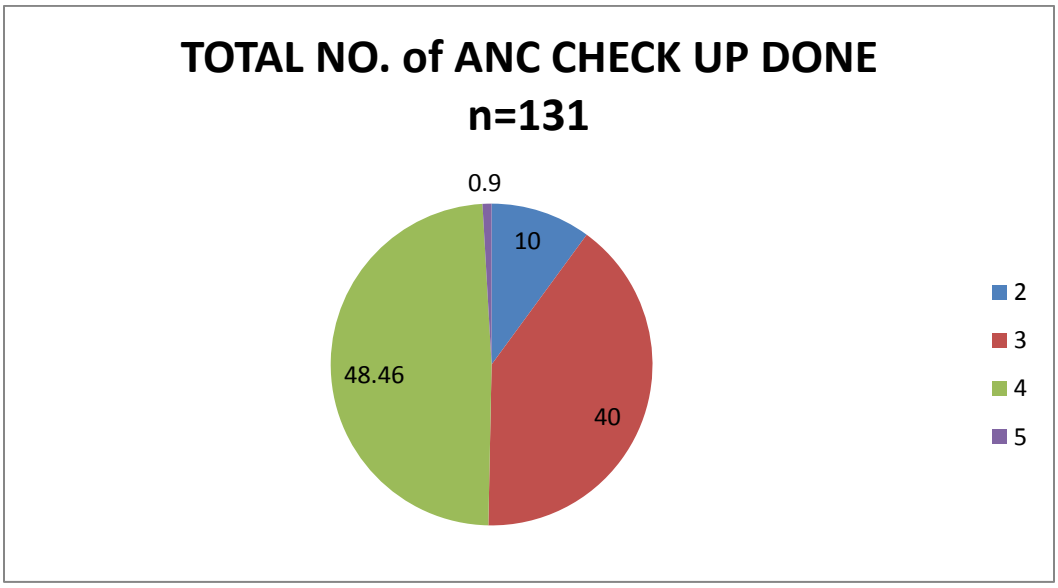
N=131



The data reveals that the PNC mother who delivered low birth baby in the last four month does not have the gap of more than three years between two children, further it shows the impact of the importance of family planning for ANC mother affecting neonatal health.

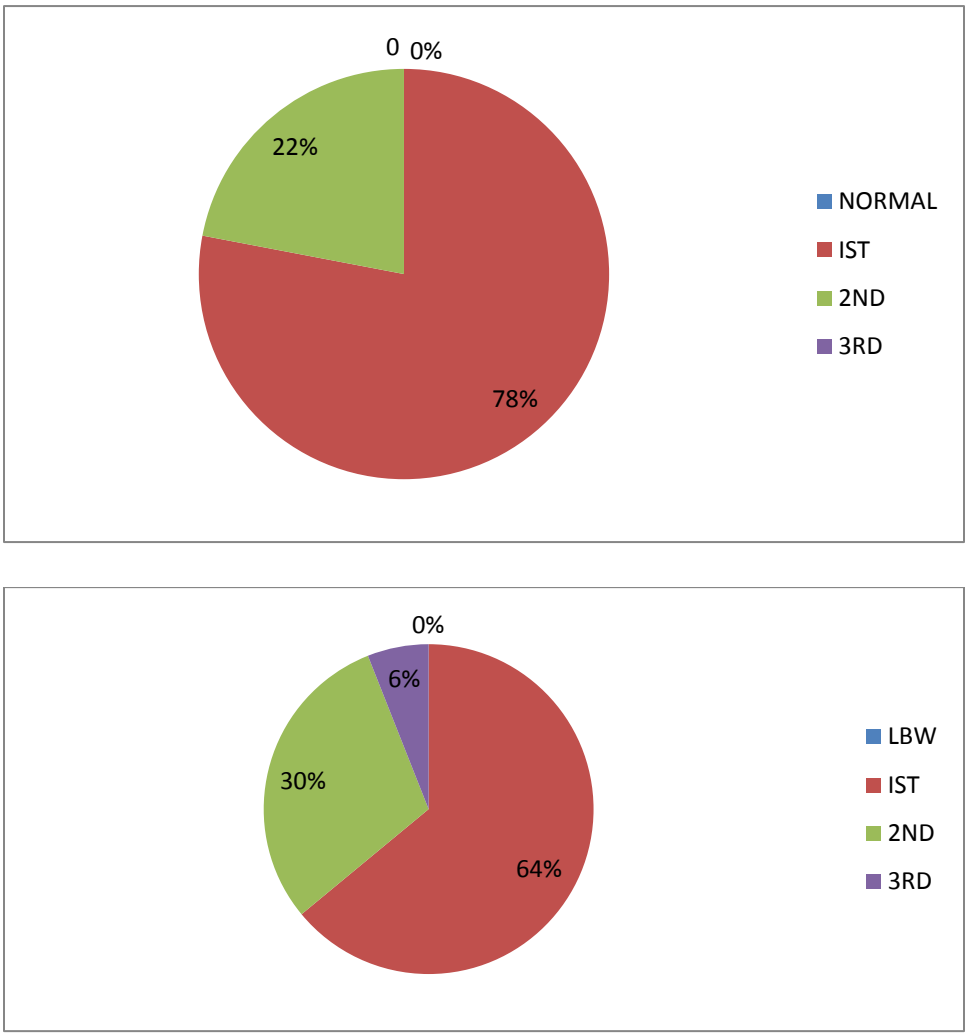
Fig. 10TOTAL NUMBER OF ANC VISIT OF THE RESPONDENT DURING HER LAST PREGNANCY.

N=131



Ideally ANC, visit is very important as it helps to tackle the high risk cases on timely basis in order to avoid complications, here the data reveals that the maximum respondent's that is around fourty nine percent have undergone at least 4 ANC checkups. Further it shows that there is less than one percent of the mother who has gone through 5 ANC checkups. And there are around 10 percent of the cases who has undergone only 2 ANC visits.

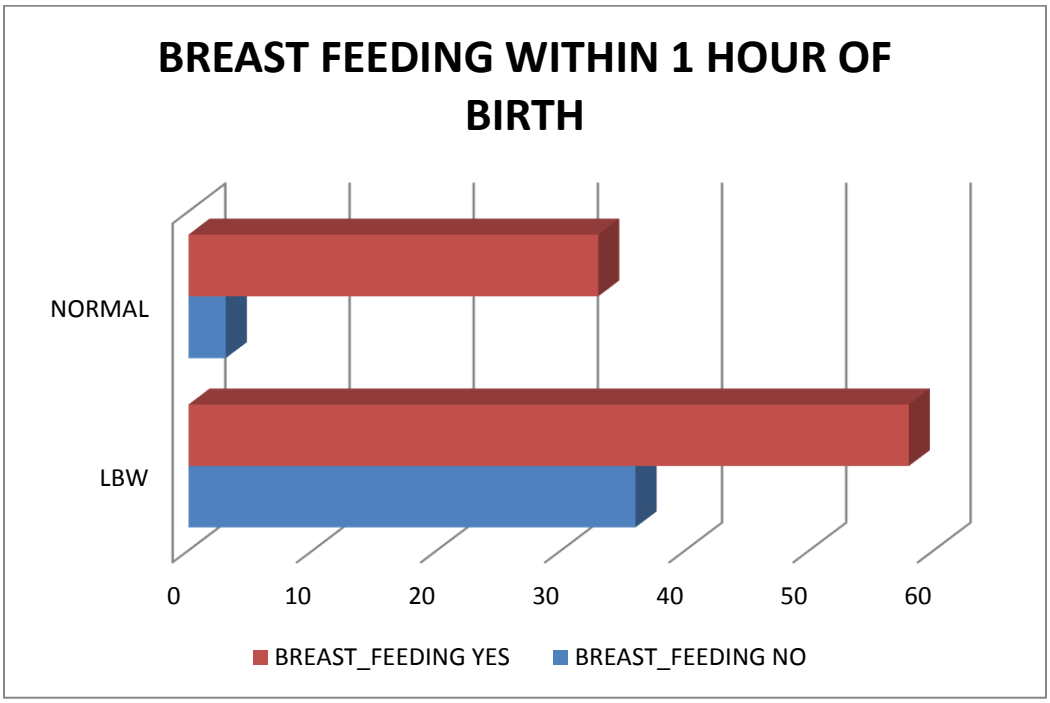
Fig11. TIME OF IST ANC REGISTRATION OF NORMAL AND LBW NEONATES MOTHER.



DATA REVEALS THAT 6 PERCENT OF RESPONDENTS OF LBW NEONATES DID IST ANC REGISTRATION DURING 3RD TRIMESTER

Fig12. BREAST FEEDING WITHIN 1ST HOUR OF DELIVERY

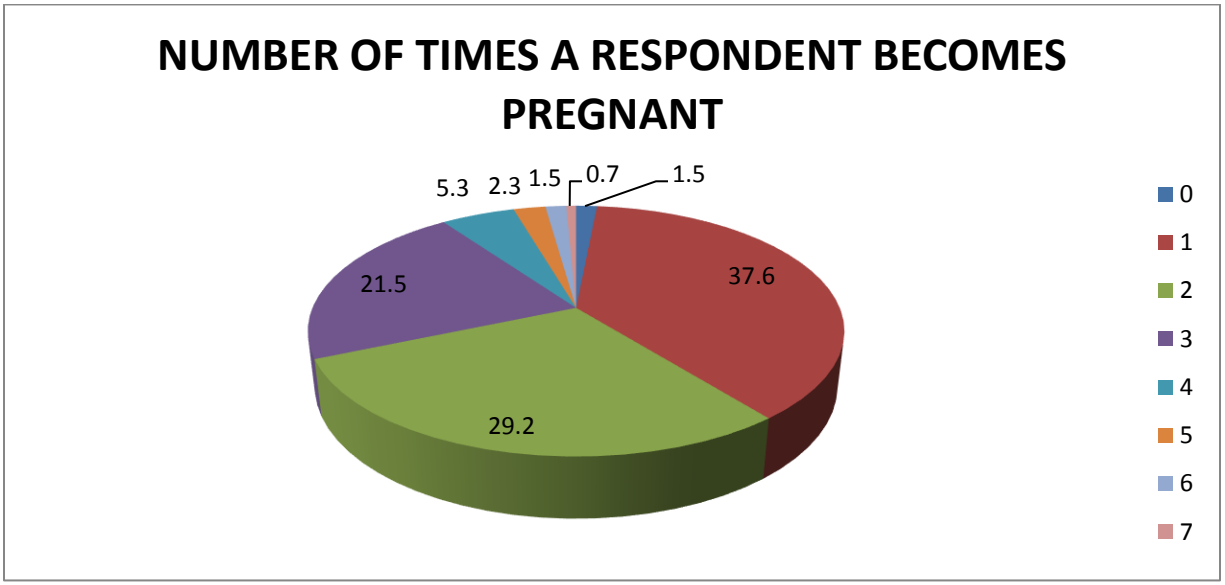
N=131



The data reveals that there is still a need to initiate the breast feeding practices of in the district as the data shows that there are still around 36 cases among LBW neonates and around 3 cases among normal neonates who does not practice the breast feeding withing 1st hour of deliver

Fig.13 NUMBER OF TIMES A RESPONDENT BECOMES PREGNANT

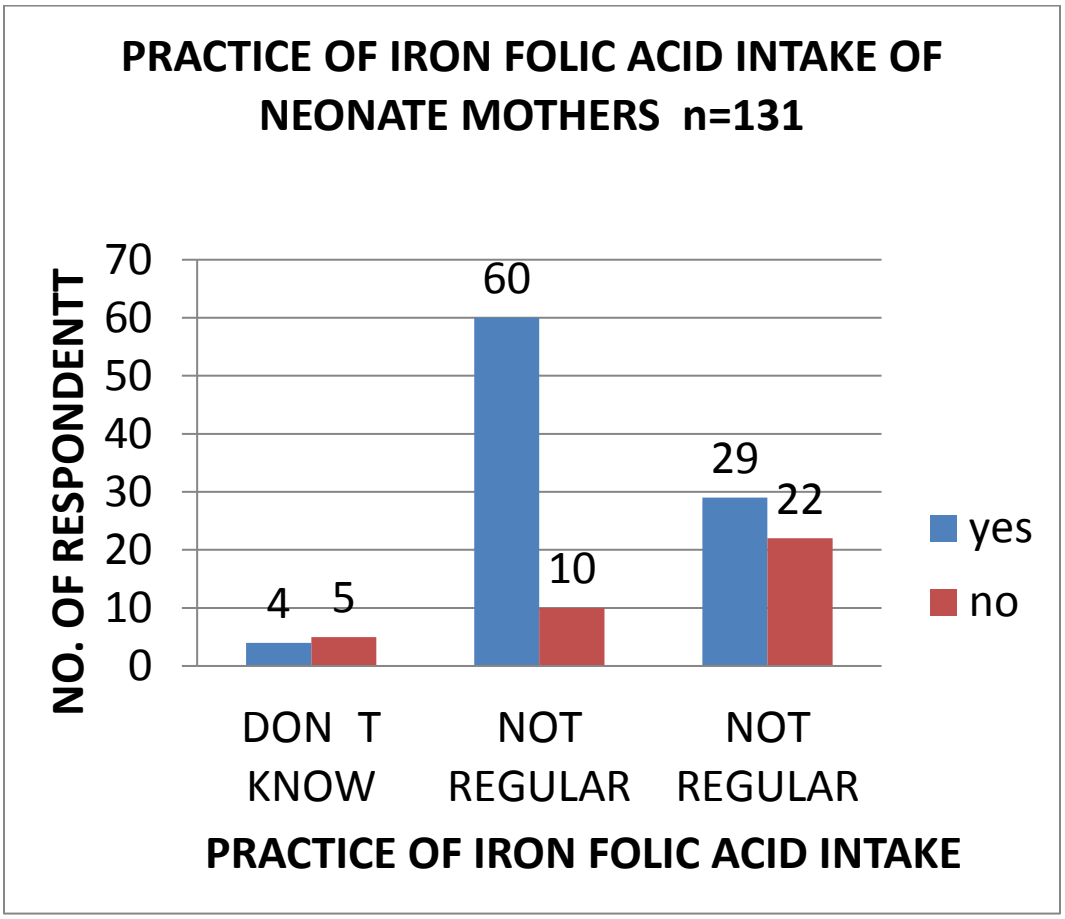
N=131



Gravida is an important health indicator of a women health. Here the data reveals that there are around 9 percent of the respondent who has gravida of more than 4. Further the maximum cases of women with two gravida was found to be 29 percent

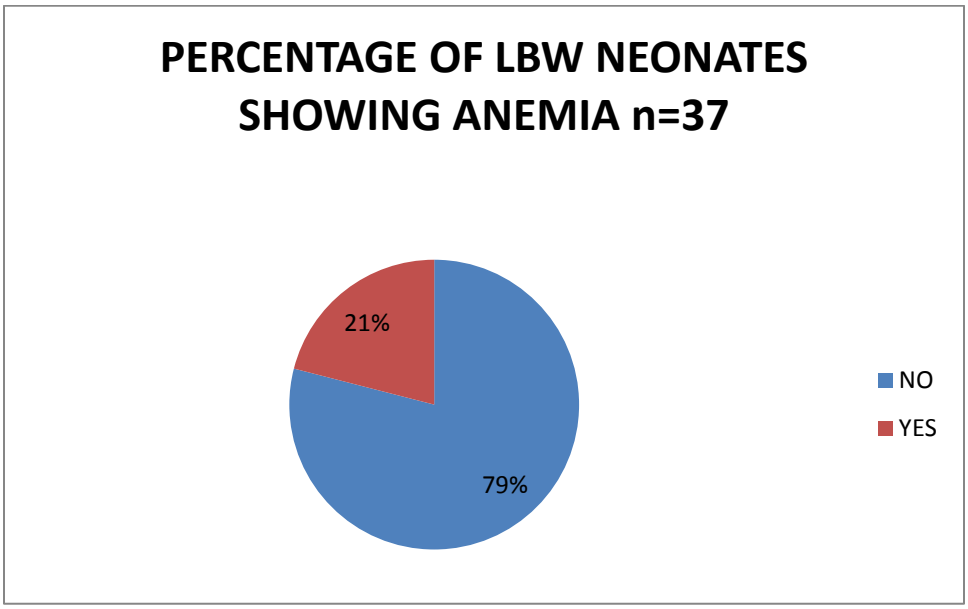
Fig14. PRACTICE OF IRON FOLIC ACID INTAKE DURING ANTE NATAL CARE

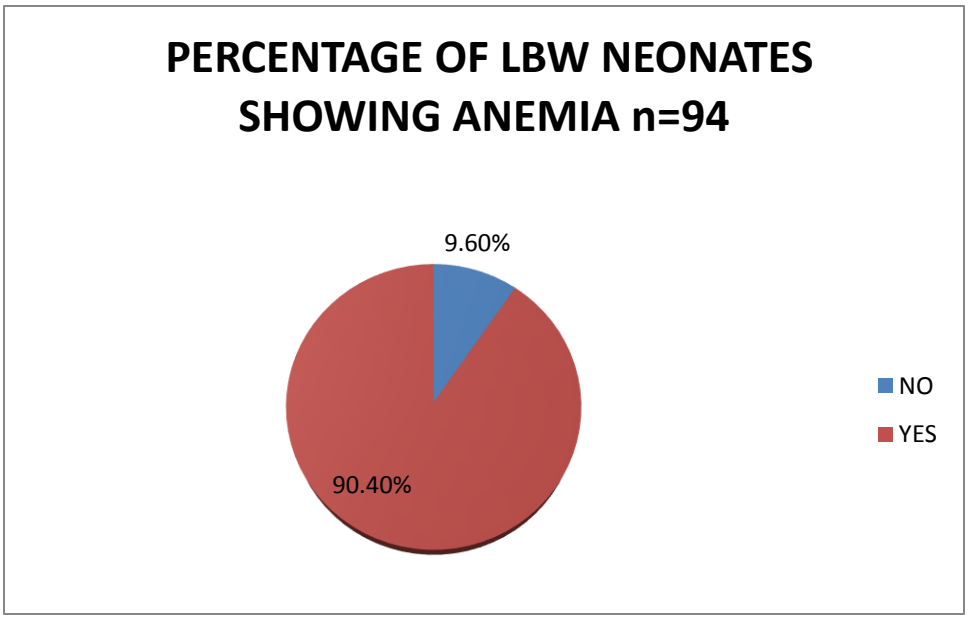
N=131



Anemia prevalence is high among the ANC mother in the District, and needs an approach to tackle the situation. Here data shows that the mother who gave birth to LBW child were not regular at intake of iron folic acid tablet. Further few mothers don't even remember the date when they last took this tablet.

Fig.15. ANEMIA STATUS OF LBW AND NEONATRAL MOTHERS

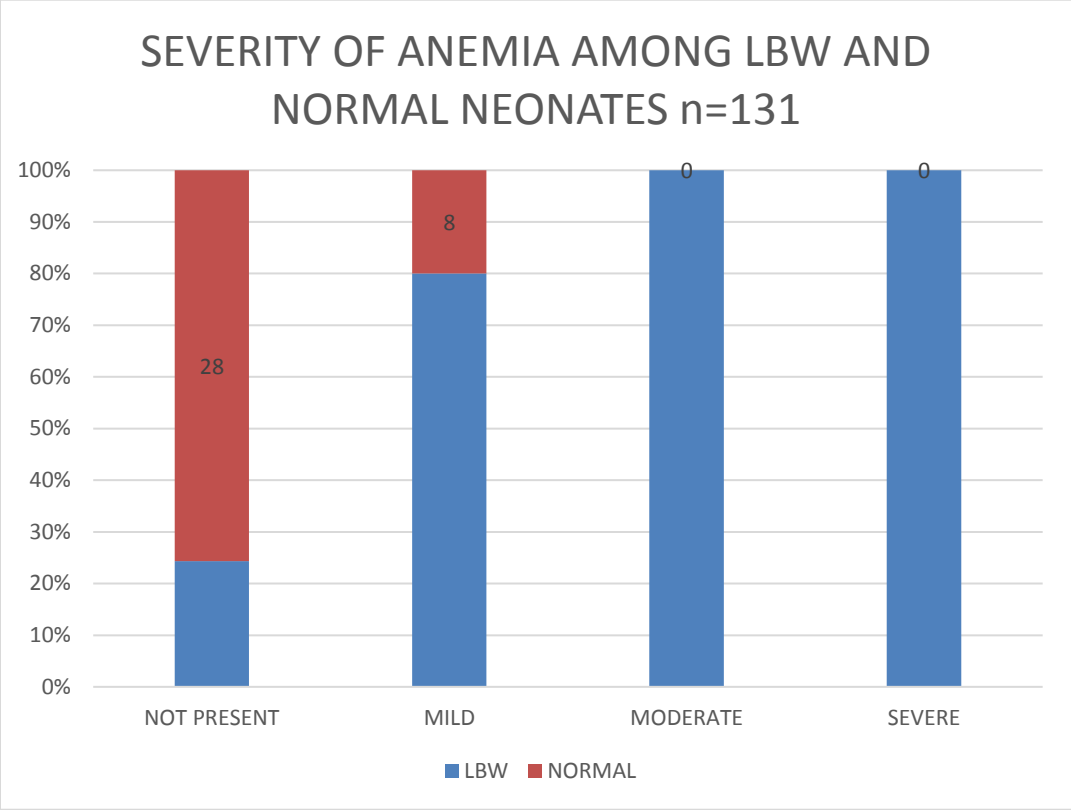




The data reveals that more than 90% of the LBW neonates mother suffered from Anemia so, here it needs an intervention.

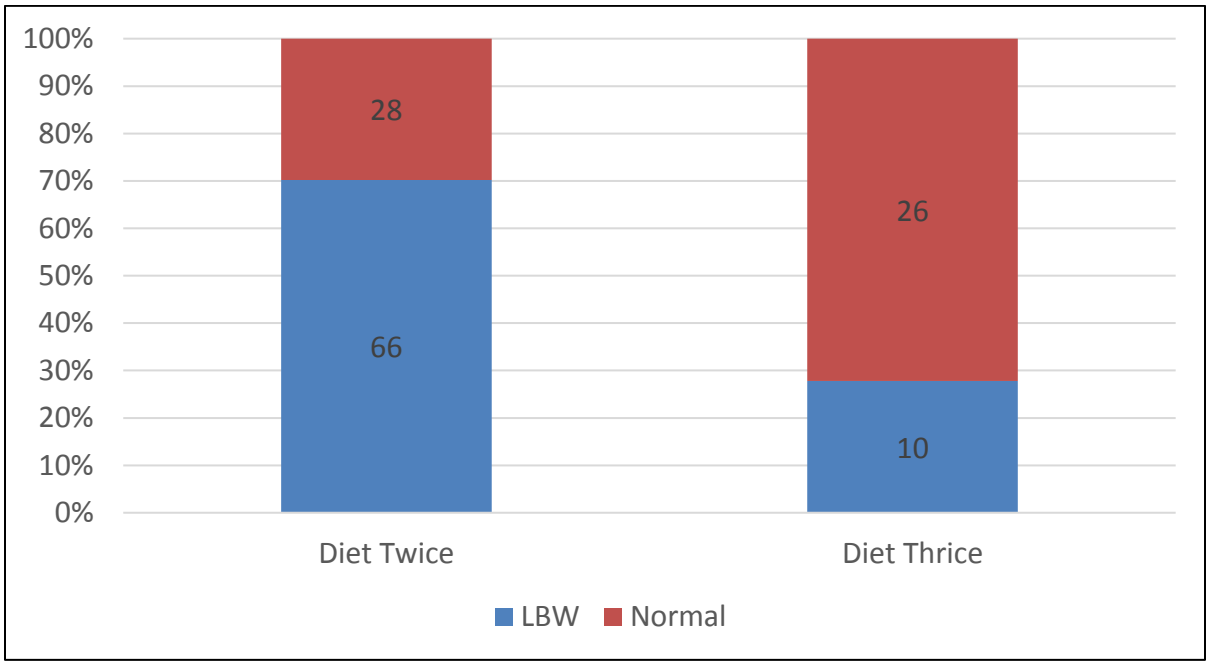
Fig.16: TYPE OF ANEMIA IN MOTHERS OF LBW AND NORMALNEONATES.

N=131



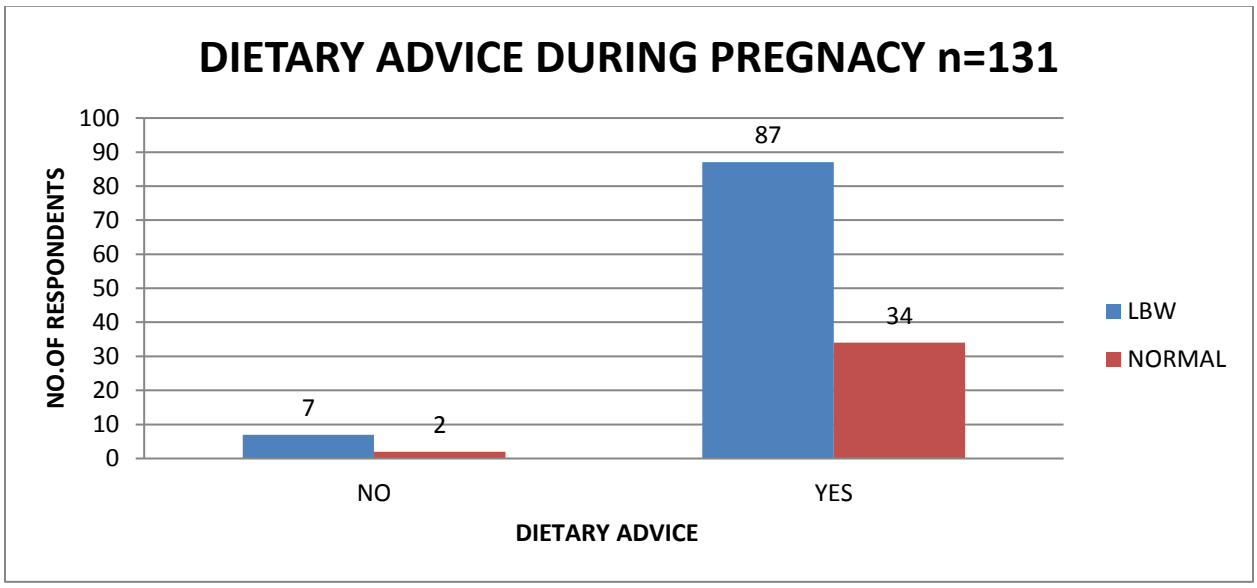
The data reveals that the mothers who delivered LBW neonates suffers from anemia, and it is found that around 23 percent of the mothers of LBW suffers from severe Anemia.Further the data reveals that the mother who gave birth to normal child does suffered from severeand even moderate anemia, among them more than 75 percent of mothers does not show any history of Anemia.

Fig.17 DIETARY FACTORS DURING ANTE NATAL CARE



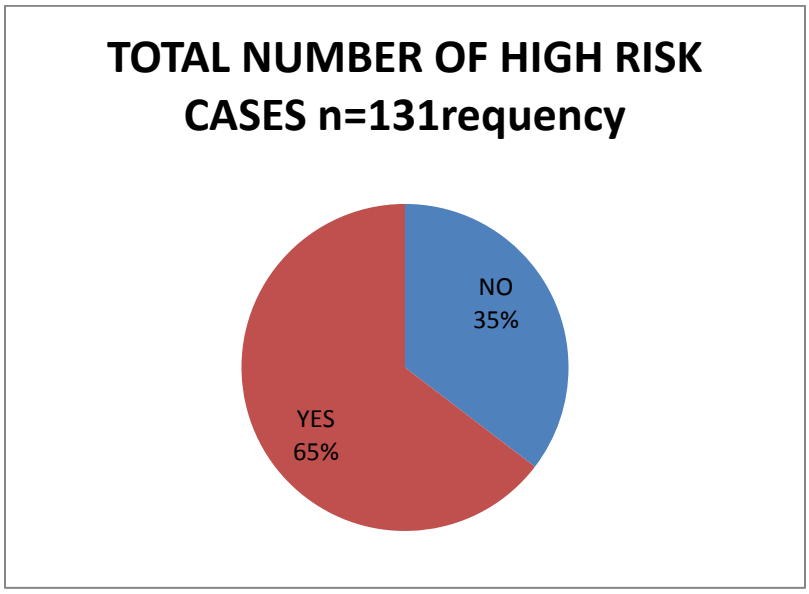
The data shows that most of the respondents that is more than 70 percent who gave birth to LBW child has poor dietary practice.

Fig18. DIATARY ADVICE DURING ANC VISIT



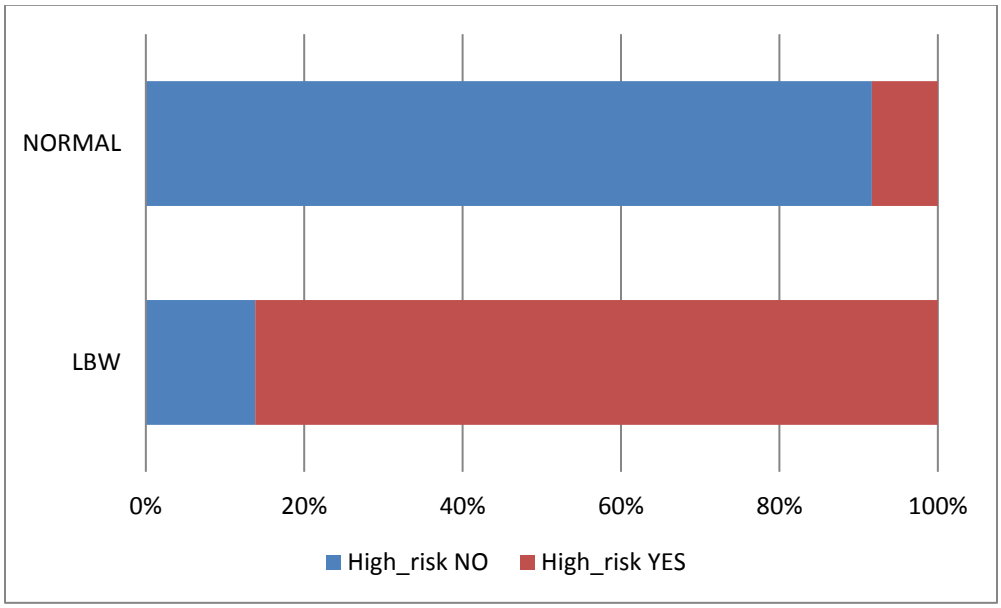
The data shows that around 7 percent of the mother of LBW does not get dietary advice during pregnancy

Fig.19. TOTAL NUMBER OF HIGH RISK CASES AMONG THE RESPONDENTS.



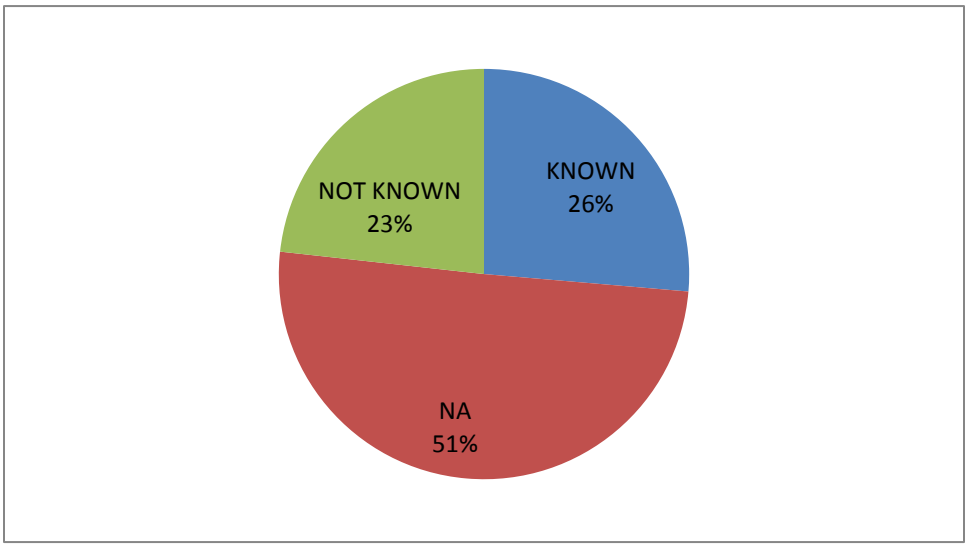
The data reveals that around 64 percent of the respondent falls under the category of high risk.

Fig 20. HIGH RISK CASE IDENTIFICATION IN NORMAL AND LBW NEONATES MOTHER.



The data reveals that around 87 percent who delivered LBW child falls under high risk. Further the analysis shows that only 8 percent of the mothers who delivered normal child falls under high risk category.

Fig.21. THE KNOWLEDGE OF RESPONDENT REGARDING THE WEIGHT OF THEIR PREVIOUS CHILD



The data shows that there are around 23 percent of the respondents who were not aware about the weight of their previous child.

CONCLUSION

Low birth weight is the major health determinant of neonatal health. In Bharuch district Lbw is found to be 23% at present and is one among the major contributing factor of mortality as well as morbidity in a District.Taking into consideration the alarming situation of the Low birth weights among neonates the study was carried out to reveal the real time situation and different factors associated with the LBW cases in the district.

The study shows that there are certain indicators like socioeconomic status, anemia, hig risk complications, dietary factors, lack of family planning, lack of knowledge like importance of weight of previous child, Irregular intake of iron folic acid tablet, gravida, ANC registration, , lack of breast feeding within one hour of delivery are showing impact on neonatal health.

So, inorder to improve the health indicators related to LBW cases in the District a innovative action plan is required and focused shoul be on identified reasons to improve LBW cases in the District.

RECOMMENDATIONS

ACTION PLAN TO IMPROVE NUTRITION IN DISTRICT BHARUCH

- ***NUTRITION***

	Children under 5 years who are ***(NFHS 4)***				
	stunted	wasted	severely wasted	under weigh	anaemic (<11.0 g/dl) (%)
India	***38.4***	***21.0***	***7.5***	***35.7***	***58.8***
Gujarat	***38.5***	***26.4***	***9.5***	***39.3***	***62.6***
Bharuch	***41.5***	***29.4***	***7.6***	***44.2***	***56.8***

- Based on data from Health and ICDS department, identification of gap in SAM and MAM children should be done, rectify and correct data by scientific method of SAM identification and take appropriate action for SAM complicated children for admission in CMTC.
- Preparation of specific diet plan for mother after 4 FGDs at community level.
- Planning of Bal Gopal project at Netrang and Valia Block esp. for pea nut butter provision to ANC mother and SAM neonates.
- Planning of IEC along with WASH for behavior change communication for Nutrition and hygiene related practices at community level.
- Planning to play useful videos at all CMTC and NRC centers that can impart useful information to mothers regarding feeding practices, nutrition, diet and covering other health parameters at the time of admission.

- ***ACTION PLAN FOR AnaemicPregnant women***

- ✓ ***India*** ***57.9*** *(NFHS 4)*
- ✓ ***Gujarat*** ***60.8*** *(NFHS 4)*
- ✓ ***Bharuch*** ***60.8*** *(NFHS 4)*

- Injectable iron sucrose for severe anaemic mothers.
- Iron intake as per DOTS.
- Strong follow up of anemic mothers at three level by MO's, FHW and ASHA.
- Strengthening of early ANC registration, currently it is 84%.
- Functional Blood storage unit at CHC Jambusar, vagra, valia and Umalla, And 4th ANC checkups by MOs, If possible check up by gynaecologist.
- An IEC module to be developed for life cycle approach of anaemia and malnutrition issues.

OTHER RECOMMENDATIONS INCLUDE:

- Identification of high risk mothers during the early phase of pregnancy along with a birth micro plan to reach target mothers.
- Special focus on 4th ANC visit by Medical officer.
- Weekly review meeting of Taluka Health officer.
- Strengthening of labour rooms as per lakshay norms.
- Personal visit by Taluka and District level Health officers for high risk mothers which was decided in executive meeting and needs an implemented all over the district with appropriate check list.
- Tracking of high risk mother based on e mamta.
- Strengthened PMSMA on 9th of every month by involvement of private gynecologist.
- Plan for meeting 0f CHC superintendent, THOs and all Taluka level medical officers for sharing the list of High risk mother who are expected to deliver in next week for timely appropriate action .

  eg. Ensure availability of blood in medical emergency for high risk mothers.
- Special focus on Iron tablet, folic acid compliance.
- Injection iron sucrose injection administration with special focus to severely anemic mothers.
- Strengthened high risk mother tracking- the reporting format has been shared to all Talukas and instructions has been given to strictly track the high risk cases without delay and monitoring of the same at three levels MOs, FHW and ASHA should be done.

- NC coverage rate and addition of quality component.
- Strong follow up by ASHA especially to SAM children.
- Strengthening of NBSU at Jambusar, Vagra and valia.
- Skilled training of staff at all delivery points.
- Strengthening of SNCU, CMTC and NRC as per admission rate and bed occupancy rate.
- Availability of Bal Sakha-3 at Sewa Rural Jagadia, Jayabenmodi Hospital Ankleshwar for tribal blocks for Neonates weighing <=1500gn.

REFERENCES

1. *Butterfoss FD, KeglerMC.Emerging theories in health promotion practice and research*
2. *International Journal of Gynecology & Obstetrics*. 2009;
3. *WHO study on community mobilization; 2014;*
4. *Butter FD , kegler MC, Emerging theories in health promotion practice and research.*
5. *NHS,community engagement to improve health.*
6. *WHO report on effectiveness of community mobilization and participation.*
7. *J Health communication; 2014 Sep 10*
8. *Cyril S, Smith BJ, Possamai- Inesedy A, Renzaho AM. Global Health Action. 2015 Jan;*
9. *.American journal of public health ;April 2010.*
10. *WHO global strategy on peoplecentric and integrated health services-interim report;2015*