IOSR Journal of Humanities And Social Science (IOSR-JHSS)
Volume 25, Issue 9, Series 11 (September. 2020) 15-24
e-ISSN: 2279-0837, p-ISSN: 2279-0845.
www.iosrjournals.org

Infant mortality in Bangladesh: A case on Keshabpur Upazila of Jashore district.

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Abstract
Bangladesh is developing country in south Asia with 16 million people live in here. This large number of population about 6 million people are the infant. Completing the millennium development goals successfully, Bangladesh has now entered into the era of Sustainable Development Goals by reducing hunger, poverty, mother and infant mortality rate.
Bangladesh is one of the most risky countries for causes of climate change. So the natural disaster causes great damage. The impact of the disaster or infant's death is much higher than adults. Bangladesh has been able to reduce the mortality rate of children under the age of five in a hurry. But the death of a newborn is hindering this success.
There are many causes are responsible for newborn mortality like early marriage, unconsciousness, sepsis, low birth weight etc. To reduce infant mortality rate, it is important to raise awareness among pregnant and family members. To reduce the death of newborn we need to Kangaroo mother care, breast feed the mother after birth, delay the baby shower etc. The infant mortality rate focuses only on infant under one year of age. The leading causes of infant mortality are birth asphyxia, pneumonia, congestion, malformation. tem birth complications such as prolonged labour, neonatal infection, diarrhoea, malaria, measles and malnutrition.
In each year, about 62000 infant die in Bangladesh. Infant mortality in 2018 is 31.7 deaths/1000 live births but infant mortality rate in 2019 is not published yet but day by day infant mortality rate is becoming low. Source: Daily Prothom Alo.

Date of Submission: 20-09-2020 Date of Acceptance: 04-10-2020

I. INTRODUCTION

When infant death at the age of one then we call it as infant mortality and it is the death of young children under the age of 1.The death of infant is measured by the infant mortality rate, which is number of death of infant less than one year of age per 1000 live birth.

The infant mortality rate focuses only on infant under one year of age. The leading causes of infant mortality are birth asphyxia, pneumonia, congestion, malformation, term birth complications such as prolonged labour, neonatal infection, diarrhoea, malaria, measles and malnutrition (1).

One of the preventable causes of infant mortality is smoking during pregnancy. In 1990, 9 million infants died globally. Until 2015 this number has almost halved to 4.6 million infants death. Over the same period the infant mortality rate declined from 65 deaths per 1,000 live to 29 deaths per 1,000 live births.

In Bangladesh the infant mortality was at about 29.8 death per 1,000 live birth in 2015 and in 2017 it has been decreases at about 26.9 deaths per 1,000 live birth.(According to UNICEF Report).

According to WHO, a substantial global progress has been made in reducing infant deaths. Among this countries Bangladesh has also registered a substantive acceleration, experiencing a remarkable change in infant mortality rates over the last few decades.

Although, according to the report, infant mortality rate is decreasing over time. Bangladesh has to further reduce child's deaths to obtain the sustainable development goals.

There are many factors which are closely experience among people such as maternal education and household income status.

Research Objective:

1. Improve knowledge of the causes of infant mortality:
2. Determine the immediate, medium-term and long –term burden of maternal morbidity:
3. Determine the burden attributable to selected risk factors for maternal and infant morbidity and mortality:
4. Develop better information and methodologies to enable prioritizing, planning and monitoring maternal and infant health intervene.

II. LITERATURE REVIEW

Tanvir Abir, kingsley Emwinyore Agho ,Andnew Nicolas page, Abul Hasnat Milton said in their journal(Risk factors for infant mortality evidence from Bangladesh Demographic and Health survey.)

In terms of infant mortality, although much is assumed about the disadvantage of teenage mothers, motherhood in the early as compared with older motherhood (2)**.** In their study they found mothers who were aged 15–24 years posed a risk infant mortality. Older mothers may be more likely to highly value continuity of prenatal care and comprehensive care more than young mothers, and are more likely to attend more antenatal care visits, which reduce morbidities throughout the pregnancy period. The higher mortality risk for infants of younger mothers may be related to socioeconomic factors as well as biological immaturity. In addition, children whose mothers were aged 30–39 years at the time of their birth had a significantly higher risk of under-5 mortality (1).

The combined 2004, 2007 and 2011 BDHS data sets examined in this study showed that birth rank and birth interval, previous death of a sibling, having other children under 5 years old and contraceptive use by mothers were the common factors associated with neonatal, post neonatal, infant, child and under-5 deaths. **Our findings indicate the need to implement community-based interventions, particularly educating community health workers and traditional birth attendants about child spacing, and contraceptive use by mothers. This may contribute to a further reduction of under-5 death** (1)**s**. Findings from this study could help provide a framework to design future health initiatives to enhance child survival. In particular, the government of Bangladesh and other stakeholders could use our information to help step up further efforts to minimize mortality in that country. plans and policies tailored towards achieving effective health reality.

*Emily R Smith, Anuraj H Shankar, Lee S-F Wu, Said Aboud, Seth Adu-Afarwuah, Hasmot Ali, RinaAgustina, Shams Arifeen, Per Ashorn, Zulfiqar A Bhutta, ParulChristian, DelanjathanDevakumar, Kathryn G Dewey, HenrikFriis, ExneviaGomo, Piyush Gupta, PernilleKæstel, Patrick Kolsteren, Hermann Lanou, Kenneth Maleta, AissaMamadoultaibou, GernardMsamanga, David Osrin, Lars-ÅkePersson, UshaRamakrishnan*said in theirarticle

This review showed that pregnant women who take antenatal multiple micronutrient supplements including iron-folic acid have a lower risk of having a baby with low birth weight, a preterm birth, or having a small-for gestational-age baby. Furthermore, we identified several factors that modified the effect of multiple micronutrient supplements on infant survival and birth outcomes. **The effect of multiple micronutrient supplements on survival was modified by infant sex. Multiple micronutrient supplements consistently reduced mortality by about 15% in females during the first year of life, but we did not record significant benefits in males** (3)**. The biological mechanisms leading to these sex differences are not clear. West and colleagues and Lee and colleagues have previously proposed that sex differences in the mortality effect of multiple micronutrient supplements could be explained by differences in birth size by sex.** Males have greater length, head circumference, and birth weight on average than females, and increased birth size due to multiple micronutrient supplements might lead to greater birth complications in males. **However, we noted no sex differences in the effect of multiple micronutrient supplements on stillbirth, which suggests that effect modification by sex might operate through other mechanisms or vary** with the population context (4). The burden of infections and leading causes of mortality have been shown to vary by infant sex; supplementary information about the causes and timing of deaths within trials might help clarify why multiple micronutrient supplements seem to be more beneficial for female infants. Nevertheless, we do not recommend programmes

considering implementation of multiple micronutrient supplements target only pregnant women carrying female foetuses as both male and female neonates experience birth weight benefits and small positive survival benefits are possible in males (5)**.**

III. RESEARCH METHODOLOGY

This research will conduct in Keshabpur Upazila of Jashore district. The study is seeks to critically appraise the extent of Infant mortality rate in Bangladesh.

Sampling is an essential part of the scientific procedure, the key principle in sampling is representativeness. Purposive sampling will be used to collected data where representative was many. In this study, 48 respondents were selected to collect information about the research.

Data has been collected from both the primary and secondary sources. The Doctors and General Women will be the primary sources of data who will have shared their experience about infant mortality have been used for primary source of data collection. The questionnaires of the survey have been appendices at the end of the paper. For this particular research it is possible to take up a number of methods. Since it is needed to gather the insights from both the Doctors and General Women from Keshabpur Upazila of Jashore district and official and unofficial data from local government institutions, we need to analyze both primary and secondary level data.

For Primary data there would be a number of methods including questionnaire survey on the Doctors and the parents of the Children on the infant mortality after taking up a particular policy. They would be asked the questions upon explaining them the operational definition of the infant mortality in our targeted study. In order to run the questionnaire survey we would take up random sampling and choose from Keshabpur Upazila of Jashore district. We would also run in depth interview from the Doctors who have the authority to supervise or authorize medical support to the children such as Upazila Civil Surgeon from the sample areas. The data collected from questionnaire survey would be used for quantitative analysis of the data using STATA. There would be 4 different Focused Group Discussion among the General Parents and Doctors. In addition to that the paper would integrate few detailed case studies which would be collected from both primary and secondary sources. The data gathered from the FGDs and the case studies would be used to bring up qualitative analysis.

For secondary level data we would go through the official gazettes and instructions provided by the central agencies. For measuring the performance we would collect the data from local government intuitions such Upazila Civil Surgeon office and other related offices. We would also go through the policy papers, news and editorials of national newspapers regarding the particular policies we would decide to see work for reducing children mortality. The proper analysis of data from both primary and secondary sources would enable us to specify the roles and opportunity to perform by the local government and it would also help us find some concrete recommendations.

Collected data has been analyzed, classified and tabulated as per the objectives of the research. Collected data has been presented by Statistical package for special sciences (SPSS), MS-Excel and MS-Word document,

IV. DATA ANALYSIS AND FINDINGS

Data Obtain From Doctors (Questionnaire-A)

Distribution of Respondents by Gender

The distribution of 18 (eighteen) respondents i.e. doctors of Upzila Health Complex were surveyed which consolidated below according to gender:

Table: Distribution of Respondents by Gender

Male/ Female	**Frequency**	**Percentage**
Male	10	55.55%
Female	8	44.44%
Total	**18**	**100%**

From the above table, it has been found that among 18 respondents, 55.55% are male (10) and 44.44 % are female (8). So, the greater parts of the respondents are male who are very rational. These are represented through the following figure.

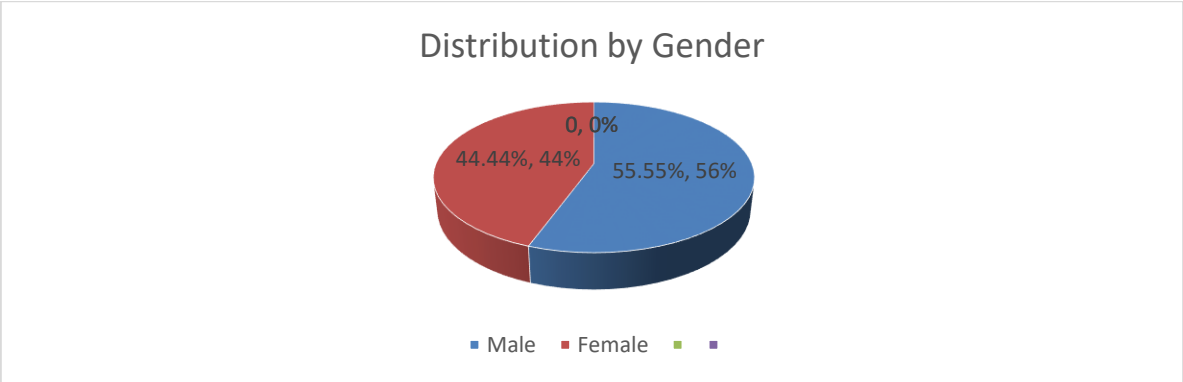

Figure: Distribution by Gender

Distribution of Respondents by Age

The distribution of 18 (eighteen) respondents i.e. doctors of Upzila Health Complex were surveyed which consolidated below according to gender:

Table: Distribution of Respondents by Age

Age	**Frequency**	**Percentage**
20-30	10	55.55%
31-40	5	27.77%
41-50	3	16.66%
51+	0	0%
Total	**18**	**100%**

The table has shown us that, 55.55% respondents are under 30 years and rest of the respondents are below 40 years and 50 years which percentage is 27.77% and 16.66%.

Given below the chart

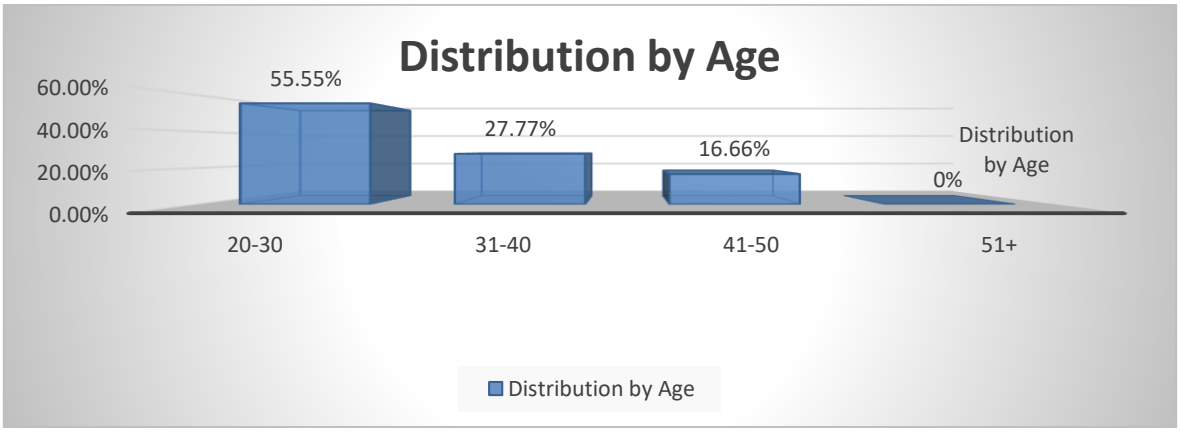

Figure: Distribution by Age

Causes for the Infant Mortality

Table: Causes for the Infant Mortality

Causes for infant mortality	**Frequency**	**Percentage**
Birth Asphyxia	7	38.88%
Low Birth Weight	6	33.33%
Respiratory Distress	2	11.11%
Sepsis	1	5.55%
Pneumonia	2	11.11%
Total	**18**	**100%**

From the above table we can see that, massive causes for the infant mortality is “Birth Asphyxia” which percentage is 38.88%. On the other hand “Low Birth Weight” is 33.33%, “Respiratory Distress” and respectively “Sepsis” is 5.55% and “Pneumonia” is 11.11%.

Given below the chart

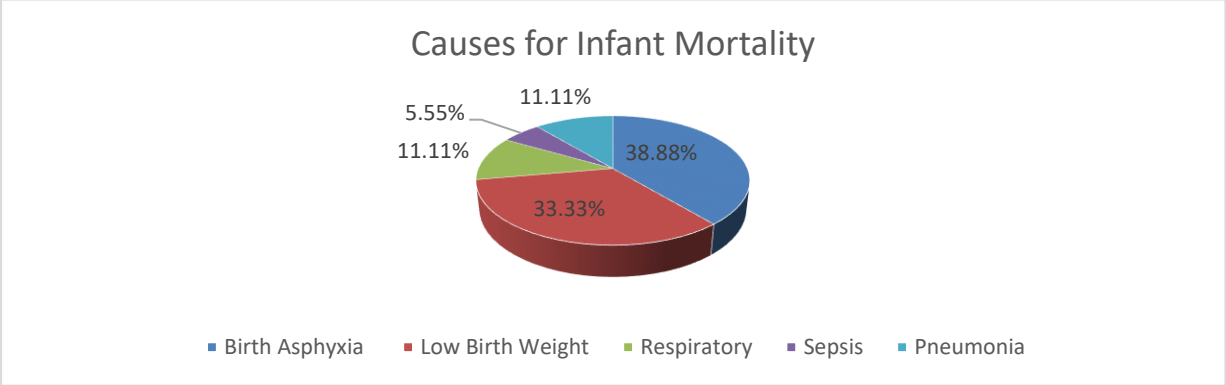

Figure 4.3: Causes for the Infant Mortality

Level of Symptoms during Pregnancy

Level of symptoms during pregnancy the respondents were as follows:

Table : Level of Symptoms during Pregnancy

Level of Symptoms	**Frequency**	**Percentage**
Burning pain during urination	5	27.77%
Vaginal bleeding	4	22.22%
Excessive nausea & vomiting	7	38.88%
Headache	1	5.55%
Swelling of the feet	1	5.55%
Total	**18**	**100%**

Given below the chart with data explanation

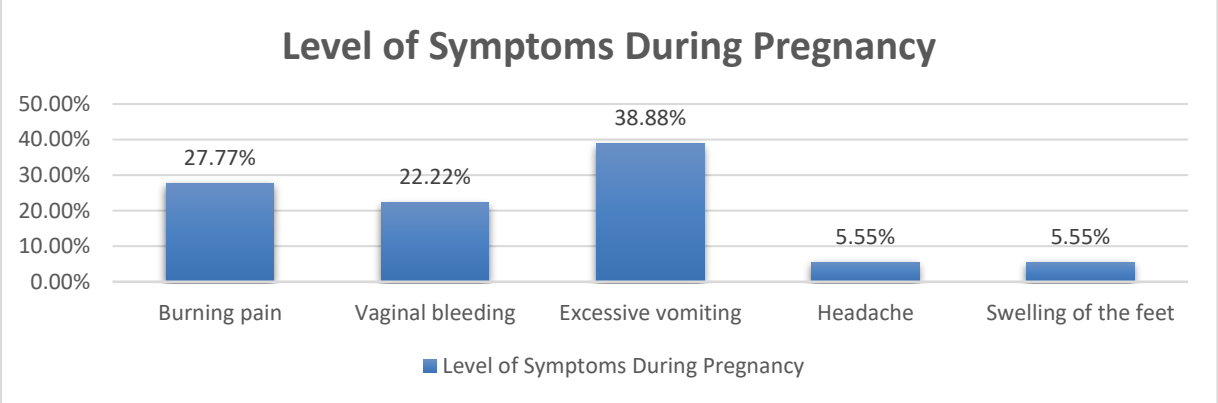

Figure: Level of symptoms during pregnancy

The figure has shown that 38.88% is the massive level of symptoms during pregnancy which is "Excessive Nausea and vomiting. Almost women were faced this problem during pregnancy. After that they were faced "Burning Pain", Vaginal Bleeding". "Headache" and "Swelling of the feet" which is respectively 27.77%, 22.22%, 5,55% and 5.55%.

Responsible for Infant Mortality

Responsible for being infant mortality the respondents were as follows:

Table: Reasons for Being Infant Mortality

Infant Mortality	**Frequency**	**Percentage**
Early Marriage	9	50%
Malnutrition	5	27.77%

Chronic Alcohol	1	5.55%
Smoking	1	5.55%
Multiple Gestation	2	11.11%
Total	**18**	**100%**

From the above table most of the respondents' responded (50%) the responsible for the infant mortality is "Early Marriage". And then 27.77% respondents opined the "Malnutrition" is also responsible for infant mortality. Rest of the respondents responded (5.55%) agreed with the reasons of "Chronic Alcohol" and 11.11% having said that "Multiple Gestation" is responsible for the infant mortality.

Given below the chart

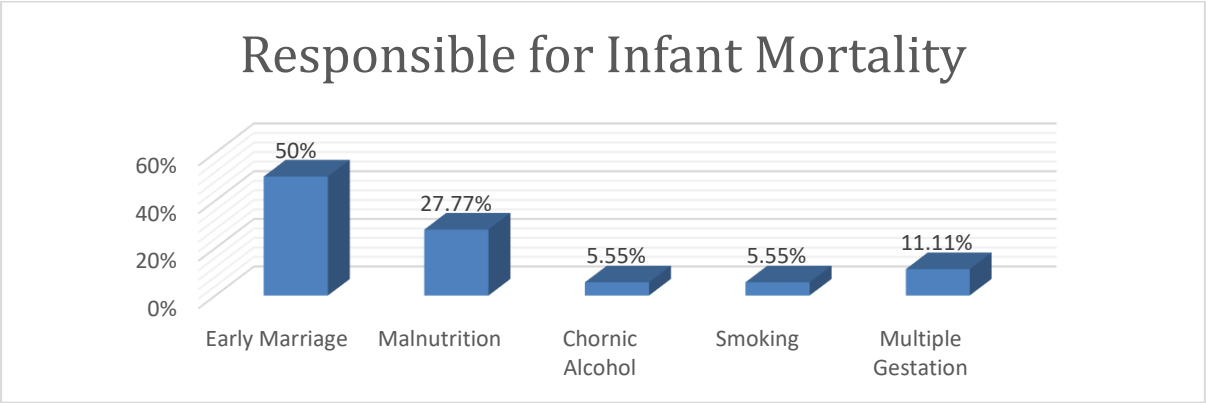

Figure: Responsible for infant mortality

Data Obtained From General Women (Questionnaire-B)
Distribution of Respondents by Education
The distribution of 30 (thirty) respondents i.e. general women of KeshabpurUpzila were surveyed which consolidated below according to education:

Table: Distribution of Respondents by Education

Level of Education	**Frequency**	**Percentage**
PSC	5	16.66%
JSC/JDS	15	50%
SSC	6	20%
HSC and Above	4	13.34%
Total	**30**	**100%**

From the table it has been seen that, most of the respondents (50%) which education background are "JSC" 20% are "SSC" and rest of the respondents education background respectively 16.66% and 13.34% which is belong to the "PSC" and "HSC".

Given below the chart

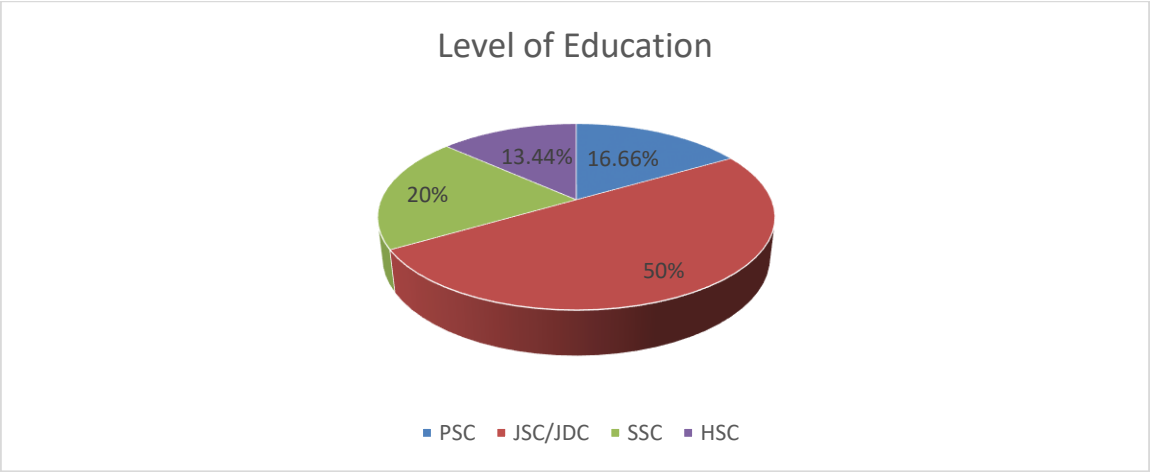

Figure: Level of Education

Distribution of Respondent by Ag

The distribution of 30 (thirty) respondents i.e. general women of KeshabpurUpzila were surveyed which consolidated below according to age:

Table: Distribution by Age

Level of Age	**Frequency**	**Percentage**
20-30	16	53.33%
31-40	9	30%
41-50	5	16.67%
51+	0	0%
Total	**30**	**100%**

Given below the chart with data interpretation

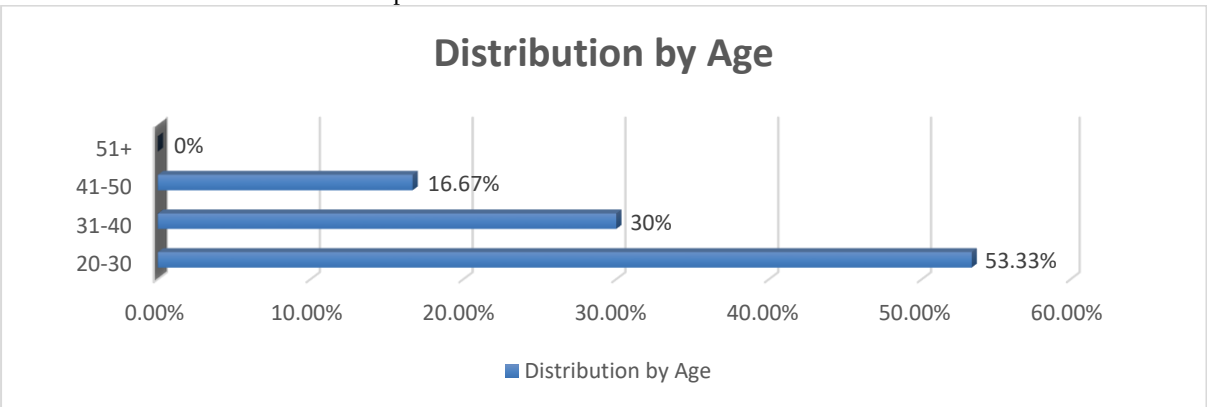

Figure : Distribution by Age

The figure has shown us 50% respondents belong to 20-30 age. 30% respondent are belong to the 31-40 age and rest of the respondents is 16.67%.

Distribution of Respondents by Occupation

The distribution of 30 (thirty) respondents i.e. general women of KeshabpurUpzila were surveyed which consolidated below according to occupation:

Table: Distribution by Occupation

Level of Occupation	**Frequency**	**Percentage**

House Wife	19	63.33%
Teachers	4	13.33%
Others	7	23.34%
Total	**30**	**100%**

From the above table it has been seen 63.33% respondents are "House Wife" 23.34% respondents are "Others" and rest of the respondents are teachers"(13.33%).

Given below the chart

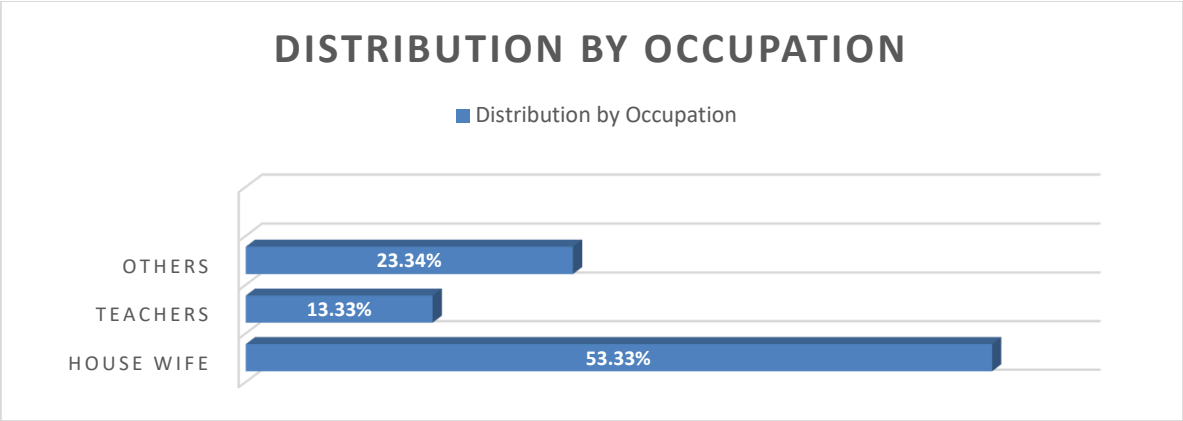

Figure: Distribution by Occupation

Level of Idea about Infant Mortality

The distribution of 30 (thirty) respondents i.e. general women of KeshabpurUpzila were surveyed which consolidated below according to level of idea about infant mortality:

Table: Level of Idea about Infant Mortality

Level of Idea	**Frequency**	**Percentage**
Yes	26	86.66%
No	4	13.34%
Total	**30**	**100%**

This table has been showing us maximum number of respondents responded (86.66%) "Yes" and rest of the respondents responded (13.34%) "No".

Given below the following chart

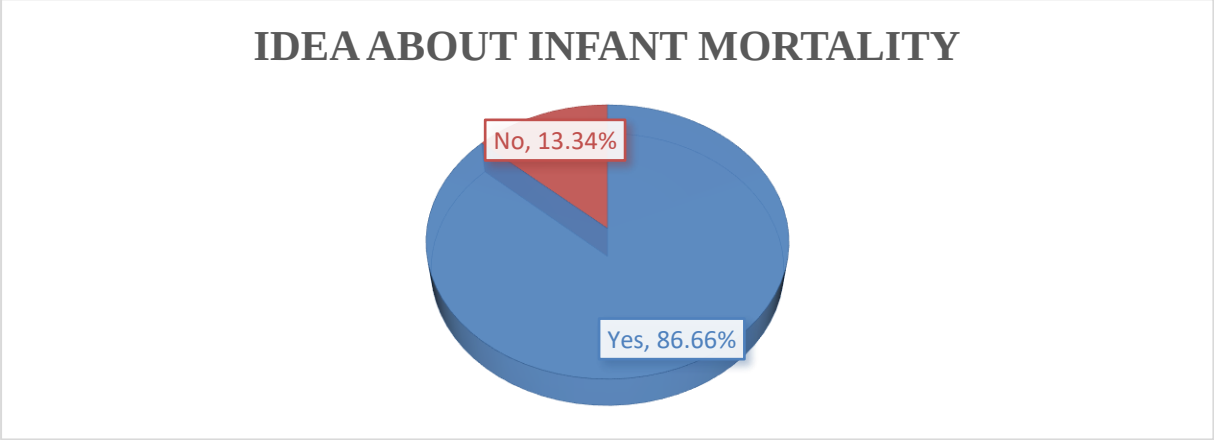

Figure: Level of Idea about Infant Mortality

Level of Awareness of Causes of the Infant Death

The distribution of 30 (thirty) respondents i.e. general women of KeshabpurUpzila were surveyed which consolidated below according to level of awareness of causes of the infant mortality

Table: Level of Awareness of Causes of the Infant Death

Level of Idea	Frequency	Percentage
Yes	21	70%
No	9	30%
Total	**30**	**100%**

From the above table we have seen that, most of the respondents (70%) don't have awareness of causes of the infant death. And rest of the respondents responded (30%) " No".

Given below the following chart

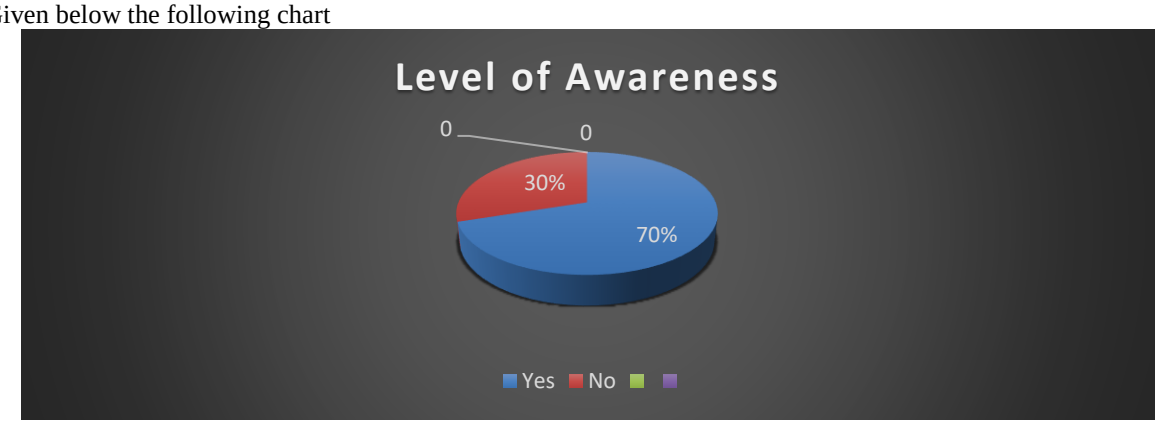

Figure: Level of Awareness of the Infant death

Level of Symptoms during Pregnancy

Level of symptoms during pregnancy the respondents were as follows:

Table: Level of Symptoms during Pregnancy

Level of Symptoms	Frequency	Percentage
Burning pain during urination	5	16.66%
Vaginal bleeding	4	13.33%
Excessive nausea & vomiting	16	53.33%
Headache	3	10%
Swelling of the feet	2	6.66%
Total	**18**	**100%**

Given below the following chart with data interpretation

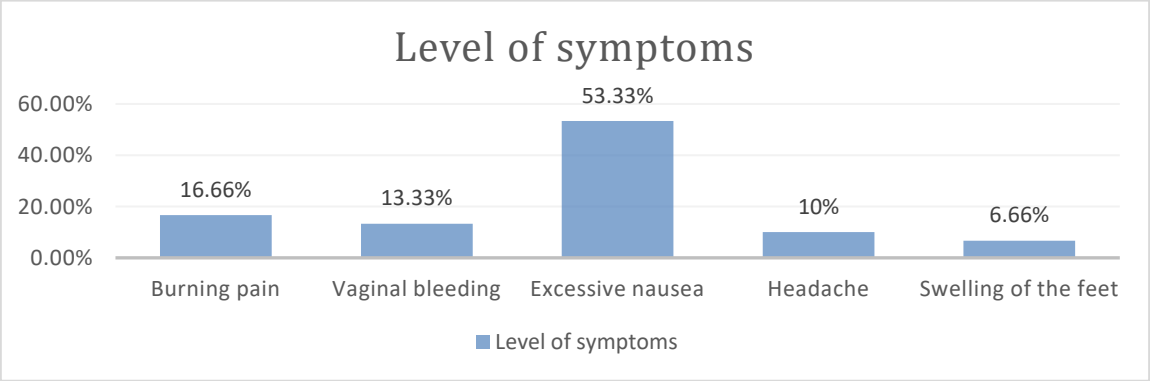

Figure: Levels of Symptoms

The figure has shown that 53.33% is the massive level of symptoms during pregnancy which is "Excessive Nausea and vomiting". Almost women were faced this problem during pregnancy. After that they were faced "Burning Pain", Vaginal Bleeding". "Headache" and "Swelling of the feet" which is respectively 16.66%, 13.33%, 10% and 6.66%.

Measurement of Government Initiative

The distribution of 30 (thirty) respondents i.e. general women of KeshabpurUpzila were surveyed which consolidated below according to measurement of government initiative.

Table: Measurement of Government Initiative

Measurement of Initiative	**Frequency**	**Percentage**
Strongly Agree	16	53.33%
Agree	9	30%
Moderate	5	16.67%
Disagree	0	0%
Strongly Disagree	0	0%
Total	**30**	**100%**

From the above table it has been seen that, most of the respondents responded (53.33%) "Strongly Agree". 30% respondents responded "Agree". And rest of the respondents responded "Moderate".

Given below the following chart

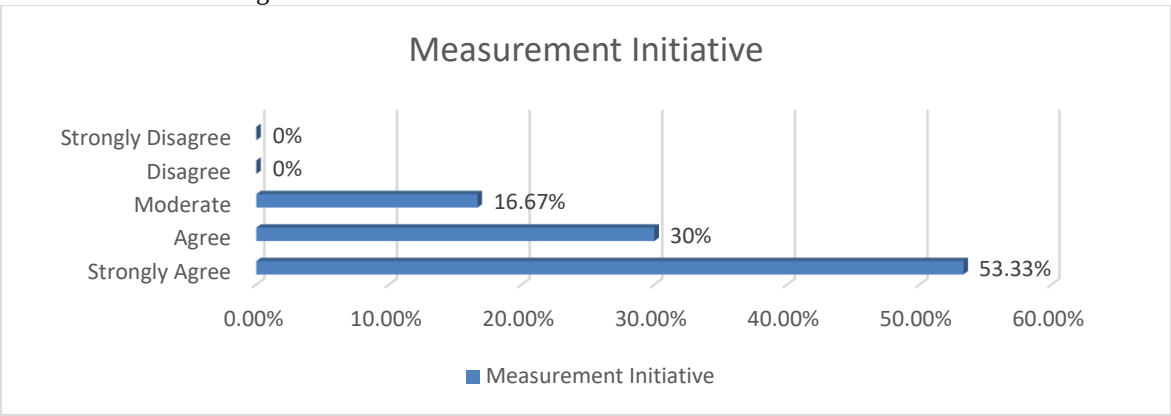

Figure: Measurement Initiative

V. CONCLUSION AND RECOMMENDATION

1. We need to introduce standard emergency services in all health centers for reducing infant deaths.
2. All delivery needs to be done in the presence of efficient midwife.
3. Health care needs to eliminate the disparity between rich and poor.
4 .Pregnant mothers in rural areas should be encourage coming to health centers.
5. It is important to improve the health centers services.
6. Each political party must have the need to reduce the infant death rate in the election manifestos.
7. General public should be aware of the major causes of death of infant.
8. The private sector will also have to come forward as well as the government.

Conclusion

This research paper focused on the main causes of infant death and how it can be reduced. In Bangladesh the causes of infant deaths is serious infections, not being able to breathe at birth and immature birth complications. Bangladesh still has 50% delivery by unskilled midwife. Meanwhile Bangladesh has taken some activities which is proved by research. The Government of Bangladesh has put in a special project on health, nutriton and population Development programmed for the health of infants .The private sector and NGOs also

have to come forward as well as the Government. It is possible to reduce the infant death rate by combining these combined.

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