Chapter 7: Findings and Analysis\textsuperscript{11} of Data on Non-Adolescent Pregnant Women who are Category A

7.1: Socio Economic Profile of Respondents:

From Chapter 3 we know that there are 187 women who are non-adolescent and have been admitted to the hospital for pregnancy. Below is a short description of their socio-economic profile and some indicators regarding their health status. The analysis of the different variables and their relationship with other variables has been done using Excel and JMP analysis. The analysis is based on inferential statistics because they are used to reach conclusions about association between variables. It differs from descriptive statistics in that they are explicitly designed to test hypotheses.

7.1.1: Religion: Out of the 187 respondents 111 of them are Hindu and 76 of them are Muslim.

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{religion_distribution.png}
\caption{(Source: Computed from Survey Data)}
\end{figure}

\footnote{The data of the three categories of respondents have been analysed and findings has been derived.}

\footnote{Data analysis of the three categories of respondents has been done using Microsoft Excel and JMP statistical software. Tables, graphs and partition scatter diagrams are developed from the analysis.}
From the above chart it can be understood that 59% of the population is Hindu and 41% is Muslim. The hospital is located in Park Circus area which is the habitat of Muslim Population. The surrounding locality also comprises of majority of the Muslim population. But Hindu population is also found in this area and many parts of South Kolkata. Since it is a State Government run hospital the medical facilities are affordable by poor and medium income groups by both the population

7.1.2 : Age of the Respondents: The figure below shows the distribution of the respondents according to their age at the time of admission into the hospital

Fig. 5 (Source: Computed from Survey Data)

From the above figure it can be understood that the maximum number of women who have been admitted into the hospital falls between the age group of 20-24. Out of 187 women, 129 of them fall in this age group. 41 of them fall in the age group of 25-29. Only 8 of them
fall in the age group of 30-34, 7 of them fall in the age group of 35-39 and only 2 of them fall in the age group of 40-44. It means that the women become pregnant quite early of their reproductive age. I am using the term “early” because all the women are not pregnant for the first time. From the figure 7 it can be seen that in the age group of 20-24, 25 of them are having second/third pregnancy, in the age group of 25-29, 12 of them are having second/third pregnancies, in the age group of 30-34, 5 of them are having second/third pregnancy, in the age group of 35-39, 3 of them are having their second child birth, in the age group of 40-44, 2 of them are having their second pregnancy.¹

7.1.3: Marital Age and Pregnancy: From Fig 6 it can be understood that 14 respondents are married before 18 years, a majority part of the women (97) are married at age 18-20. 39 of them are married at 21-23 years, 24 of them married at 24-26 years, 8 of them between 27-29 and 5 of them above 30 years. Thus early marriage is very common phenomenon among the respondents. 9 Muslim women and 5 Hindu women were married below 18 years. Out the 97 women married between 18-20 years, 52 of them are Hindus and 47 of them are Muslims. There is lack of awareness regarding the risks associated with early marriage and early pregnancy. Most of the women who are married early cannot continue with

<table>
<thead>
<tr>
<th>Marital Age of the Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 18</td>
</tr>
<tr>
<td>18-20</td>
</tr>
<tr>
<td>21-23</td>
</tr>
<tr>
<td>24-26</td>
</tr>
<tr>
<td>27-29</td>
</tr>
<tr>
<td>30 and above</td>
</tr>
</tbody>
</table>

Fig 6 (Source Computed from Survey Data)
their education. They become pregnant early, both willingly and forcibly and have loads of household responsibilities which affect their health and nutritional status.

**Figure 7 (Source Computed from Survey Data)**

Total number of women who became pregnant for second or third time is 47 out of them 42 women are pregnant for second time. 5 women who are pregnant for the third time fall in the age group of 25-44. 1 respondent falls in the age group 25-29, 2 fall in 35-39 age group and the rest two in 40-44 age group.
7.1.4: Education Level:

![Education Level Diagram]

Figure 8 (Source Computed from Survey Data)

Figure 8 describes the educational level of respondents. Out of 187 women, 27 of them are illiterate, 14 of them have attended Class IV, 27 of them have attended Class V, 4 of them Class VI, 16 have attended Class VII, 29 of them Class VIII, 49 of them Class X, 19 of them Class XII and 2 of them are Graduate. Thus we can found that there is a mixed group of respondents in regard to their educational status. Women who are well educated are working as teaching professionals, students or are homemakers. It was found that women who had come to the hospital from outskirts of Kolkata or out of Kolkata have attended till Class XII. It is not very easy to compare the educational status of Hindu and Muslim women since the number of Hindu women is 111 and Muslim women is 76. Out of 27 illiterate women, 18 of them are Muslims, 8 Muslim women have attended Class IV out of 14 women, 14 Muslim women have attended Class V out of 27 women, 1 (Muslim) has attended Class VI out of 4, 7 (Muslim) has attended Class VII out of 16, 11 have attended Class VIII out of 49 women, 15 of them have attended Class X out of 49 Muslim women and 2 of them have attended Class XII out of 19 women. Thus we can see that the percentage of Hindu women are more in regard to
educational status. But the number of Hindu women is 111 and that of Muslim is 76. So it is not highly comparable. But more Hindu women have attended higher education compared to Muslim women. Out of 49 women attending tenth class (secondary), 34 of them are Hindus, out of 19 women who have studied up to twelfth class (higher secondary), 17 are Hindu and all the graduates (2) are Hindu women. Cultural, social and economic factors are responsible for this variation in educational status of women. Most of the women fall in the low income group of population and did not have the opportunity to study according to their own wish. Many of them were married early through negotiation by family members and did not have the chance for further education.

7.1.5: **Occupation:** The occupation of the respondents can be explained from the following figure

![Figure 9 (Source Computed from Survey Data)](image)

From Figure 9 it can be understood a majority of respondents are homemakers (57), the second most important occupation is micro credit. It was found during the interviews that a handful of NGOs give micro credit facilities to the women living near the Park Circus and
Ballygunge slum areas. They may not be well educated but they earn economically. More than 90% of these women are Muslim. Other occupations include sewing and embroidery works, domestic help, attendant, family business etc. 3 women (Hindu) have been found studying (2 women Twelfth Class, 1 Graduate). They belong to middle class families, and stay in South Kolkata. Their husbands are working and one of them is a Government employee. They were women who gives private tuition to children and are graduate or read up to secondary or higher secondary. The majority of women were married early and did not continue with their education.

7.2: Mental Health Status:

**Figure 10 (Source Computed from Survey Data)**

The above figure explains the mental health status of the respondents. A significant number of women (59) said that they did not have any problems relating their mental health, 37 of them suffered from acute depression, 32 of them suffered from depression and fear, quite a significant number of women said they don’t know whether they have any mental illness or not. 7 respondents have complained about mental torture and 18 of them suffered from mental.
hypertension. The reasons behind depression, fear and anxiety often come from negligence and domestic violence by their family members. The women who stays at home suffer more from melancholy. The women who suffer mental torture and excessive fear often face domestic violence. Some of them are beaten by their husbands but since these are very sensitive topic they do not prefer to speak on it. But it is worth noting that most of the women are not even aware of their mental health status. For them mental illness is equivalent to being lunatic. The fact that stresses, anxiety, depression can also lead to mental illness do not come in their minds. They are not aware of the mental health as a determinant of health. After asking many questions during the interview some light can be thrown on their mental health status.

7.3: Findings regarding their Health Status:

Out of 308 respondents there are 187 case studies of non adolescent pregnancies and different kinds of pregnancy issues have been identified. Issues like spontaneous abortion, pressure fluctuations, low birth weight, increased or reduced level of amniotic fluid, amenorrhea, breech and pre tem delivery and anaemia are found to be common and are part of the pregnancy process. The primary health rights have been neglected in 123 cases and some of the pregnancy related complications could be protected if their primary health rights were ensured. 5 cases of female foeticide have been identified which are not being explicitly incorporated in the MDGs. 11 still births have been reported. Some birth defects (26) and low birth weight of babies (51) could have been avoided if proper preventive care (for eg, avoiding smoking, tobacco, proper rest) and medicines were taken. Prevalence of contraceptives is very poor (55 users) and anemia is quite common (71). Decision making problem is predominant (96 cases). It is seen that even if the women are aware of their primary health rights they do not have decision making power. Issues like minor genital infections, irregular menstruation, ovarian cyst, urinary tract infections, abnormal vaginal discharge, painful intercourse and
unprotected sex are never discussed in the households. Women who do not have the decision making ability are the worst sufferers. Either they chose not to disclose the above issues or they try to get the opinion of their husband. Their opinions are never given importance. Care of women during pregnancy is a very common practice but the primary health rights of women are not always ensured. Only 98 respondents are aware of their primary health rights. If the primary health care was properly taken many adverse health conditions could have been avoided both during and after pregnancy. Cardiac conditions, pressure fluctuations, diabetes, hormonal diseases, different genital infections, pre-existing conditions of illness, bronchitis, asthma, nerve disease, and other gynecological issues are always neglected. Most of the women visited doctors only when the condition became serious and most of the treatment is done during pregnancy. Mental health issues have not been addressed by the women and their family members. The issue of spontaneous abortion has been found in 6 respondents, 64 of them did not have enough rest and proper nutrition during pregnancy. Different pregnancy complications have been found in course of study like breech and preterm delivery (14 cases), polyhydraminos or very low level of amniotic fluid (7 cases), perinatal asphyxia or lack of oxygen (5 cases), irregular fetal movements (5 cases), placenta accreta (3 cases), birth defects (both congenital and others (26 cases), low birth weight of the baby (51 cases) and eclampsia (3 cases).

5 cases of female foeticide, total number of stillbirths is 12 and 59 cases of son preference have been found. This is a very critical issue which has not been addressed in the Millennium Development Goals. Low spacing between two children is very common (27 cases). Most of the women are not aware of the rights regarding spacing of born babies and this important factor has not been featured in the Millennium Development Goals. 2 cases of thalasemia, 1 case of hemophilia and 2 cases of HIV positive mothers have been found in the
study. There is always high risk of transmission of these diseases from mother to child. The post natal care is very important in this respect. MDGs only considers the AIDS problem among the three diseases mentioned above. These are very crucial for prospecting mother and child health.

7.4: Analysis: Certain pre existing health conditions of the respondents were not addressed properly during pregnancy. It was noticed that because of the pre existing health issues the women had several complications during their pregnancy. If the problems were addressed beforehand they would not perhaps had faced difficulties during childbirth. Spontaneous abortion had taken place due to negligence and excessive work pressure. Pregnancy has always given priority neglecting the primary health rights of women. If we study from a feminist perspective we can say that motherhood has always been glorified and child bearing role of women has always been given importance. The patriarchal society always tries to celebrate women's motherhood. Women who could not bear a child are always looked down upon. The women who could not reproduce a child is always stigmatized. But the patriarchy remains silent about the men’s role in reproduction. The basic health care of women is not always given importance. Women always eat last in a patriarchal family setting and they consume less nutritious food compared to males. Their decision making ability is very low in respect of their health status which includes primary, reproductive and sexual health. There is disapproval by male partners regarding contraceptive usage (Bongaart and Bruce, 1995) Women’s low social status and economic dependence on men made it difficult for the respondents to negotiate safe sex and safeguard their reproductive rights as pointed out by Bharat & Aggleton (1999). Thus there is a direct relationship between women’s social status and their health status, social inequality and health inequality. Women’s role as mothers and caregivers consume most of their energy. This results in their health negligence. Further a
large number of social vulnerabilities including early fertility, closely spaced pregnancies and low social and economic participation jeopardise their health status. (Wang & Pillai, 2001) The women cannot exercise their sexual and reproductive rights and sometimes they are forced by their family members to conceive or even termination of pregnancy. Son preference is prevalent among some of the respondents and their family members.

The need to empower women through social policies is thus essential for successful public policies designed to improve women’s reproductive health. The provision of women’s reproductive rights and readily accessible women’s reproductive health services is a crucial function of public health programmes and policies, the success of which depends on their effectiveness to address the social, economic and political vulnerabilities that jeopardise the health of select subpopulations and groups (Mosely & Cowley, 1991)

7.5: Detailed Analysis

The findings have been supported by Partition analysis (JMP Software) to understand the most important factor influencing their health status:

A. Correlation of “Primary Rights Neglected” to input variables:

A1. Description of the Input Variables:

The Input variables are as follows:

- Age at Marriage, Age at first child birth, Education, Decision Making Problem, Nutritional Deficiency, Health Awareness and Perception.

Top 3 input variables correlated to “Primary Rights Neglected”: are:
- Nutritional Deficiency (G^2 ~ 21.8)
- Health Awareness and Perception (G^2 ~ 11.3)
- Decision Making (G^2 ~ 8.4)

Overall RSquare of 3 Splits is low at 0.30

Split sequence:

1. Nutritional Deficiency 2 (G^2 ~ 21.8)
2. Health Awareness and Perception (G^2 S ~ 11.3)
3. Decision Making (G^2 ~ 8.4)

**A2. Analysis of the Figures:**

**Fig. 11 Partition for Primary Rights Neglected**
Source: Computed from Survey Data

Fig. 12: Split History

![Split History Graph]

Source: Computed from Survey Data

Fig. 13: Column Contributions

<table>
<thead>
<tr>
<th>Term</th>
<th>Number of Splits</th>
<th>G^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutritional Deficiency 2</td>
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</tr>
<tr>
<td>Health Awareness and Perception 2</td>
<td>1</td>
<td>11.303523</td>
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<tr>
<td>Decision Making Problem</td>
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<td>8.380495</td>
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<td>Age at first child birth</td>
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</tr>
<tr>
<td>Education</td>
<td>0</td>
<td>0.000000</td>
</tr>
</tbody>
</table>

Source: Computed from Survey Data

Fig. 14: Split Details:
Source: Computed from Survey Data

A3. Need for Correlation and Partition Analysis: Correlation represents the degree of relationship between two variables. But correlation does not mean causation. In this case the correlation between the primary rights neglected to input variables like Age at Marriage, Age at first child birth, Education, Decision Making Problem, Nutritional Deficiency, Health Awareness and Perception have been found. If we study the correlations we can find out which factor is mostly influencing the primary rights neglected. Correlation establishes the relationship between two variables. Many important questions can be answered if we study the correlation. Why the women are behaving in a certain manner can be understood if we study the correlation because it gives the degree of relationship between two variables.

The Partition platform recursively partitions data according to a relationship between

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This is a decision tree report for Categorical Response. You can set one variable as a response function or output (primary rights): all other variables of interest are treated as input: (Age at Marriage, Age at first child birth, Education, Decision Making Problem, Nutritional Deficiency, Health Awareness and Perception) the method makes a single pass through the data and creates the most likely and least likely. Going down the left branch, the lowermost leaf is the most likely event. I stopped the splitting when the sample size becomes too small (27 in this analysis). Since this is a categorical response instead of a continuous response, a \( G^2 \) value (likelihood ratio chi square) is provided instead of \( R^2 \) (usual correlation coefficient). For similar partition analysis of Chapter 7, 8 and 9 please refer to this figure and footnote 14 See www.socialresearchmethods.net/kb/statcorr.php
the $X$ and $Y$ values, creating a tree of partitions. It finds a set of cuts or groupings of $X$ values that best predict a $Y$ value. It does this by exhaustively searching all possible cuts or groupings. These splits (or partitions) of the data are done recursively forming a tree of decision rules until the desired fit is reached. This is a powerful platform, because it chooses the optimum splits from a large number of possible splits.

The platform offers three methods for growing the final predictive tree:

Decision Tree, Bootstrap Forest and boosted Tree\textsuperscript{15}

**A4. Explanation:** We can see from the above partition analysis, scatter diagrams and column contribution that physical health is strongly correlated with nutritional status of respondents. Women who have better nutritional status have better physical health status. (\(G^2 = 21.8\)). Their primary health rights are ensured due to their good nutritional status. From the literature also it can be found that nutrition plays a very important role for the women of child bearing age especially pregnant women and lactating mothers. Female vulnerable position and exploitative processes begun in childhood which in fact, add on to the problems of various age groups. It is the ill-fed malnourished girl who becomes a sick, overworked, self denying mother, who then enters the post reproductive phase, carrying the burden of ill-health (Qadeer, 1998).

In this category all the women are admitted for pregnancy. So their nutritional status is a very good indicator of their physical health status. 64 did not have proper nutrition during pregnancy and they also took insufficient rest. Thus the women who eat nutritious food have better health and their primary health rights are ensured.

\textsuperscript{15} See Partition Methods and Partition Models from \url{http://www.jmp.com/support/help/Partition\_Method} and \url{http://www.jmp.com/support/help/Partition\_Models.shtml}
The second most important factor influencing physical health is health awareness and perception of women. \( (G^2 = 11.3) \) The perception of women have a strong correlation with physical health. Women who are aware of their health needs have better physical health. The women who do not have strong perception and awareness do not have a good health status. 96 of the respondents were not aware about their primary health rights including reproductive rights. But awareness does not always mean that they can make their own decisions. Here the third most important factor influencing physical health is decision making ability of women \( (G^2 = 84) \). The women who have the right to choose can make their own decisions. Their options and behaviours regarding reproductive health are not restricted when they can make their own decisions. \( \) (Sen, 2007) They practise their own choices regarding health care.

**A5: Discussion:** In this particular category of women it is not always true that women who are aware can make their own decisions. But the percentage of women who have awareness and information is more than the percentage of women who can make their own decisions and choices, The reason may be that the women are pregnant and their choices are often wishfully accepted by their husband and their family members. Since they are future mothers their wishes are accepted in the society so their decisions are often considered by their family members which may not be the case for the women who are not pregnant or not mothers.

**B. Correlation of “Nutritional Deficiency” to input variables**

**B1: Description of Input Variables:**

The Input variables are:

- Age at Marriage, Age at first child birth, Decision Making Problem, Health Awareness and Perception, Profession.

Top 3 input variables correlated to “Nutritional Deficiency”:

- Profession \( (G^2 \sim 21.2) \)
– Decision Making Problem ($G^2 \sim 20.8$)
– Age at first child birth ($G^2 \sim 13.5$)

Overall $R$-Square of 3 Splits is low at 0.23

Split sequence:
1. Decision Making Problem ($G2 \sim 20.8$)
2. Age at first child birth ($G2 \sim 13.5$)
3. Profession ($G2 \sim 21.2$)

**B2: Analysis of the Figures:**

**Fig.15 Partition for Nutritional Deficiency**

Source: Computed from Survey Data
Fig. 16. Split History

Column Contributions

<table>
<thead>
<tr>
<th>Term</th>
<th>Number of Splits</th>
<th>G^2</th>
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</thead>
<tbody>
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<td>Profession</td>
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<td>Decision Making Problem</td>
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<td>Age at first child birth</td>
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<td>13.486481</td>
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<tr>
<td>Health Awareness and Perception</td>
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<td>0.000000</td>
</tr>
<tr>
<td>Age at Marriage</td>
<td>0</td>
<td>0.000000</td>
</tr>
</tbody>
</table>

Fig. 17. Source: Computed from Survey Data

Fig. 18. Split Details:
Source: Computed from Survey Data

B3: Explanation: We can see from the above partition analysis, scatter diagrams and column contribution that nutritional status is strongly correlated with the profession of respondents. Women who are engaged into any kind of professions have a better nutritional status.. \((G^2 = 21.2)\). Their primary health rights are ensured due to their good nutritional status.

B4: Discussion: From the literature it can be found that women’s reproductive health is related to their socio economic position in the society. In traditional societies women’s self-perception has been assiduously nurtured to make her labour for 'love' to protect her dear ones. Any demand for help and support in performing her tasks, or for change in the nature of the task itself means shifting the power balance. For this, support must come either from within or from outside. Those who attempt to intervene from outside must also evolve external support systems and recognise the importance of simultaneous action at social and family levels. These support systems can be developed only when one takes up issues of entitlement, wages, work, and education which make women's assertion plausible not just for reproductive health but social, economic, and political rights as well (Qadeer, 1998).

In the study total 130 women are engaged in different kinds of professions. Most of them have a better nutritional status compared to the women staying a home. It is a very interesting factor. In course of the interview it was observed that women who stay at home are burdened with household works. But the women who work outside had a chance to do less physically consuming jobs. They could take rest during their work period and have nutritious food. While the women who stayed at home depend on their husbands and other family members for nutritious foods, but the women who are financially independent had the purchasing power to buy their own choices of nutritious food. It may be a reason why they have a better nutritional status compared to the other category of women. This study also
highlights the issues of self perception and social and economic positions of women. Women who are economically independent has a better health status including their reproductive health. External supports can be developed from the fields of education and occupation which gives women entitlement and empowerment which obviously includes health empowerment.

**B5: Explanation:** The second most important factor influencing nutritional health status is decision making ability of women.\( \left( G^2 = 20.8 \right) \). It was found that 96 women cannot take their own decisions. Nutritional deficiency is strongly correlated with decision making ability. Women who cannot make their own decisions have a lower nutritional status.

**B6: Discussion:** Study shows that as long as if women lag behind men in terms of their social and economic power, they may not be able to make independent reproductive decisions (Wang & Pillai, 2001). The social and political forces often work through women by constraining their options including their reproductive choices (Sen, 1994). In this study we found that women’s decision making ability is controlled by patriarchal relations within the families. Women cannot make independent decisions even if they are aware of their rights. This tend to decrease women’s power and status in the households as mentioned in (Hartmann, 1998).

**B7: Explanation:** The third most important factor influencing nutritional status of women is age at first child birth \( \left( G^2 = 13.4 \right) \). We know that nutrition plays a very important role for the women of child bearing age especially pregnant women and lactating mothers. Women who are married during adolescents and have their first child before attaining adulthood have poor nutritional status compared to those who have their first child after being adult.
**B8: Discussion:** Women's poor nutritional status, high prevalence of anaemia, and communicable diseases complicate reproductive health. (Qadeer, 1998). Early childbearing also pose a threat on women’s health and longevity (Menken et al, 2003). In Bangladesh, early childbirth significantly delayed growth among adolescents (Riley 1990, 1994). Very young mothers have greater risks of complications during delivery (Menken, 2003). In this category all the women are admitted for pregnancy. So their nutritional status and age during first pregnancy determines their physical health status. The study shows that women who are married early become pregnant early. Their nutritional status is poor and they are burdened with household chores. Very few of them are working outside. They do not have any choice over the food they eat. Their mind and body is not developed for child bearing. Many of them are anaemic (71) and 64 of them have nutritional deficiencies. Out of 140 women who are pregnant for the first time, 86 of them are pregnant for the first time between 18-20 years.

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