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STUDY OF EFFECTS OF CHILD GENDER INEQUALITY ON MATERNAL HEALTH IN DIFFERENT CITIES OF PUNJAB

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ABSTRACT

The aim of this study is to test the general hypothesis that gender inequality (son preference) and difference in family behaviour after pregnancy have a significant influence on maternal healthcare utilization. Both qualitative and quantitative data from a field survey in 2018 from hospitals of Punjab area were used in the study. The findings give support to this hypothesis. For example, the extent to which the husband shares housework and show care and love, as an important marker of the women's position within the family, is positively associated with the likelihood that a woman receives prenatal examinations, stops heavy physical work before birth, and gives birth under aseptic conditions without any emotional burden of gender preference. Son preference is an impeding factor for maternal health care. Already having a son in the family reduces the chances that the mother will stop heavy physical work before birth for a subsequent pregnancy. Female infants with older sisters are the least likely to receive any kind of affection from family. Thus, the study provides further evidence that the child gender inequality concept has a negative impact on women and their families. This project is concerned with the interconnections between gender inequality and its effects on maternal health. This paper also focuses on the pathways that operate through undernourishment of the mother. Maternal deprivation and emotional disturbances adversely affects the health of the fetus, which in turn leads to long-term health risks that extend not just into childhood but into adulthood as well. The results of study show that gender inequality is largely affecting mother's health leading to different complications and high maternal morbidity rate. However, this preference for child gender is mostly tilted towards son preference as

compared to daughters. The son preference level is high in low educated families while this preference level is low in upper class families.

1. INTRODUCTION

The topic of Islam and children includes the rights of children in Islam, the duties of children towards their parents, and the rights of parents over their children. Prophet Muhammad was reported as saying: "Be fair and just in terms of the gifts you offer your children. If I was to give preference to any (gender over the other) I would have preferred females over males (in terms of giving gifts)". Rights of Children include:

- Children have the right to be fed, clothed, and protected until they reach adulthood.
- Children must have the respect, to enjoy love and affection from their parents.
- Children have the right to be treated equally, vis-a-vis their siblings in terms of financial gifts.

1.1 BACKGROUND

Women in Pakistan are particularly likely to suffer from depression and other common mental disorders. Prevalence in men is similar to that in other regions, but that in women is strikingly high; commonly more than half have clinically relevant symptoms. Women in Pakistan are two to three times likelier than men to suffer from common mental disorders, compared with a typical female to male gender ratio of 1.5 to 2.0 elsewhere. Socio-cultural rather than biological factors must be implicated. Male gender preference is deeply embedded in the culture of some countries. Boys carry the family name, can continue the family trade, and are expected to provide for their parents in old age. Married women typically live with their in-laws, and are expected to provide care and support to their husband's parents in their old age. Married sons are therefore a virtual necessity in countries with no state pension or welfare support for frail older persons. Conversely daughters are lost to their family of origin. The starkest indicator of male preference is the one hundred million 'missing women' worldwide. Slightly more boys than girls are born in every part of the world. Given equal care girls are hardier, so women predominate in most world regions; in Europe and North America there are 104 women for every 100 men in the population. However, in Pakistan (91 women for every 100 men), India (92/100), China (94/100), Bangladesh (94/100), and certain regions in North Africa (97/100) the opposite is the case. Female infanticide is an acknowledged but rare problem. More prosaically, girl babies are given less care,

nourishment and access to family resources than their brothers. They therefore experience higher mortality (Aftab *et al.*, 2012).

In Pakistan medical care is sought for children more frequently than for women, but more for sons than daughters. Critically ill male children were twice as likely as girls to be treated at hospital. In Indian Punjab, girls were breastfed for a shorter time than boys, received less high prestige food, and received medical attention later. The neglect of girls extends into later childhood and adolescence. In Pakistan, only 25% of women, compared with 49% of men have completed primary education. In urban Punjab, across all socio-economic strata female literacy is only around two-thirds that for men. For uneducated girls, 31% of parents 'did not agree' with the child attending school, compared with 7% of parents of uneducated boys. One reason for undervaluation of daughters is the cost of marriage incurred by her family. It seems plausible that un-favored daughters will be married off heedlessly and relatively young by their families. Early marriage limits educational opportunity, autonomy and financial independence. Women constitute only 28% of the Pakistani labor force. Female mortality during peak child bearing years (20-29 years) is twice as high as that for men of the same age. In summary, in Pakistan gender roles are exceptionally clearly defined. Son preference and daughter neglect prevails from birth. Gender disadvantage has pervasive effects across the life course, much of it mediated through poor care and restricted opportunity. Pakistani women also seem to have exceptionally poor mental health. Previous studies have sought to quantify the impact of gender disadvantage by comparing outcomes between boys and girls, with the implicit assumption that girls were generally disadvantaged (Aftab *et al.*, 2012).

1.2 Patterns of Gender Preference

Gender preferences exhibit a variety of patterns. Most common are a preference for sons and a preference for a balance of daughters and sons (often expressed as a desire to have at least one child of each sex). Son preference is particularly strong in a band of countries from North Africa through the Middle East and South Asia to East Asia. The strongest preference for sons has been found in India, Nepal, Bangladesh, Egypt, South Korea, and China. The diversity of these countries indicates that son preference does not emerge from a single set of cultural or historical experiences. Fig 1 shows the physical and financial pathways that lead to such patterns of preference. Even in countries with a strong son preference, many parents want to have one daughter among their children. An overall preference for daughters over sons is rare but has been found to exist to a small extent in a few countries in Latin America

and the Caribbean. Widespread preference either for sons or for daughters is not common in developed countries or in most countries in Latin America, sub-Saharan Africa, and Southeast Asia. In these areas, the most common survey responses to questions on the topic indicate a preference for an equal number of daughters and sons, at least one daughter and one son, or no preference at all. Where a preference for a gender balance is paramount, however, some parents prefer to have a son for their first child (Kazi *et al.*, 2000).

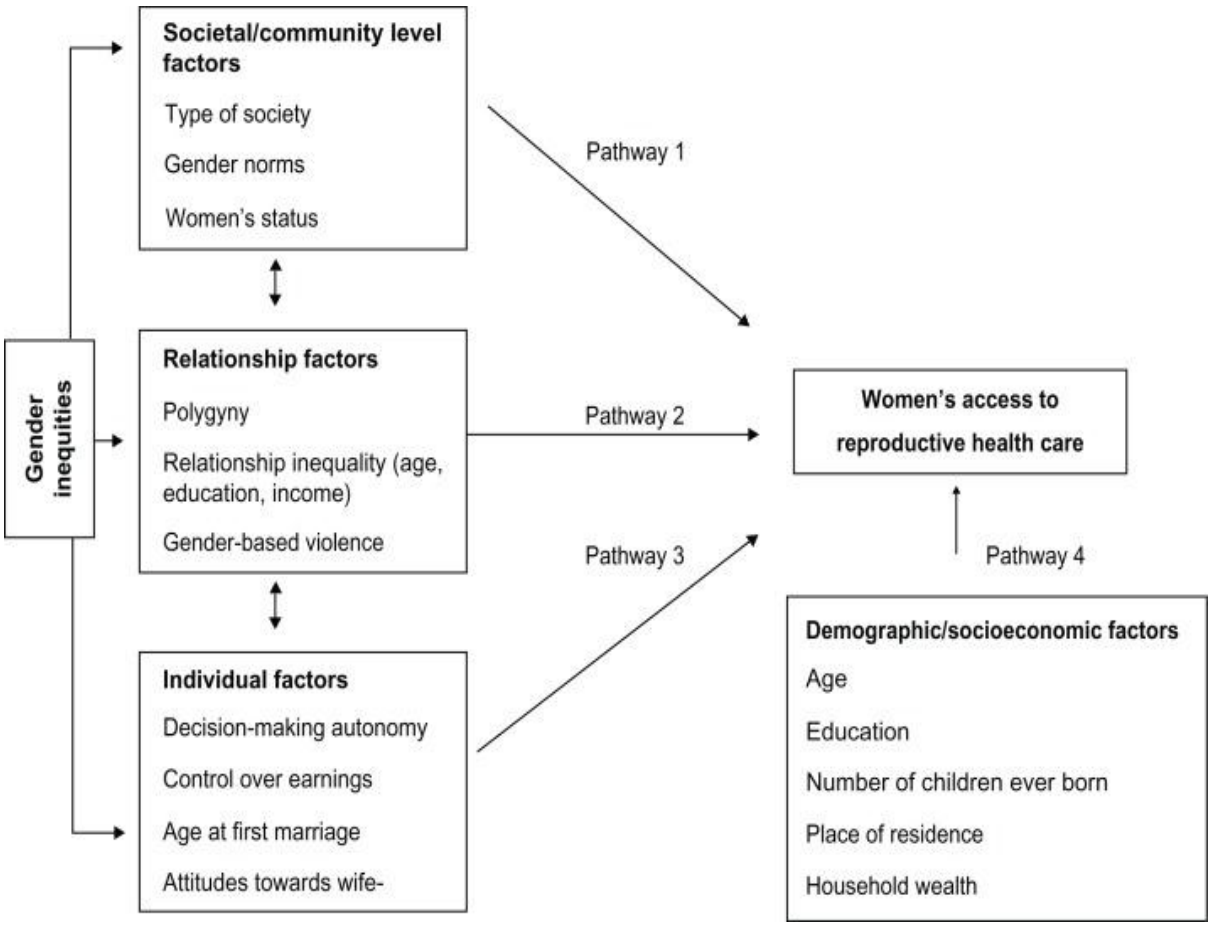

Figure 1: Physical and Financial Accessibility Pathways.

1.3 Value of Sons and Daughters

Gender preferences for children can be based on community norms or personal desires. Children of a particular sex are usually desired because they provide certain utilities (that is, satisfactions or tangible returns, primarily in the economic, social, psychological, or religious domains) or they entail smaller costs. Economic considerations often favor sons for their ability to help on the family farm or in the family business, to earn wages from work outside the home, and to provide support for parents when they get old. Sons may also be valued for their ability to help out the family in emergencies and help younger siblings through school.

Daughters are more likely to be valued for providing assistance with household chores and caring for younger siblings. Daughters are sometimes seen as a more reliable source of emotional support and even economic assistance to elderly parents, although in many cultures their services are lost to their parents on marriage. Marriage patterns often provide a strong (even an overriding) incentive for preferring sons in countries where large dowry payments are the norm and for preferring daughters where a substantial bride-price is required as is the case in some countries in Africa (Arck *et al.,* 2000).

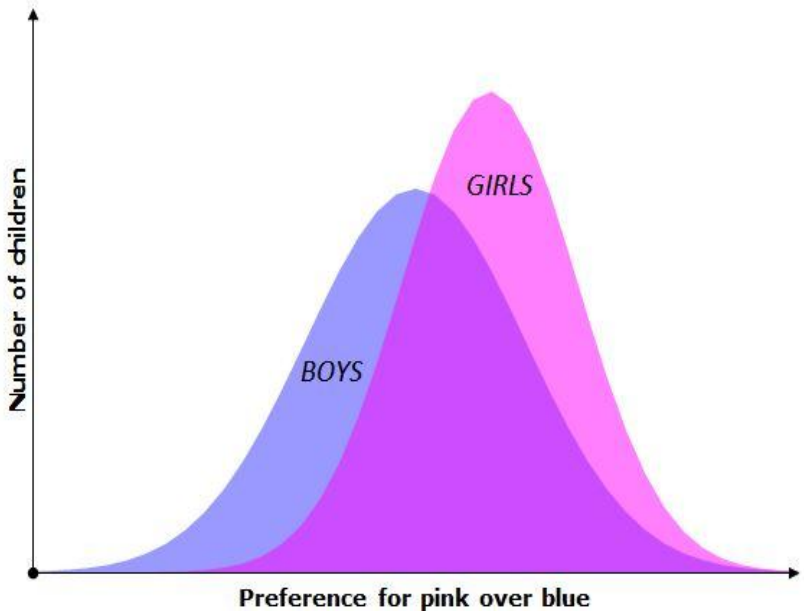

Figure 2: Hypothetical Preference Level.

In the social sphere, sons may be seen as useful for enhancing the power and prestige of the family and for carrying on the family line and the family name, and daughters may be wanted to "balance the family." Both daughters and sons may provide companionship and psychological satisfaction for parents, but women often express a particular desire for a daughter for companionship. Fig 2 represents the hypothetical gender preference level. Although both daughters and sons may be called on for the performance of religious rituals, many religions favor sons for performing religious functions at the time of a parent's death (e.g., burial rites or lighting of the funeral pyre) (Arck *et al.,* 2000).

1.4 Effect of Gender Preferences

One of the most contentious issues regarding gender preferences is the effect of gender preferences on demographic behavior and the extent to which preferences and their impact are likely to change over time. This effects the sustainability of society, environment and

economy as shown in Fig 3. On the one hand, it is argued that couples who have reached their desired family size may nevertheless continue having children if they have not yet achieved their preferred sex composition of children, thereby delaying the transition to low fertility. On the other hand, there are several examples of countries (such as Korea and China) that have achieved very low levels of fertility in a short span of time despite a continuing strong preference for sons. Gender preference is likely to intensify over time as fertility falls, but the evidence for this effect is not consistent across countries (Gupta *et al.*, 1997).

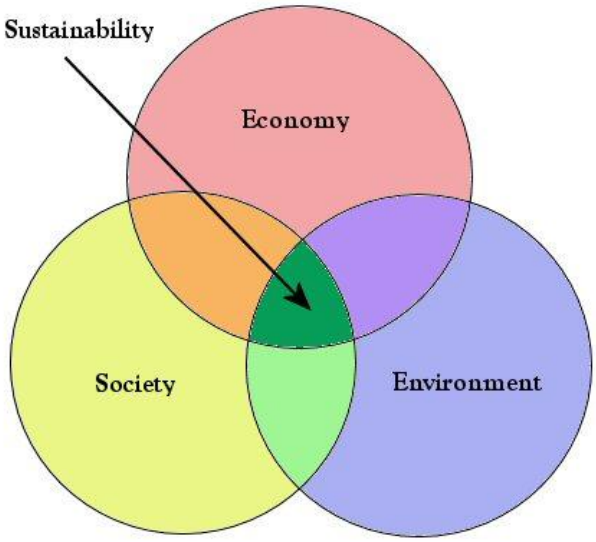

Figure 3: Representation of Sustainability.

There is no doubt that strong gender preferences may have an effect on such demographic outcomes as contraceptive use, fertility behavior, birth spacing, and the incidence of induced abortions, but the magnitude of these effects is uncertain. Fred Arnold has developed a measure to quantify the impact of gender preferences on demographic behavior. This measure is designed to assess what would happen if gender preferences were to suddenly disappear in a country. Application of the measure in a number of countries with a strong preference for sons demonstrates that gender preferences can reduce levels of contraceptive use and increase fertility, but that gender preferences are not likely to be a major obstacle to fertility decline (Gupta *et al.*, 1997).

One other consequence of gender preferences is the increasing use of sex-selective abortions (and, more recently, chromosome separation techniques applied to the sperm prior to artificial insemination) to achieve the desired number of daughters and sons. In China, Korea, India and other under-developed countries selective use of abortion for female fetuses has resulted

in more masculine sex ratios at birth, leading to skewed sex ratios for children (particularly for younger children born into families that already have many children). Such a pattern may have various unfavorable social consequences in the future–not least, a "marriage squeeze" due to a shortage of marriageable women relative to men (Gupta *et al.*, 1997).

1.5 Differential Treatment of Girls and Boys

If parents prefer children of a particular sex (usually sons), they might give favored treatment to those children in health care, nutrition, educational opportunities, or other areas. The ratio of preference between the two sexes in shown in Fig 4. In most countries, children receive approximately equal treatment regardless of their sex and the nature of gender preferences in the society. There is ample evidence, however, that in some countries with a strong son preference, boys are often given preferential treatment with respect to medical care, educational opportunities, and (less often) food allocation. In disparate ways, gender inequality survives in most parts of the world in different forms, from Japan to Zambia, from Ukraine to the USA. However, in some areas, such as North Africa and Asia (including China), gender inequality directly involves matters of life and death, and takes the brutal form of unusually high mortality rates of women, and a consequent preponderance of men in the total population. In serious cases, discrimination against girls may result in an increased risk of infant and child mortality. In most countries, male mortality is higher than female mortality at almost every age, but in high-mortality countries, females often have an appreciably reduced advantage or even a higher mortality than males during childhood. This pattern is particularly pronounced in South Asia and Egypt. The precise reason for higher than normal mortality among young girls relative to boys in these countries is not certain, but discrimination against girls, particularly in health care, must be considered the most likely cause. By drawing on the experience of Asia, where gender inequality finds a particularly sharp expression, we argue that gender discrimination hurts not just women, but imposes a heavy economic cost on the society by harming the health of all, including that of men. Asia is currently undergoing an ‘overlapping health transition’, in which a new regime of diseases is gaining prominence even as the old regime continues to wreak havoc. Gender discrimination aggravates both regimes at the same time—albeit through different pathways—and thereby raises the economic cost of managing the health transition (Tabutin *et al.*, 1995).

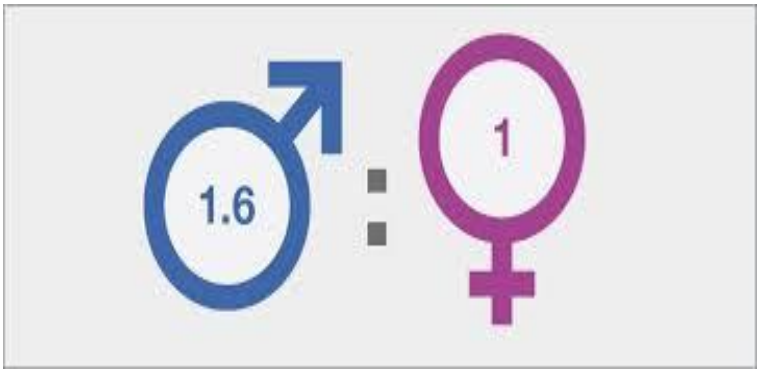

Figure 4: Male and Female Ratio.

Maternal deprivation adversely affects the health of the fetus, which, in turn, leads to long-term health risks that extend beyond childhood into adulthood as well. There are, however, important differences in the way children and adults experience the consequences of maternal deprivation via fetal deprivation. In particular, the pathways that lead to their respective risk factors and the circumstances under which those risk factors actually translate into ill-health are very different. One way of understanding these differences is to refer to the notion of 'health transition' that many developing countries are currently experiencing (Tabutin *et al.*, 1995).

1.6 Five Stylised Facts of Inequality

Sen and Sengupta (1983) may begin by noting five substantial phenomena that are quite widely observed in Asia:

1.6.1 Greater Undernourishment of Girls than Boys

At the time of birth, girls are no more nutritionally deprived than boys are, but this situation changes as society's unequal treatment takes over: girls fall nutritionally behind in most areas of Asian countries according to aggregate statistical evidence. But there has been some anthropological scepticism of the appropriateness of using aggregate statistics with pooled data from different regions to interpret the behaviour of individual families. There has also been some understandable reluctance to accuse South Asian families of serious impropriety and deeply unjust behaviour without evidence on the micro level. This raises two distinct issues. First, are the aggregate findings vindicated by "micro" investigations that compare individual families within the same neighbourhood? Second, how precisely do we interpret the mechanism of family decisions that possibly generate the relative deprivation of girls? There have actually been some detailed micro studies on this issue, which do not contradict the results of aggregate statistics (Sen *et al.*, 1983).

One case study from India involved the weighing of every child in two large villages. The study used weight-for-age as an indicator of nutritional status of children under five, and showed clearly how an initial condition of broad nutritional symmetry turned gradually into a significant female disadvantage. Following the same methodology, a subsequent survey a decade later in the same villages (plus four additional ones) demonstrated the continued existence of female disadvantage despite an overall improvement in the nutritional status of both boys and girls. Hence, the microstudies tend to confirm the patterns that emerges from aggregate statistics. Regarding the second issue, it is important to emphasise that the lower level of nourishment of girls may not relate directly to their being underfed vis-a-vis boys, and the differences may particularly arise from the neglect of heath care of girls compared with that of the boys. There is some direct information of comparative medical neglect of the girls vis-a-vis boys in South Asia. Undernourishment may well result from more morbidity, which can both adversely affect the absorption of nutrients and the retention of bodily functions. This can either add to asymmetries of food consumption, or work on its own, without any food asymmetry. In either case, there is clear evidence of anti-girl bias in family behaviour no matter what the exact causal mechanisms underlying it are. One way or another, the social norms and individual behaviour in most of the Asian countries seem to permit considerable gender bias (Sen *et al.,* 1983).

1.6.2 Higher Maternal Undernourishment

Women of reproductive age suffer more from undernourishment in South Asia than in other regions of the world as indicated by the Body Mass Index (BMI) shown in table 1. Even with a number of different cut-off points used to indicate mild, moderate and severe undernutrition, it is remarkable that the prevalence of female undernutrition is consistently far higher in Bangladesh than in any other developing country for which comparable data are available. Over half the women of reproductive age in Bangladesh are undernourished, whereas the highest prevalence of undernutrition in the countries of Sub-Saharan African is around 20% (Sen *et al.,* 1983).

Table 1: Consequences of Maternal Under-nutrition.

Maternal consequences	Child consequences
. Increased risk of maternal death . Increased infections . Anaemia . Compromised immune functions . Lethargy and weakness . Lower productivity . Lactational failure	. Increased risk of foetal and neonatal deaths . Intrauterine growth retardation . Low birth weight . Pre-term birth . Compromised immune functions . Birth defects . Cretinism and reduced IQ

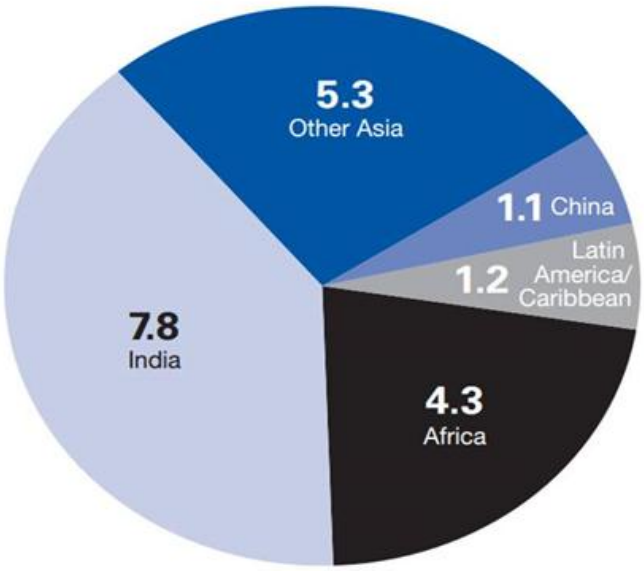

Figure 5: Ratio of Females Suffering From Anaemia.

Another indicator of the especially severe health and nutritional disadvantage suffered by the South Asian women is the incidence of anaemia, which can reflect both dietary deficiency and the deleterious effect of infection on iron utilisation. The incidence of anaemia is much greater in the Sub-continent compared even with other poor countries in the world, including Sub-Saharan Africa shown in Fig 5 (Sen *et al.*, 1983).

1.6.3 Greater Incidence of Low Birth Weight

It is also found that South Asia has the highest incidence of low birth weight (LBW) babies, compared with all other regions in the world. About 21% of the infants born in South Central Asia had low birth weight, nearly twice the average for all developing countries, and considerably higher than the figures for any other developing region for which data are available. In addition, country-specific data in the WHO global database indicate very high prevalence of low birth weight in South Asian countries separately. For instance, in Bangladesh the prevalence is as high as 40 % (Sen *et al.,* 1983).

1.6.4 Larger Incidence of Child Undernutrition

South Asia suffers from the worst incidence of child undernutrition among all regions of the developing world, including Sub-Saharan Africa, mentioned in table 2. In 1980, nearly half of the under-five children of South Asia were underweight, as compared to less than a third in the developing world as a whole, including Sub-Saharan Africa. Separate estimates of chronic undernutrition (measured by stunting or low height-for-age) and acute undernutrition (measured by wasting, or low weight-for-height) also indicate a particularly dismal situation in South Asia. The prevalence of undernutrition in South Asia has actually been declining faster in the recent decades compared to all other developing regions. Yet, the initial level of undernutrition was so high that it still remains the highest. This phenomenon has perplexed many observers, because South Asia should not fare worse than Sub-Saharan Africa on the basis of conventional determinants of child undernutrition—such as income, food availability, provision of health care, and education. This paradoxical phenomenon has come to be known as the 'Asian enigma' (Sen *et al.,* 1983).

Table 2: Incidence of Child Undernutrition.

Region/Country	Severe	Moderate	Mild
Africa			
Benin	1.2	2.1	2.6
Burkina Faso	0.6	1.1	10.8
Central African Republic	1.2	2.2	15.8
Chad	2.1	3.2	1.8
Comoros	0.6	4.6	11.9
Cote d Ivoire	0.7	1.1	4.1
Egypt	1.1	2.1	1.2
Ghana	0.8	3.2	1.1
Kenya	0.8	2.2	6.8
Madagascar	0.5	1.1	9.0
Malawi	0.4	1.1	3.3

Namibia	1.1	0.8	5.8
Niger	0.9	0.8	9.1
Tanzania	0.7	0.9	8.2
Uganda	0.8	1.9	6.1
Zambia	0.1	1.4	7.2
Latin America			
Bolivia	0.7	2.2	1.1
Brazil	1.1	1.1	6.8
Colombia	0.8	1.1	9.0
Dominican	0.8	0.8	3.3
Guatemala	0.9	0.8	5.8
Haiti	0.2	4.4	9.1
Hondurus	2.3	2.2	8.2
Mexico	0.7	4.8	6.1
Nicaragua	3.7	8.6	9.0
Peru	1.1	6.9	3.2
Asia			
Bangladesh	9.5	13.5	28.1
Nepal	2.9	4.5	19.7
Uzbekistan	1.4	1.2	8.7
Pakistan	2.9	5.4	18.4

1.6.5 Larger Incidence of Adult Ailments

The phenomenon of 'health transition' has been sweeping through South Asia along with other regions of the developing world, bringing with it the emergence of new diseases such as diabetes and cardiovascular diseases. The South Asians suffer more from these diseases than many others who have progressed further along the path of transition, as indicated by the extent of fertility decline, population ageing and income growth, table 3. A number of studies on the ethnic pattern of mortality in the United Kingdom have demonstrated that people born in South Asia have a much higher incidence of mortality from cardiovascular diseases than for any other ethnic group, and that this difference cannot be explained by the traditional risk factors associated with such diseases. Gender bias also plays a great role in these diseases, shown in the Fig 6 (Sen *et al.*, 1983).

Table 3: Adult Ailment Ratio.

Region/Country	Male	Female	All
India	7.1	7.1	7.8
China	5.1	5.3	5.4
Pakistan	5.0	4.6	4.7
Africa	4.9	5.2	5.3
America	6.0	5.9	5.8
Middle Eastern Crescent	10.0	7.5	10.5

Transition Economics	6.8	10.2	7.9
Developed Economics	6.9	6.9	6.5
World	6.3	6.7	6.6

More recently, evidence collected for the "Study on the Global Burden of Disease" has indicated that this pattern holds true for the adults born and residing in South Asia as well. South Asia is the only developing region in the world that has a mortality rate from cardiovascular diseases that exceeds the rate for the developed world. The Indian rate is higher than that of China, even though the traditional risk factors such as animal fat consumption, smoking, and obesity are much higher in China (Sen *et al.*, 1983).

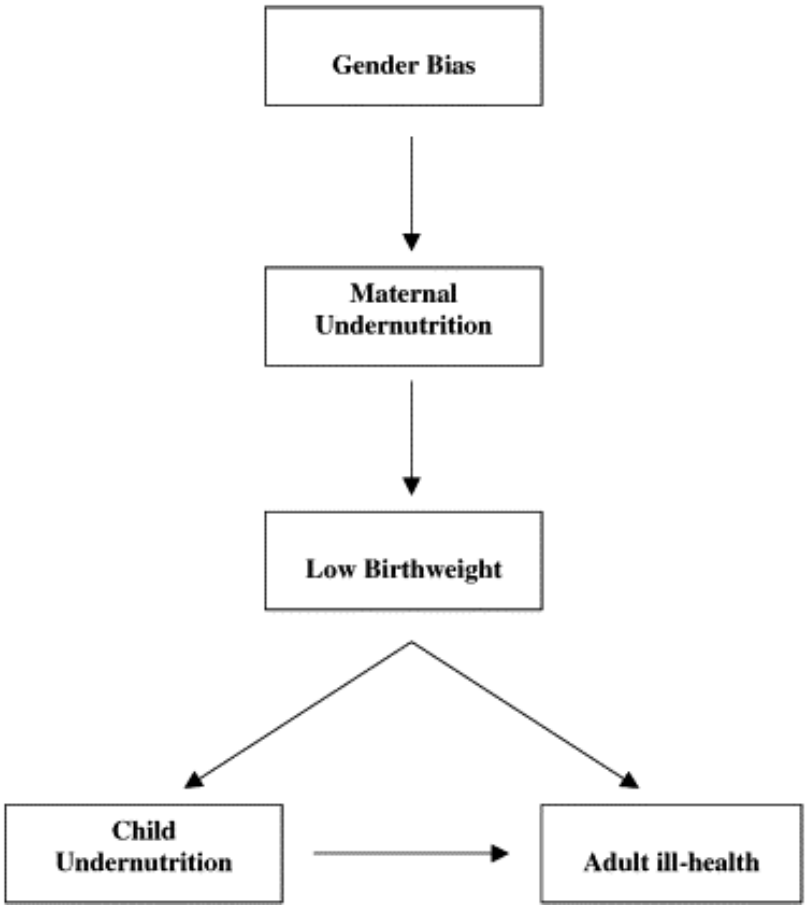

Figure 6: Effects of Gender Bias.

1.7 The Neglect of Women and its Many Penalties

The penalties of gender bias are indeed extensive. Not only is gender inequality itself— first and foremost—a major social failure and transgression, it also leads to many other adverse consequences, such as;

- Increasing the mortality rates, of women in particular, but also of others (child mortality relates directly to women's education and literacy)

- Contributing to high fertility rates (indeed women's empowerment is one of the strongest influences in cutting birth rates)
- limiting the strength and coverage of economic progress (many of the successful experiences of rapid economic activities have crucially depended on women's initiative, particularly in East and South-east Asia, but increasingly also in other countries, including Bangladesh)
- Impairing political participation and the practice of democracy, there is much evidence, not least from South Asia, that a greater role of women in grass-root politics can help to change the agenda of social discourse (Ramalingaswami *et al.,* 1996).

1.8 Maternal Health

Maternal mortality is the most important indicator of maternal health and well-being in any country. The World Health Organization has defined maternal mortality as "the death of a woman while pregnant or within 42 days of a termination of a pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental and incidental causes" (WHO, 2000).

Available evidence indicates that Asia has some of the worst statistics relating to maternal mortality in the developing world. Worldwide, an estimated half a million women die each year from complications of pregnancy and childbirth. In the year 2000, the maternal mortality ratio per 100,000 live births in Asia was 800. The corresponding figures for Bangladesh and South Africa were 540 and 240 respectively. By 2003, the maternal mortality ratio in Colombia had risen to 948/100,000. Indeed, (with a range of 339/100,000 to 1,716/100,000), Nigeria's maternal mortality rate is considered to be 'one of the highest in the world'. The major causes of maternal mortality in these areas were haemorrhage (23 percent), infections (17 percent), malaria (11 percent), anaemia (11 percent), abortions (11 percent), toxaemia (11 percent), cephalo pelvic disproportion (11 percent) and others (WHO, 2004).

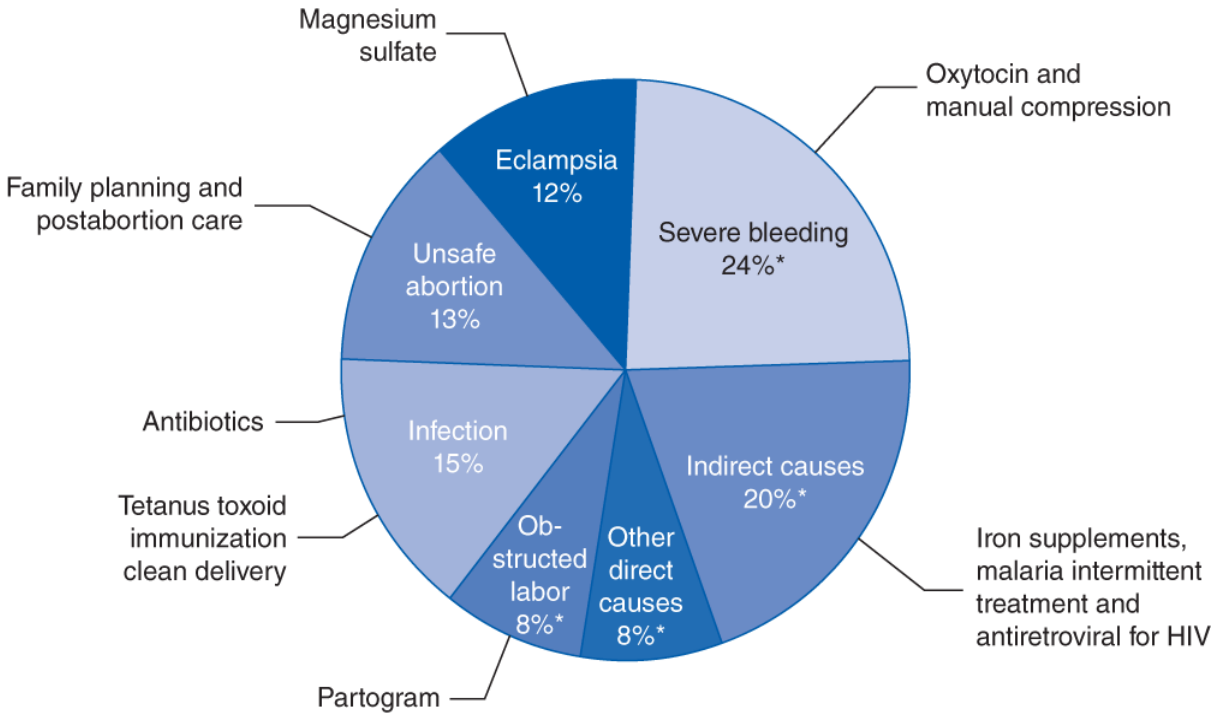

Figure 7: Factors Affecting Maternal Health.

This variation of maternal mortality rates across geo-political zones is not surprising considering the fact that access to antenatal and postnatal care by type of provider as well as attendance of a mother during birth by type of health personnel show that the North East and the North West geo-political zones had the lowest rates. In the case of access to antenatal care, only 5.4 percent of women were attended to or had access to a doctor. A large number of women (59 percent) were not attended to or by anyone. Another important indicator of maternal health is maternal morbidity. Maternal morbidity is defined as "chronic and persistent ill-health occurring as a consequence of complications of pregnancy and childbirth". Available evidence indicates that for every woman who dies during childbirth, another 30 suffer long term damage to their reproductive organs, Fig 7. A classic example is obstetrics fistula, which is the development of a permanent connection between the vagina and bladder and/or rectum, with continuous leakage of urine and/or faeces through the vagina, most produced as a result of women having experienced prolonged obstructed labour (Lopez *et.al.*, 1996).

1.9 Factors Influencing Maternal Health

It consist of following factors;

1.9.1 Pre-existing conditions

- Maternal HIV rates vary around the world, ranging from 1% to 40%, with African and Asian countries having the highest rates. Whilst maternal HIV infection largely has health implications for the child, especially in countries where poverty is high and education levels are low, having HIV/AIDS while pregnant can also cause heightened health risks for the mother. A large concern for HIV-positive pregnant women is the risk of contracting tuberculosis (TB) and/or malaria, in developing countries (Ramalingaswami *et al.*, 1996).
- Gestational weight gain should typically fall between 11–20 pounds (5–9 kg) in order to improve outcomes for both mother and child. Increased rates of hypertension, diabetes, respiratory complications, and infections are prevalent in cases of maternal obesity and can have detrimental effects on pregnancy outcomes. Obesity is an extremely strong risk factor for gestational diabetes. Research has found that obese mothers who lose weight (at least 10 pounds or 4.5 kg) in-between pregnancies reduce the risk of gestational diabetes during their next pregnancy, whereas mothers who gain weight actually increase their risk (Lopez *et.al.*, 1996).
- Oral health has numerous implications on overall general health and the quality of life of an individual. The Surgeon General's Report lists various systemic diseases and conditions that have oral manifestations. The oral cavity serves as both a site of and a gateway entry of disease for microbial infections, which can affect general health status. In addition, some studies have demonstrated a relationship between periodontal diseases and diabetes, cardiovascular disease, stroke, and adverse pregnancy outcomes. Furthermore, the report establishes a relationship between oral health and quality of life, including functional, psychosocial, and economic indicators. Poor oral health can affect diet, nutrition, sleep, psychological status, social interaction, school, and work (Ramalingaswami *et al.*, 1996).

1.9.2 Poverty

Poverty is a state of marginalization and deprivation in the conditions needed to make life meaningful for individuals as members of distinct social groups, Fig 8. Poor people not only run the risk of more frequent ill-health, they face the possibility of premature death more than those at the top of the social ladder. The risk of illness and premature death is indeed twice as high among the poor as among the rich. Since poverty is often a convergence of the absence of several factors and conditions needed to maintain life at an appropriate level, poor people

also suffer from diseases that do not or hardly affect those at the top of the social ladder. Thus morbidity and ill-health and mortality arising from malaria, tuberculosis and diarrhea are likely to be more prevalent among the poor than among the rich. It has also been shown for example, that HIV/AIDS has a higher prevalence among the poor than among the rich (Lopez *et.al.*, 1996).

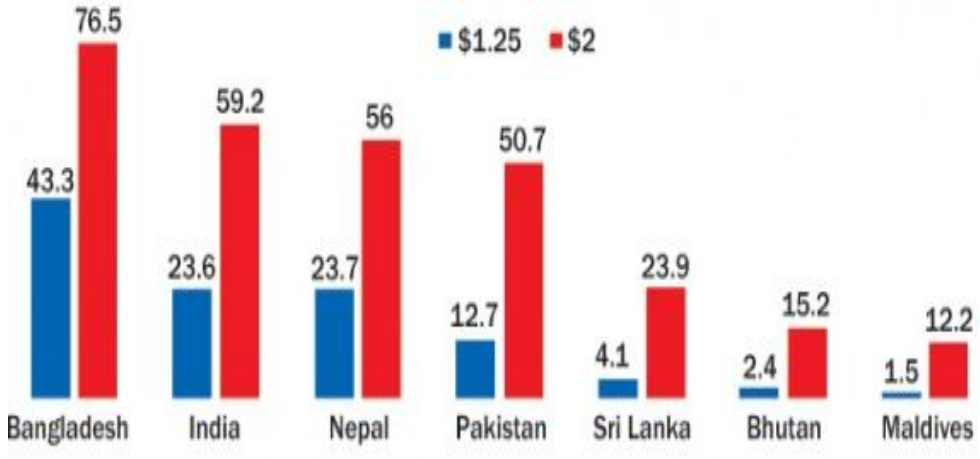

Figure 8: Poverty in South Asia.

Poor people are also more likely to be hungry and the children of the poor therefore suffer more from malnutrition. Poverty also has implications for access to health facilities and treatment. Poor people are less likely to be able to afford the cost of treatment for most diseases and where an illness becomes protracted and treatment becomes costly, the poor are likely to resign themselves to faith and death (Ramalingaswami *et al.*, 1996).

1.9.3 Illiteracy

Illiteracy has major implications for ill health. Illiteracy is not only related to poverty; it also has implications for malnutrition, high infant and child mortality. It has been suggested that the probability of death among children born to illiterate mothers is two times as high as those born to literate mothers. There is also a strong correlation between education and life expectancy at birth. Thus, a majority of countries with a high education index also have a higher life expectancy at birth. Literacy rate is shown in table 4 (Lopez *et.al.*, 1996).

Table 4: Literacy Rate in Different Countries.

Country	Education Index	Life Expectancy in Years
Canada	0.99	79.1
Norway	0.98	78.3
Nigeria	0.64	74
Pakistan	0.55	50.1

Generally, established research findings have also indicated that there is a strong correlation between education and several health indicators, Fig 9. Education also has clear implications for the type of health personnel attending to mothers during delivery. The rates of mortality are almost double among uneducated mothers when compared with mothers who have more than secondary school education. The neonatal mortality rate for mothers without education is 60 per 1000 compared to 37 per 1000 for mothers with secondary school education (Lopez *et.al.*, 1996).

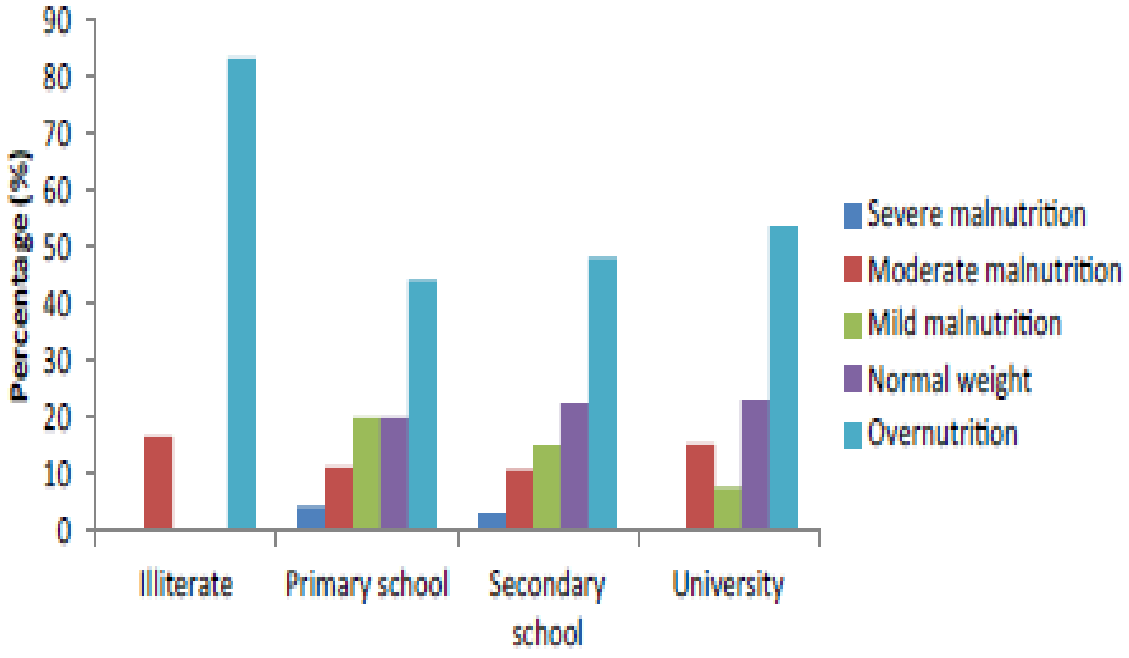

Figure 9: Mother's Educational Level.

1.9.4 Unemployment

Unemployment has major implications for access to health care. The percentage of women who reported that they have big problems in accessing health care for themselves when they are sick varies by employment status. Compared to women who are 'working for cash' more unemployed women had problems 'knowing where to go for treatment' (16.1 percent),

'getting permission to go for treatment' (11.9 percent), 'getting money for treatment' (31.2 percent) and 'having to take transport' (24.7 percent) (Ramalingaswami *et al.*, 1996).

1.9.5 Access to Healthcare Facilities

Income is strongly correlated with quality of prenatal care. Sometimes, proximity to healthcare facilities and access to transportation have significant effects on whether or not women have access to prenatal care. An analysis conducted on maternal healthcare services in Mali found that women who lived in rural areas, far away from healthcare facilities were less likely to receive prenatal care than those who lived in urban areas. Furthermore, researchers found an even stronger relationship between lack of transportation and prenatal and delivery care (WHO, 2003).

1.9.6 Social Factors

In the first place, many women become pregnant when they are not ready for child bearing either because they are still too young, or have had too many children already, or are too old to become pregnant. Ordinarily, such women should use family planning to space or delay child bearing, but unfortunately they do not. A number of recent findings have identified various social determinants of maternal and child health. Factors such as urban-rural migration, unemployment, education, gender inequality, lack of money, transportation, distance to health facility, cultural inhibition, fear of going alone to health facilities, inability to make informed choices and the need to obtain permission from some authority figure such as the husband in the case of some married women have been cited (WHO, 2000).

1.9.7 Domestic Violence

There are many types of domestic and family violence. It is violent, abusive or intimidating behavior by a partner, care giver or family member to control, dominate or cause fear. It doesn't have to be physical abuse, Fig 10. It can be emotional, psychological, financial, sexual or other types of abuse. Domestic violence of any type has detrimental effects on the health of mother as well as on the fetus (Ramalingaswami *et al.*, 1996).

Figure 10: Power and Control Cycle.

Domestic violence includes behaviors that physically harm, arouse fear, prevent a partner from doing what they wish for or force them to behave in ways they do not want. It includes the use of physical and sexual violence, threats and intimidation, emotional abuse and economic deprivation. Many of these different forms of domestic violence/abuse can be occurring at any one time within the same intimate relationship (Ramalingaswami *et al.*, 1996).

1.9.8 Division of Labor within the Household

Despite the fact that some women had some knowledge of the maternal health risks involved in carrying out heavy domestic chores late in pregnancy, they continued to perform them. One possible reason was that they lacked support from their husbands. Another reason for the continuation of strenuous labor during pregnancy is that women feel obligated to care for themselves and their families. A woman with some years of education expressed sympathetically, that she observed some domestic chores performed by pregnant women–such as cooking while inhaling smoke from firewood, fetching and carrying water from long distances and picking groundnuts–as exposing them to major health risks: "In this

community, women are exposed to such a heavy physical and emotional work burden, which I believe really endangers our pregnancies and lives as women. But we have to do them to feed our husbands and families". The majority of the income belonged to the husband. Women do not receive cash other than what is meant for daily expenses, and because of this limited income they must work extremely hard to obtain personal funds, including those for medical expenses (Lopez *et.al.*, 1996).

1.9.9 Family planning and Fertility

Family planning is one of the factors affecting maternal health in contemporary society in developing countries. Lack of sufficient family planning devices, little knowledge about family planning, and difficulty in getting the devices are the key obstacles to the use of family planning everywhere, Fig 11. Family planning is a way to prevent an unwanted pregnancy. It is also the way to prevent an unsafe abortion and its complications. Therefore, it should be provided free by the state, which should also provide family planning education to all people (Aftab *et al.*, 2012).

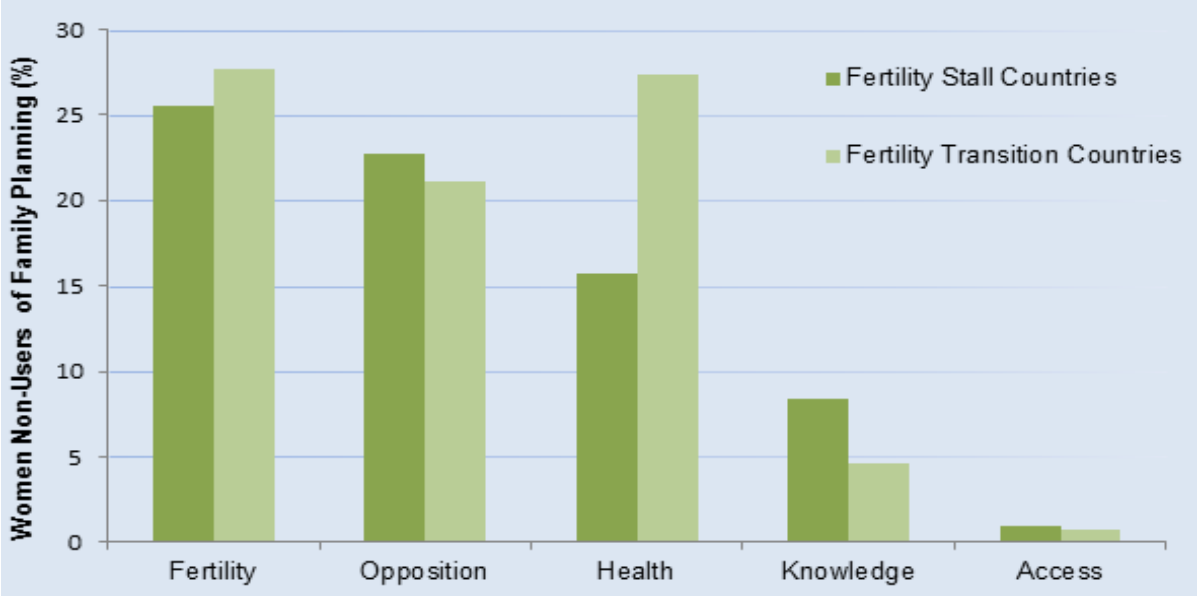

Figure 11: Reasons for Non-Use of Family Planning.

1.9.10 Communication and Transportation

Women who live in rural communities have to walk a long distance to the health centre, health post, or a private clinic to receive the maternal health service. Therefore, they need to go to the health post or hospital by the human porter service. That means the distance and availability and the means of transportation are basic and important factors to access health

care services. There are few roads and there are not sufficient bridges over rivers in rural parts of the country. It is very difficult to travel from one side of the river to the other because of a lack of bridges. This is even more problematic for pregnant women. They may have to walk for more than 1 hour to reach the nearest health centre for a check-up because of poor roads and few public transport facilities. Sometimes it can be impossible, when they have complications. Hence, it is difficult for women of low economic status to take advantage of a good health care service and instead they have been taking services from nonskilled health workers or traditional service providers, who are easily accessible in the community, but this is a real threat to the lives of the mothers and their new born (WHO, 2011).

1.9.11 Skilled Attendance at Delivery

At community level, urban residence was found to be positively associated with receiving skilled attendance at birth. The district level variables, percentage of tribal population in the district of residence and ratio of PHC to population, did not show much influence on the use of skilled attendance at delivery. After adjusted for other variables in the multilevel model, both district level variables along with the variables; poverty index, primary level education of husband, other religions, mother's occupation being professional and mother's age at last birth between 25 to 34 became insignificant (Aftab *et al.*, 2012).

Women from the richest quintile of the society were also more likely to receive skilled attendance at delivery than women from the poorest quintile. Older women, women having more than 3 children, belonging to schedule tribes, to be Hindu and to be married to a low educated husband were associated with lower use of skilled attendance at deliver(Lopez *et.al.*, 1996).

1.9.12 Postnatal Care

In the immediate weeks following childbirth women need extra care, including partner and family support. Labour and childbirth are physically demanding, as is breastfeeding and looking after a new born baby. Women in the postnatal period need to maintain a balanced diet, just as they did during pregnancy, Fig 12. The overall use of postnatal care was found to be very low. In the multilevel analysis, only some of the individual level variables such as mother's level of education, birth order one, mother being from the richest quintile and non-possession of BPL card remained to be significant variables (WHO, 2010).

Figure 12: Counselling Context.

Antenatal Care

Antenatal care, also known as prenatal care, is a type of preventive healthcare. Its goal is to provide regular check-ups that allow doctors or midwives to treat and prevent potential health problems throughout the course of the pregnancy and to promote healthy lifestyles that benefit both mother and child. Prenatal diagnosis or prenatal screening (note that "Prenatal Diagnosis" and "Prenatal Screening" refer to two different types of tests) is testing for diseases or conditions in a fetus or embryo before it is born. Obstetricians and midwives have the ability to monitor mother's health and prenatal development during pregnancy through series of regular check-ups. Physical examinations generally consist of:

- Collection of (mother's) medical history
- Checking (mother's) blood pressure
- (Mother's) height and weight

- Pelvic exam
- Doppler foetal heart rate monitoring
- (Mother's) blood and urine tests
- Discussion with caregiver

Proper prenatal care affects all women of various social backgrounds. While availability of such services have considerable personal health and social benefits, socioeconomic problems prevent its universal adoption in both developing and developed nations, such as the U.S.A. Although women can benefit by utilizing prenatal care services, there exists various levels of health care accessibility between different demographics throughout the United States (Aftab *et al.*, 2012).

1.10 Complications of Pregnancy

WHO (2004) explained complications of pregnancy as health problems that are caused by pregnancy. Complications that occur primarily during childbirth are termed obstetric labor complications, and problems that occur primarily after childbirth are termed puerperal disorders. Severe complications of pregnancy, childbirth, and the puerperium are present in 1.6% of mothers in the U.S and in 1.5% of mothers in Canada. In the immediate postpartum period (puerperium), 87% to 94% of women report at least one health problem. Long term health problems (persisting after 6 months postpartum) are reported by 31% of women. It can be classified as;

- Maternal problems
- Fetal and placental problems
- General risk factors

1.10.1 Maternal Problems

The following problems originate mainly in the mother.

- Gestational diabetes is when a woman without diabetes develops high blood sugar levels during pregnancy.
- Hyperemesis gravidarum is the presence of severe and persistent vomiting, causing dehydration and weight loss. It is more severe than the more common morning sickness and is estimated to affect 0.5–2.0% of pregnant women (WHO, 2004).

1.10.1.1 Pelvic girdle pain

- *Caused by*: Pelvic girdle pain (PGP) disorder is complex and multi-factorial and likely to be represented by a series of sub-groups with different underlying pain drivers from peripheral or central nervous system, altered laxity/stiffness of muscles, laxity to injury of tendinous/ligamentous structures to 'mal-adaptive' body mechanics.
- *Treatment*: The degree of treatment is based on the severity. A mild case would require rest, rehabilitation therapy and pain is usually manageable. More severe cases would also include mobility aids, strong analgesics and sometimes surgery (WHO, 2004).

1.10.1.2 High blood pressure

Potential severe hypertensive states of pregnancy are mainly:

- Preeclampsia = gestational hypertension, proteinuria (>300 mg), and edema. Severe preeclampsia involves a BP over 160/110 (with additional signs). It affects 5-8% of pregnancies.
- Eclampsia = seizures in a pre-eclampsia patient, affect around 1.4% of pregnancies.
- Gestational hypertension
- HELLP syndrome = Hemolytic anemia, Elevated liver enzymes and low platelet count. Incidence is reported as 0.5-0.9% of all pregnancies.
- Acute fatty liver of pregnancy is sometimes included in the pre-eclampsia spectrum. It occurs in approximately one in 7,000 to one in 15,000 pregnancies (WHO, 2004).

1.10.1.3 Deep vein thrombosis

(DVT) has an incidence of 0.5 to 7 per 1,000 pregnancies, and is the second most common cause of maternal death in developed countries after bleeding.

- *Caused by*: Pregnancy-induced hypercoagulability as a physiological response to potential massive bleeding at childbirth.
- *Treatment*: Prophylactic treatment, e.g. with low molecular weight heparin may be indicated when there are additional risk factors for deep vein thrombosis (WHO, 2004).

1.10.1.3 Anemia

Levels of hemoglobin are lower in the third trimesters. According to the United Nations (UN) estimates, approximately half of pregnant women suffer from anemia worldwide. Anemia prevalence during pregnancy differed from 18% in developed countries to 75% in South

Asia. Treatment varies due to the severity of the anemia, and can be used by increasing iron containing foods, oral iron tablets or by the use of parenteral iron (WHO, 2004).

1.10.1.4 Infection

A pregnant woman is more susceptible to certain infections. This increased risk is caused by an increased immune tolerance in pregnancy to prevent an immune reaction against the fetus, as well as secondary to maternal physiological changes including a decrease in respiratory volumes and urinary stasis due to an enlarging uterus. Pregnant women are more severely affected by, for example, influenza, hepatitis E, herpes simplex and malaria. The evidence is more limited for coccidioidomycosis, measles, smallpox, and varicella. Mastitis, or inflammation of the breast occurs in 20% of lactating women (WHO, 2004).

1.10.1.5 Peri-partum cardiomyopathy

It is decrease in heart function which occurs in the last month of pregnancy, or up to 6 months post-pregnancy. It increases the risk of congestive heart failure, heart arrhythmias, thromboembolism, and cardiac arrest (WHO, 2004).

1.10.1.6 Hypothyroidism

It (also called Hashimoto's disease) is an autoimmune disease that affects the thyroid in women. This condition can have a profound effect during pregnancy and on the child. The infant may be seriously affected and have a variety of birth defects. Many women with Hashimoto's disease develop an underactive thyroid. The clinician will do an exam and order one or more tests (WHO, 2004).

1.10.2 Fetal and Placental Problems

The following problems occur in the fetus or placenta, but may have serious consequences on the mother as well.

1.10.2.1 Ectopic pregnancy

It is implantation of the embryo outside the uterus

- *Caused by*: Unknown, but risk factors include smoking, advanced maternal age, and prior damage to the Fallopian tubes.
- *Treatment*: In most cases, keyhole surgery must be carried out to remove the fetus, along with the Fallopian tube. If the pregnancy is very early, it may resolve on its own, or it can be treated with methotrexate, an abortifacient (WHO, 2004).

1.10.2.2 Miscarriage

It is the loss of a pregnancy prior to 20 weeks. In the UK miscarriage is defined as the loss of a pregnancy during the first 23 weeks (WHO, 2004).

1.10.2.3 Placental abruption

It is separation of the placenta from the uterus.

- *Caused by*: Various causes; risk factors include maternal hypertension, trauma, and drug use.
- *Treatment*: Immediate delivery if the fetus is mature (36 weeks or older), or if a younger fetus or the mother is in distress. In less severe cases with immature fetuses, the situation may be monitored in hospital, with treatment if necessary (WHO, 2004).

1.10.2.4 Placenta praevia

It is when the placenta fully or partially covers the cervix (WHO, 2004).

1.10.2.5 Placenta accrete

It is an abnormal adherence of the placenta to the uterine wall (WHO, 2004).

1.10.2.6 Multiple pregnancies

It may become monochromic, sharing the same chorion, with resultant risk of twin-to-twin transfusion syndrome. Monochromic multiples may even become monoamniotic, sharing the same amniotic sac, resulting in risk of umbilical cord compression and entanglement. In very rare cases, there may be conjoined twins, possibly impairing function of internal organs (WHO, 2004).

1.10.2.7 Vertically transmitted infection

It occur if the embryo and fetus have little or no immune function. They depend on the immune function of their mother. Several pathogens can cross the placenta and cause (perinatal) infection. Often microorganisms that produce minor illness in the mother are very dangerous for the developing embryo or fetus. This can result in spontaneous abortion or major developmental disorders. For many infections, the baby is more at risk at particular stages of pregnancy (WHO, 2004).

1.10.2.8 Intrauterine bleeding

They have been rare but known cases of intra-uterine bleeding caused by injury inflicted by the fetus with its fingernails or toenails (WHO, 2004).

1.10.3 General Risk Factors

Factors increasing the risk (to eitherthe woman, the fetus or both) of pregnancy complications beyond the normal level of risk may be present in a woman's medical profile either before she becomes pregnant or during the pregnancy. These pre-existing factors may relate to physical and/or mental health, and/or to social issues, or a combination. Some common risk factors include:

- Age of either parent
- Exposure to environmental toxins in pregnancy
- Exposure to recreational drugs in pregnancy
- Exposure to Pharmaceutical drugs in pregnancy, anti-depressants, for example, may increase risks of such outcomes as preterm delivery
- Multiple pregnancy, means having more than one fetus in a single pregnancy.
- Social and socioeconomic factors. Generally speaking, unmarried women and those in lower socioeconomic groups experience an increased level of risk in pregnancy, due at least in part to lack of access to appropriate prenatal care.
- Unintended pregnancy. Unintended pregnancies preclude preconception care and delays prenatal care. They preclude other preventive care, may disrupt life plans and on average have worse health and psychological outcomes for the mother and, if birth occurs, the child.
- Height. Pregnancy in women whose height is less than 1.5 meters (5 feet) correlates with higher incidences of preterm birth and underweight babies. Also, these women are more likely to have a small pelvis, which can result in such complications during childbirth as shoulder dystocia.
- Weight
- Inter current disease in pregnancy, that is, a disease and condition not necessarily directly caused by the pregnancy, such as diabetes mellitus in pregnancy, SLE in pregnancy or thyroid disease in pregnancy (WHO, 2004).

2. LITERATURE REVIEW

Jayaraman and his team (2009) studied that in societies where boys are preferred over girls, the literature has shown ways in which girls are discriminated against, such as through excess female infant mortality due to neglect and malnutrition and differentially lower human capital investments in or education, among other things. Asia is a relevant case to use for this analysis since both maternal health and son preference remain relatively common (Jayaraman *et al.*, 2009).

Van and his coworkers (1998) examined that in many Asian households, it is customary that sons help with farming or the family business, or engage in domestic chores (such as cooking and fetching water) for three main reasons. First, over two-thirds of the population still live in rural areas and many households lack sufficient infrastructure such as running water. Families need to spend additional time to maintain the basic functioning of daily life, and children with appropriate physical strength become involved in many of these chores as they grow up (such as washing clothes or fetching water). Second, the agricultural production in Asian countries is labor-intensive and dominated by small holders; thus, males become the natural helpers when farming requires more labor input. Third, despite rapid economic growth, the distribution of income and wealth has remained highly unequal; a large proportion of Asian still live below the country's poverty line. Because of poverty or near-poverty, children may need to engage in economic activities (helping with farming or family business) to ensure family survival (Van *et.al.*, 1998).

2.1 Preference of Sons over Daughters

Kim and his coworkers (2010) studied that in many societies sons are favored over daughters for a variety of social, economic, and religious reasons. There are two primary determinants of the differential treatment of men and women in these cultures. The first is related to cultural or religious traditions. Since many of these societies are patrilineal, only men can continue the family lineage, and daughters after marriage traditionally move in with their husband's family. Also, men or sons play unique roles in many religions. For example, according to Hindu tradition, sons are "needed for cremation of the deceased parents, because only sons can light the funeral pyre". In India, Hindus and particularly Sikhs display the highest levels of son preference. Similarly, across castes, the behaviour of those that have achieved high ritual status ("Sanskrit zed") usually conforms to male preference with regard to dowry, and marriage, among other things. Lately, families of lower castes with high

economic resources have also imitated those behaviors that reflect son preference (Kim *et al.*, 2010).

Bhattacharya and his coworkers (2005) discussed that the second reason is related to the instrumental value of sons, or more broadly, to socio-economic consequences of the male dominance in many areas of a society. Sons (or men) may have higher earning potential and may be perceived as better providers of old-age support to parents than daughters (or women). In agricultural societies, sons are an important source of labor for family farming. Labor market opportunities for women remain more constrained worldwide than men's in most countries regardless of their development stage (Bhattacharya *et al.,* 2005).

Rosenzweig and the team (1982) said that parents are interested in eventually realizing (and, potentially, benefiting from) the value of a son, they need to invest in their sons' human capital. Doing housework contributes little to sons' human capital buildup. Thus, parents would rather have sons engaged in education or other training activities (such as acquiring skills from family businesses) that are expected to help to generate income for the family in the future. An implication of this claim is that children with higher earning potential will be treated more favourably and receive more family resources. This may take the form of better quality of care, more time of play and leisure, and potentially fewer household chores. On the assumption that excessive housework is unhealthy, parents will refrain from assigning much housework to sons in order to maintain their health capital. Sons' health is instrumental to higher earnings in the future, and to greater assistance to parents as they age, and to continuation of the family lineage (Rosenzweig *et al.,* 1982).

Gupta and the team (2003) examined that in those societies that display son preference, a daughter is not expected to be the primary source of old-age supports, regardless of prior parental investments. In patrilineal societies, a daughter is expected to leave her biological family once she is married, and to typically assume the responsibility of caring for the husband's family. The expected loss of daughters after marriage further reduces the incentives of parents to involve daughters in education or in other long-term investments. Helping with daily chores is a way parents ask daughters to contribute to the family (Gupta *et al.,* 2003).

Shu and the team (2004) showed that of course a relatively higher burden of housework among girls may simply result from parents' belief that a girl should be good at housework

skills in order to be socially fit once she enters adulthood. Those gender role attitudes are closely related to both son preference and the division of housework, generally viewed as a woman's realm. Naturally, "gender role" ideology also influences the demand for sons. If parents strongly believe that the best role women can play is homemakers but not breadwinners, they may prefer to have more sons to ensure old-age support. However, it is important to note that gender role ideology is not a synonym for son preference: a mother may have no differential preference on the gender of her offspring, while she still insists that girls should learn housekeeping to be socially fit. Because of its strong linkage with son preference and gender division of housework, in robustness analysis we explore the role of media exposure as proxy for gender role orientation (Shu *et al.,* 2004).

Gupta and the team (2003) showed that finally, it should be clear from the previous discussion that preference for sons does not result from a "taste for discrimination" against girls. An excessive amount of housework may be unhealthy for both boys and girls, but there is no evidence suggesting that parents welcome daughters' housework burden on their time and health while opposing housework assignments to sons. The preference for sons does not result from parents benefiting from daughters' disutility, but rather from their lower earning potential or their secondary status in patrilineal family systems (Gupta *et al*., 2003).

Folbre and coworkers (1984) examined that as a result of all the different considerations of how parents perceive the instrumental values of sons, it is expected that a greater gender difference in time spent on housework among children in families that display strong son preference than in those where there is no such preference (or where there even is a "daughter preference") will be seen (Folbre *et al.,* 1984).

Rai and his team (2014) studied three major factors have been identified that manifest socio-demographic phenomenon. They are economic, socio-cultural and religious utilities. Sons are more likely than daughters to provide family labor on the farm or in family business and support their parents of old age, although there is some recognition that sons are no longer a dependable source of old age support. Marriage of son provides additional household help from the daughter in law as well as an economic reward in the form of dowry payments. In the context of patriarchal family system, having one son is imperative for continuation of the family line, and many sons provide additional status to the family. The utility of having sons also arises from the important religious functions that only sons can provide, though both sons and daughters are required to perform certain religious functions (Rai *et al.,* 2014).

2.2 Effect of Gender Preference on Fertility Rate

Kumar and the team (2016) studied that sex preference for children has been a salient issue in demographic work in developing countries for a long time. In societies with high fertility regimes, sex preference for children is not a burgeoning issue. When fertility declines a relatively greater impact rises over the course of the fertility transition as parents become increasingly effective in achieving their reproductive goals and even the fertility is inflated because of son preference. Recently the fertility impact of son preference has further intensified by sex-selective abortion, a relatively new practice that is growing rapidly in some Asian countries. Sex selective abortion inflates the sex ratio at birth and lowers fertility (Kumar *et al.*, 2016).

2.3 Pattern of Gender Preference in Western Countries

Raj and his team (2011) studied that in contrary parents of western countries prefer children of both sexes and are much more likely to have a third and fourth birth if existing children are all of the same sex, indicating a strong preference for children of both sexes. This increased propensity has added around three percent to the fertility of the cohorts. In Latin America, on the other hand, a slight tendency to prefer girls over boys is observed. In a comprehensive study by Hank and Kohler including a total of seventeen European countries, focusing on the transition from the second to the third child, the authors found no sex preference at all in France and Poland, a preference for a mixed sex composition in Austria, Belgium, Hungary, Italy, Latvia, Slovenia, Spain and Switzerland, and some indication of girl preference in the Czech Republic. Analyzing the data from the United States, Pollard and Morgan also found an evidence of preference for a balance family with at least one son and one daughter (Raj *et al.*, 2011).

2.4 Maternal Healthcare Services

Klapp and the team (2001) examined that maternal health care service has been among the most important interventions to decrease maternal morbidity and mortality. Because of this fact, Asia has given a special consideration to it in the last two decades. Maternal health is among the six priority areas in the reproductive health strategy of the country. Studies conducted in Asia shows the increment of women who are getting maternal health care services from time to time. However, the maternal health care seeking behavior of women is still low. In Asia, one explanation for poor health outcomes among women is the non-use of modern health care service by a great proportion of women in the country. Only 41, 16 and

13% of women in Asia receive antenatal, delivery care from health professionals and postnatal care, respectively (Klapp *et al.*, 2001).

Rose and team (2000) studied that different factors have been found to be related with the utilization of maternal health care services. Generally, the associated factors can be categorized as socio-economic and demographic factors such as; educational status of the mother, maternal age, occupation, mothers knowledge of danger signs, marital status, women's autonomy, birth order, religion, sex of household head, household income, household size, husband's educational status, accessibility factors and factors related with women's perceived quality of maternal health care services. Mother's knowledge of danger signs and autonomy were reported as significant determinants of care utilization (Rose *et al.*, 2000).

Dereje and coworkers (2017) examined that in spite of the need and the efforts made to improve access to maternal health care services and reduce maternal mortality, maternal health-seeking behavior of women in Asia has still been very limited especially among rural women. The efforts to improve women's health are hampered due to poor maternal health-seeking behavior. Finding the reason behind this behavior is worth doing to design interventions for better utilization. As the maternal health care seeking behavior is a complex phenomenon which can be influenced by geo-cultural settings, it needs a contextual thorough investigation. Moreover, the inconsistency of findings of various researches in relation to the relationship between the maternal health care seeking behaviour and associated factors (Dereje *et al.*, 2017).

Ahluwalia and team (2010) studied that gender power relations play a key role in maternal health care access and utilization. Despite this, demand-side interventions and strategies fail to adequately consider and incorporate gender into intervention design, implementation, or evaluation. Evidence from maternal health interventions that have challenged gendered decision-making structures have demonstrated increased sustainability, and in some cases long-term positive change, in relation to intervention outcomes. For example, an evaluation of a community-based reproductive health project which aimed to address high maternal mortality in Tanzania through strengthening community awareness, decision-making and ownership around maternal health, showed increased demand for maternal health services five years after the intervention had completed (Ahluwalia *et al.*, 2010).

Ensor and team (2014) showed significant improvements in women's knowledge and use of maternal health care were found in a community-based intervention in Zambia, which mobilized the entire community, including husbands, around safe pregnancy and delivery (Ensor *et al.*, 2014).

Elmusharaf and team (2015) examined that at the time of publication, steps were underway to incorporate the intervention into government programs in an effort to facilitate long-term sustainability and improvement in maternal health (Elmusharaf *et al.*, 2015).

Tolhurst and the team (2015) studied that research has shown that gender inequities have a negative effect on maternal health and maternal health care access and utilization in multiple ways. On the demand side, gender divisions of labor, lack of access to and control over resources (e.g. finances, information, transport, supplies) gender norms, limited autonomy, and lack of decision-making power limit women's ability to access maternal health care services. On the supply side, societal patterns of gender discrimination are often reflected within maternal health service delivery (Tolhurst *et al.*, 2015).

Holmes and team (2013) studied that the lack of 'women-centred' services, such as family planning or abortion, maternal health services being treated as 'women-only' spaces, and the mistreatment of women and men by health providers are all manifestations of gender discrimination. In addition, the intersection of gender with other social stratifies, such as age, race, class, ethnicity, geography, disability and sexuality compounds the effect of gender inequities on maternal health and health care for vulnerable and marginalized women, such as poor women in rural areas. Finally, men affect women's access to prenatal care and women's obstetric outcomes in their roles as partners, neighbors, community leaders, and health providers due to their control over household resources and decision-making. However, progress towards engaging men in maternal and child health has been slow, despite their key decision-making roles in maternal and new-born care-seeking behaviour and family planning (Holmes *et al.*, 2013).

Kraft and the team (2014) showed that integrating gender into maternal and child health interventions has been found to positively affect intervention outcomes. A review of gender-integrated interventions in reproductive and maternal-child health, for example, found that while the effects of integrating gender into interventions were mixed, overall the studies suggested that addressing social and structural factors within maternal and child health

interventions, such as gender norms and inequalities, is beneficial for effective intervention outcomes. In particular, out of 23 interventions, those of which incorporated empowerment approaches, for example, by "empowering women to take actions to address health issues, empowering adolescents and their families and changing community norms around child marriage", had the strongest evidence in support of integrating gender into maternal and child health interventions (Kraft *et al.,* 2014).

2.5 Male Involvement in Maternal Health

Judith and the team (2015) studied that most studies in this review defined male involvement as the active participation in maternal health services/care. Within this category, studies on husbands' offer of support/care tended to report positive effects on decreased likelihood of maternal depression and childbirth complications, whereas studies focusing on the husband's attendance at ANC appeared to have more impact on women's utilization of maternal health services, relating to SBA and postnatal care. The remaining studies, which defined male involvement as shared decision-making on maternal health with wife, did not appear to have any significant effect on maternal health outcomes. None of the included studies defined male involvement as providing financial support given for pregnancy-related and childbirth-related expenses (Judith *et al.,* 2015).

Kriste and the team (2010) studied that strong gender preferences, combined with infanticide, sex-selective abortions, or sex selection technologies, may lead to a serious distortion in the natural sex ratio and increases the maternal health risks. Such an imbalance between the two sexes could, for example, cause a delay in the age of marriage, or an increase in the number of people who never marry. Furthermore, gender preferences may have substantial implications for a couple's fertility behavior. One might assume that parents who desire one or more children of a certain sex may have larger families than would otherwise be the case. Parents who fail to achieve the desired sex balance (or ratio) by the time they reach the number of children intended, might tend to revise their family size goals upward. This effect, however, is not even consistently observed in traditional societies with pronounced gender preferences. For industrialized countries, some studies show an effect of gender preferences on reproductive behavior (e.g. Marleau and Saucier, who analyzed data from Canada), while others have found no impact of gender preferences on ultimate family size (e.g. Ayala and Falk, who studied US families). The influence of the sex composition of previous children on fertility behavior at each parity should increase with the trend toward smaller family sizes.

Therefore, it is especially interesting to investigate gender preferences in the contemporary Asian low-fertility setting, where the question to have children at all (or, why more than one) is of growing importance (Kriste *et al.*, 2010).

2.6 Gender Preference in Less Developed Countries

Aftab and team (2012) studied that the bulk of the literature on gender preferences deals with less developed countries, where mainly the desire for a balanced number of daughters and sons (or at least one child of each sex) and a preference for sons (often together with a balance preference) is observed. For instance, Arnold provides a detailed study of 44 countries with Demographic and Health Surveys in the period from 1986 to 1995. He finds son preference in a range of different countries, demonstrating that such preferences do not emerge from a single set of historical and cultural experiences. While the Southeast Asian nations do not show any consistent gender preference, the Caribbean is the only region, where a prevalent preference for daughters has been found. In general, however, he argues that the effect of gender preferences on fertility and family planning is not very strong. Parents' gender preferences for children are embedded in cultural and religious traditions and community norms, shaping individual attitudes and behavior. Children of a particular sex are often desired in order to provide certain utilities or to minimize financial or psychological costs. In traditional societies, male offspring are presumed to have greater economic net utility than daughters, since they provide assistance in agriculture, as well as a primitive social security system. In some situations, however, daughters are thought to be more reliable in providing old age assistance, particularly emotional support. They are also frequently desired in order to help with household tasks or to care for younger children. Sons, on the other hand, quite often fill sex specific religious roles and insure kinship continuity in patrilineal societies. There is some evidence that the desire for additional children (if there is any at all) is curtailed once the minimum number of surviving male children is achieved. However, even in societies with pervasive son preference, many families consider it important to have at least one daughter among their children. But why should there be gender preferences in modern societies? When children are no longer a source of economic security, they no longer provide economic net utility, but rather lead to significant time and monetary costs. Arguably children are more valued today for social and psychological reasons (Aftab *et al.*, 2012).

2.7 Value of Children

Hunk and team (2003) studied a detailed theory of the value of children. They list a number of categories, describing potential values that parents' might attribute to their children, such as: expansion of the self, affiliation, accomplishment, social comparison, economic utility. Thus parents may desire a sex mix because of the different benefits that accrue from each sex for each of the categories. Each partner, for example, might prefer to have at least one child of his or her own sex for the purpose of companionship. Further evidence that psychological factors are associated with gender preferences is provided by Bulatao, who discusses values and disvalues attached to children across different parities in the Philippines, Korea, and the United States. His findings suggest a multistage pattern: At low parities, emotional and psychological rationales for having any children at all dominate. At higher parities, balancing the family becomes important. In particular, specific gender preferences are found to be most prominent at the third and fourth child. Finally, parities above five are characterized by potential economic benefits from children (Hunk *et al.*, 2003).

Alumanah and team (1997) examined that women's status is central to the theory of infant survival. Women's decision-making power and autonomy have been hypothesized to be closely linked to maternal and child health outcomes. Greater autonomy makes it more likely that a mother will respond to her and her children's sickness by seeking adequate medical treatment and care. It also makes it more likely that female children will receive the same treatment as their male siblings. In settings where women lack decision-making power and freedom of movement, child mortality rates are high. These factors may also have a negative effect on maternal health. Lack of control over their lives, lack of access to material resources, and restrictions on their freedom of movement will reduce the chance of women receiving necessary antenatal and postnatal health care and thus may result in an increased risk of maternal and infant mortality (Alumanah *et al.*, 1997).

Berhane and team (2001) showed that in Nigeria, women's freedom of movement influenced their decision to seek medical treatment, but lack of information prevented them from actually seeking health care. It was found that restriction on female mobility in Pakistan limited women's access to health services within and outside the village. More recent research has demonstrated a trend of worsening of women's health in transitional rural societies in Sub- Saharan Africa. The contributing factors for this trend include heavy

workload, lack of access to health care, poverty, poor social status and poor nutrition (Berhane *et al.*, 2001).

2.8 Factors Affecting Maternal Health

Pettersson and his coworkers (2007) studied that there are two main channels through which the sex composition can affect maternal health. First, the sex composition can have an impact on parental behaviour in ways that affect child outcomes. If, for example, parents have preferences over child gender, the sex composition is likely to affect family size. Family size, in turn, can have an impact on child outcomes. Similarly, if the sex composition affects marital stability or parental labour supply, this may influence children both positively and negatively. Second, there may be direct effects between siblings that are affected by the sex composition, perhaps because of how children of different gender interact and influence each other. Both economists and sociologists have spent considerable research effort analysing how the sex composition of children affects both parents and children in various dimensions (Pettersson *et al.*, 2007).

2.9 Socioeconomic Status (SES)

Abebaw and the team (2013) studied that basically, there are four main areas that have been studied: the effects on child educational outcomes and earnings, the effects on parental marital stability, the effects on family size, and the effects on parental labour supply or, more broadly speaking, parental time allocation between different activities. In this section we review the existing evidence on these topics in industrial economies. It should be noted that most, but not all, studies have been using US data. Socioeconomic status (SES) is one of the most important factors associated with medical outcomes. When SES is low, medical care is inadequate and this has been attributed to adverse outcomes. In pregnant women, low SES can increase the risk of adverse pregnancy outcomes. Previous studies have revealed that low SES is associated with pregnancy complications such as abortion, preterm delivery, preeclampsia, eclampsia, and gestational diabetes. Inadequate prenatal care is associated with poor obstetric outcomes, including preterm delivery, preeclampsia, and stillbirth, and women with low SES are less likely to receive prenatal care. In fact, the risk of preterm delivery, preeclampsia, and gestational diabetes increases with both inadequate prenatal care and low SES (Abebaw *et al.*, 2013).

2.10 Complications during Pregnancy

Kyoung and the team (2009) studied that in Korea, the healthcare security system is divided into two sections according to income: the Medical Aid (MA) system for low-income individuals and the National Health Insurance (NHI) for middle/high-income individuals. According to statistics from the Korean government, the MA system covered 2.9% of people in 2003, providing access to healthcare at "a minimum cost" to low-income individuals (Kyoung *et al.*, 2009).

Silvia and the team (2014) studied that the vast majority of maternal deaths (80 percent) are due to complications during pregnancy, at delivery or within six weeks post-delivery. The presence of HIV further complicates the picture as the virus increases the likelihood of obstetric complications such as anaemia and postpartum haemorrhage. According to World Bank estimates, the MMR can be brought down by 74 percent just through inter-ventions that provide access to skilled delivery and emergency obstetric care. However, putting services in place will not in itself achieve results. In order to be effective in reducing maternal mortality, these services need to be both acceptable and accessible to the women who need them. Specifically, in order to adequately reduce maternal mortality, it is essential to address poverty and gender inequality, which together affect the demand for and the utilization and supply of maternal healthcare services. It is only by taking such a holistic approach that recent increases in political will for and investments in maternal health care can be maximized (Silvia *et al.*, 2014).

Anup and the team (2014) studied that sex preference for children has been a salient issue in demographic work in developing countries for a long time. In societies with high fertility regimes, sex preference for children is not a burgeoning issue. When fertility declines a relatively greater impact rises over the course of the fertility transition as parents become increasingly effective in achieving their reproductive goals and even the fertility is inflated because of son preference. Recently the fertility impact of son preference has further intensified by sex-selective abortion, a relatively new practice that is growing rapidly in some Asian countries. Sex selective abortion inflates the sex ratio at birth and lowers fertility. Interpretation of data of Demographic and Health Surveys reveals a desire for a balanced number of daughters and sons or at least one child of each sex. Nevertheless, in a wide range of countries, ample preference for sons is found, especially in South Asia and other developing countries in East and Southeast Asia, and North Africa showing differential

stopping behaviour (DSB) or male-preferring stopping rules. In China, Korea or Vietnam, and most prominently in India, the role of parental sex preferences in children's nutrition and medical treatment, in child mortality, and in reproductive behaviour has been investigated extensively. Women's contraceptive use and duration of last birth interval are also linked to stopping childbearing after the birth of a son in Nepal (Anup *et al.*, 2014).

Jayaraman and the team (2009) studied that maternal complications are morbidities suffered during pregnancy through the postpartum period of 42 days. In Asia, little is known about women's experience of complications and their care-seeking behavior. It was attempted to assess experiences related to obstetric complication and seeking assistance from a skilled provider among women who gave birth in the last 12 months. Many mothers living in developing countries continue to die from pregnancy related complications each year. Assessments of progress towards the Millennium Development Goals (MDGs) have found that the least progress is made in MDG 5 (reducing maternal mortality by three-fourth), particularly in Sub-Saharan Africa. Ethiopia is one of the countries with the highest maternal mortality ratio which is currently estimated at 676 maternal deaths per 100,000 live births. Maternal deaths are the tip of the iceberg. For every maternal death, about 20 more women are estimated to suffer from acute or chronic pregnancy related illnesses. Worldwide, an estimated 10–20 million women develop physical or mental disabilities every year as a result of complications or their poor management (Jayaraman *et al.*, 2009).

2.11 Maternal Morbidity

Abebaw and the team (2013) studied that maternal morbidities include all illnesses and complications associated with child bearing short of death. Maternal morbidity takes many forms. It can be an acute or a chronic condition, which is either recognized or acknowledged as an illness or is not apparent to the respondent. The seriousness of a specific morbidity also varies; some are instantaneously lethal, while others are potentially lethal, disabling, or simply discomforting. Morbidity events may be single episodes which resolve spontaneously, are treated, or have permanent incurable effects, while others may recur occasionally or frequently. Acute maternal morbidities are complications suffered during pregnancy through the postpartum period of 42 days that may directly cause maternal deaths. These can be expressed in different terms according to their severity. Obstetric or maternal complications are acute conditions which include antepartum or postpartum hemorrhage, prolonged or obstructed labor, postpartum sepsis, complications of abortion, pre-eclampsia/eclampsia,

ectopic pregnancy, and ruptured uterus. Overall an estimated 15% of women are expected to experience maternal complications. Women without pregnancy complications can also rapidly develop such problems and may need timely access to life saving services. As observed in many studies, severe maternal complications will have potentially devastating consequences on women and their families, and recovery can be slow, with lasting sequelae. Since the majority of the complications are unpredictable, an appropriate use of skilled birth attendance and supportive emergency obstetric care are critical interventions for the survival of the mother. Maternal death can shortly follow if there are no such services. The estimated average interval between the onset of major obstetric complications and death, in the absence of medical interventions, is two hours for postpartum hemorrhage, twelve hours for antepartum hemorrhage, one day for a ruptured uterus, two days for eclampsia, three days for prolonged labor and six days for infection (puerperal sepsis). In Asian countries, skilled maternal service utilization is very low. The recent (2011) Asian demographic and health survey report showed that only 34%, 10% and 6% of women have Antenatal care (ANC), delivery and postnatal care by a skilled provider, respectively. This indicated that many mothers with complications did not get a timely referral to emergency obstetric care facilities. However, there are limited evidences related to the proportion of women affected by maternal complications and seek care for the problems. Moreover, detailed evidences related to the reasons for not seeking care at the time of complication were lacking in the study area. This study focused on understanding such reasons based on women's perceptions and beliefs towards the risks as well as their experiences on obstetric complications and care-seeking behavior, which are imperative for planning appropriate interventions (Abebaw *et al.*, 2013).

Anup and the team (2014) studied that overweight and obese women are at increased risk of several pregnancies complications, including gestational diabetes mellitus, hypertension, preeclampsia, cesarean delivery, and postpartum weight retention. Similarly, fetuses of pregnant women who are overweight or obese are at increased risk of prematurity, stillbirth, congenital anomalies, macrosomia with possible birth injury, and childhood obesity. Additional concerns include potential intrapartum, operative, and postoperative complications and difficulties related to anesthesia management. Obese women are also less likely to initiate and sustain breastfeeding. Gender inequality and women’s low social status and disempowerment relative to men significantly impact women’s health, the health of mothers and overall demand for maternal healthcare services. Deeply entrenched gender inequalities exist in many low-income countries where maternal deaths are high and health service utilization is low. Women may get less support when they are ill than other family members;

they may choose or be forced to seek treatment less often or delay seeking treatment—all with adverse health consequences, including preventable death (Anup *et al.*, 2014).

Silvia and the team (2014) studied that maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes. Factors that increase maternal death can be direct or indirect. In a 2009 article on maternal morbidity, the authors said, that generally, there is a distinction between a direct maternal death that is the result of a complication of the pregnancy, delivery, or management of the two, and an indirect maternal death, that is a pregnancy-related death in a patient with a preexisting or newly developed health problem unrelated to pregnancy. Fatalities during but unrelated to a pregnancy are termed accidental, incidental, or non-obstetrical maternal deaths (Silvia *et al.*, 2014).

2.12 Maternal Mortality Rate

Akbarzadeh and the team (2015) examined that according to a study published in the Lancet which covered the period from 1990 to 2013, the most common causes are postpartum bleeding (15%), complications from unsafe abortion (15%), and hypertensive disorders of pregnancy (10%), postpartum infections (8%), and obstructed labor (6%). Other causes include blood clots (3%) and pre-existing conditions (28%). Indirect causes are malaria, anemia, HIV/AIDS, and cardiovascular disease, all of which may complicate pregnancy or be aggravated by it.

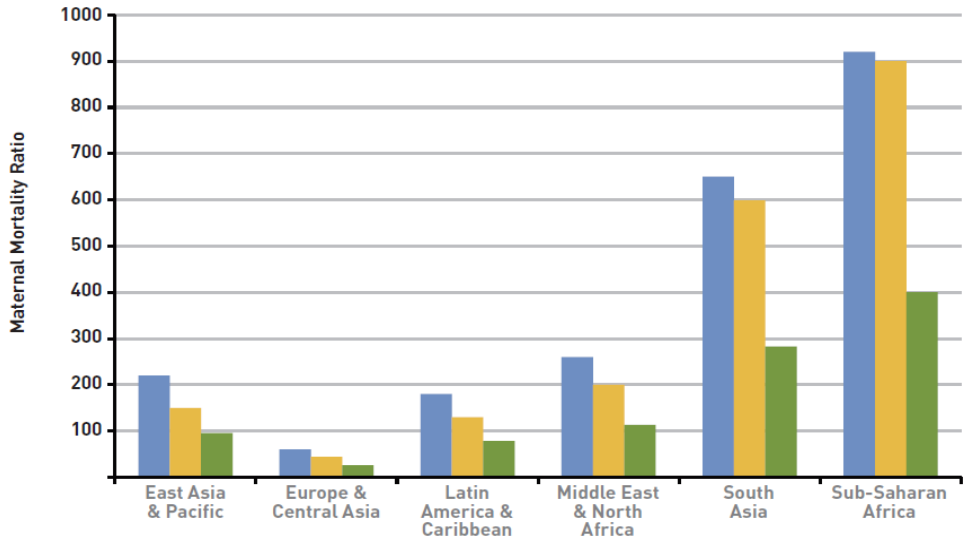

Figure 13: Maternal Mortality Ratio.

According to a 2004 WHO publication, sociodemographic factors such as age, access to resources and income level are significant indicators of maternal mortality, Fig 13. Young mothers face higher risks of complications and death during pregnancy than older mothers, especially adolescents aged 15 years or younger. Adolescents have higher risks for postpartum hemorrhage, puerperal endometritis, operative vaginal delivery, episiotomy, low birth weight, preterm delivery, and small-for-gestational-age infants, all of which can lead to maternal death. Structural support and family support influences maternal outcomes. Furthermore, social disadvantage and social isolation adversely affects maternal health which can lead to increases in maternal death. Additionally, lack of access to skilled medical care during childbirth, the travel distance to the nearest clinic to receive proper care, number of prior births, barriers to accessing prenatal medical care and poor infrastructure all increase maternal deaths. Unsafe abortion is another major cause of maternal death. According to the World Health Organization in 2009, every eight minutes a woman died from complications arising from unsafe abortions. Complications include hemorrhage, infection, sepsis and genital trauma. By 2007, globally, preventable deaths from improperly performed procedures constitute 13% of maternal mortality, and 25% or more in some countries where maternal mortality from other causes is relatively low, making unsafe abortion the leading single cause of maternal mortality worldwide (Akbarzadeh *et al.*, 2015).

Lewis and the team (2007) studied that the transport costs are high mainly because distances are great in the rural areas of low-income countries where the poor are concentrated, and road and transport infrastructure are in such a poor state. The cost of travel can also be substantial and pose a significant barrier in many places. Studies in Tanzania and Nepal estimate transport costs at 50 percent or more of the total costs of care. The decline in maternal deaths has been due largely to improved asepsis, fluid management and blood transfusion, and better prenatal care. Technologies have been designed for resource poor settings that have been effective in reducing maternal deaths as well. The non-pneumatic anti-shock garment is a low-technology pressure device that decreases blood loss, restores vital signs and helps buy time in delay of women receiving adequate emergency care during obstetric hemorrhage. It has proven to be a valuable resource. Condoms used as uterine tamponades have also been effective in stopping post-partum hemorrhage. Most maternal deaths are avoidable, as the health-care solutions to prevent or manage complications are well known. Improving access to antenatal care in pregnancy, skilled care during childbirth, and care and support in the weeks after childbirth will reduce maternal deaths significantly. It is particularly important

that all births be attended by skilled health professionals, as timely management and treatment can make the difference between life and death. To improve maternal health, barriers that limit access to quality maternal health services must be identified and addressed at all levels of the health system. Recommendations for reducing maternal mortality include access to health care, access to family planning services, and emergency obstetric care, funding and intrapartum care. Reduction in unnecessary obstetric surgery has also been suggested. Family planning approaches include avoiding pregnancy at too young of an age or too old of an age and spacing births. Access to primary care for women even before they become pregnant is essential along with access to contraceptives (Lewis *et al.*, 2007).

3. METHODOLOGY

3.1 Study Design

We conducted a population-based survey in the hospitals of different cities in Pakistan, purposively selecting one higher socioeconomic status and one lower socioeconomic status area from each of the cities. All female aged 20 to 35 years were eligible to be included in the study. Participation was on the basis of informed signed consent, to be interviewed in private.

Sampling technique was selective/systematic. Study instrument utilized was a self-designed questionnaire carrying demographic details, questions regarding living off-springs (total children/daughters/sons) and number of sons and daughters desired during marital life. Subjects were married ladies of child-bearing age, from local population of Punjab, reporting to different OPDs of concerned hospitals. Unmarried/post-menopausal ladies and those with stated mental health issues were excluded from the study. Formal approval from the ethical committee of the hospital and written informed consent from participants were taken.

Keeping margin of error 5%, confidence level 95% and response distribution 50%, a sample of 150 individuals was required to represent 27.98 million population of Punjab. To ensure privacy and confidentiality, questionnaires were filled in private space of the hospital and only lady doctors assisted the respondents. To make subjects more comfortable, general demographic questions preceded more personal questions related to desire for sons/daughters. Data was analyzed via descriptive analysis (SPSS-22), qualitative data expressed as frequencies/percentages; quantitative as mean ± standard deviation (Minimum/Maximum). Main outcome variables (number of sons/daughters desired) were cross-tabulated with independent variables (age, client's education, husband's education, religion and socioeconomic class).

3.2 Research Population

The research population was taken from different cities of Punjab, Pakistan. The current population of Punjab is 27.98 million out of 110 million population of Pakistan. All the females bearing a child were included in the study. Females belonging to either upper, middle or lower class family were included in the research. Both urban and rural areas were considered for sampling. Selectively people were selected from the data collected by questionnaire to make a sample. Different type of questions regarding the study were asked after getting a written consent from the volunteers.

3.3 Methods

The analysis was conducted using Microsoft (MS) Excel and IBM SPSS 22 version. Univariate analysis was done to calculate the frequencies and percentage. T-test was used to see the relation of variables such as child gender preferences and socio-demographic variables with maternal health. Histogram, bar chart and pie charts are used to discuss the variables of the study and their effects on the child gender preference behavior.

A self-designed questionnaire was used to collect data from the volunteers of research study. The questionnaire was designed to evaluate the causes that leads to poor maternal health and increased maternal morbidity. The reasons of child gender inequality or son preference, household autonomy, social class or socioeconomic status, resources, stress, in-laws behavior or preferences, effect of society, maternal care and facilities, husband's attitude and other factors were included in the questionnaire. All these factors, at some point, effects maternal health in the negative way and may or may not be the cause of maternal morbidity. The clinical condition of the mother is related with the factors to determine their effect on the maternal health and their well-being.

3.4 Sample Selection

A sample of 86 volunteers out of 170 was selected for analysis. It is based on the fact that whether it showed child gender preference or not. As the data is collected from different hospitals of the Punjab, the results are not limited only to a specific city or area. The questionnaires that showed no child gender preference were not selected for the study.

3.5 Sampling Method

Convenient sampling method was incorporated for sampling as it was easy to approach the sample unit.

Convenient sampling is the type of non-probability sampling method in which the participants of the selected population meet the criteria of easy accessibility, availability at given time and willingness of the subjects for the study. Convenience sampling method was used as this method is affordable and basic data can be easily gathered from the participants.

3.6 Inclusion Criteria

A prospective, cross-sectional study was conducted in Punjab, Pakistan, in 2018. Pregnant women were studied with regard to sociodemographic and medical characteristics as well as psychosocial and emotional functioning. All the pregnant females were included in the study except those who were critical, suffering from too many complications and altered mental status.

3.7 Exclusion Criteria

First, response and recall bias could not be avoided as the questionnaire was self-designed and self-reported. Second, although sample size was big enough to represent the population of Punjab, but as data was collected only from hospitals, therefore, generalization of results can be jeopardized. Third, couples were not interviewed; therefore, the son preference of male partners could not be calculated. Such data could have rendered excellent results, but adding more variables was beyond the scope of this research.

Despite these short comings, this study was unique and first of its kind as no such study has yet been carried out in Punjab. It took into account the desired number of sons as well as daughters, and compared both with independent variable. Results unambiguously pointed towards strong son preference and its effects on maternal health. This research may help the policy makers and care takers to address the issue by educating couples to attenuate gender bias.

3.8 Data Collection Duration

Data was collected in the month of July to mid of September in 2018 from the different hospitals of Punjab, Pakistan. The volunteers that were included in the study ranges from 100 to 170. All pregnant females were included in the study after getting a written consent from each person and is verified by a signature before the start of research work.

3.9 Data Analysis

Data analysis is done by using MS word, MS excel and SPSS. In this study, standardized data from different cities are used to investigate whether parents prefer one sex over the other, or a mixed sex composition of their offspring. This unique database allows a unique cross national analysis, applying the same methodology to highly comparable data.

For all cities, the analysis is based on women who are 25-39 years old, currently live in a partnership, and may have already two or more children. It was decided to focus on the transition from the second to the third child, as in the one-child family the main decision is probably whether to have a second child or not, with less room for an influence of sex. Furthermore, it was assumed that having more than two children is beyond the 'standard' of contemporary societies and progression to higher parities needs additional explanation, for example a couple's gender preferences.

There is no direct question asking for the parent's gender preferences. This need not be of harm for the analysis, however. The mere expression of a son preference, for example, is no guarantee that the respondent's fertility behaviour will actually change. Also, couples tend to state preferences in accord with the actual sex of their children already born. Therefore, indirect measures of gender preferences may even be more advantageous than direct approaches.

This means, a couple continues childbearing, hoping for their offspring to be of the opposite sex as compared to the children they already have. If the two children born first are boys (girls, respectively) and this has a significant and positive effect on the dependent variable, we assume a preference for girls (boys, respectively). Eventually, it is tested, whether the coefficients for boy-boy and girl-girl are significantly different from each other. It is hypothesize that a couple is more likely to curtail its fertility, when the actual sex composition of their two first-born children reflects their gender preferences.

3.10 Sample Questionnaire

STUDY OF EFFECTS OF CHILD GENDER INEQUALITY ON MATERNAL HEALTH IN DIFFERENT CITIES OF PUNJAB

My name is _____. I am a student of **Pharm-D (10th semester) University Of Sargodha, Sargodha**. I am conducting a research on "**STUDY OF EFFECTS OF CHILD GENDER INEQUALITY ON MATERNAL HEALTH IN DIFFERENT CITIES OF**

PUNJAB". Please answer the questions with responsibility. I will keep your information confidential and will use it just for research purpose. Thank you for your participation.

WRITTEN CONSENT

I agree with the terms and conditions of the research. I allow the researcher to use my stated information for research purpose only.

Signature: _____

PERSONAL DATA

NAME _____ W/O _____

AGE _____ MONTH OF PREGNANCY _____

EDUCATION (a) graduate (b) post-graduate (c) under-graduate

JOB (a) employed (b) un-employed (c) student

SOCIAL STATUS (a) upper class (b) middle class (c) lower class

RESIDENCE (a) urban (b) rural

QUESTIONNAIRE

1. How many children do you have? _____

2. How many boys and girls? _____

3. In which month you knew gender of baby? _____

4. Who told you gender of baby? _____

5. If boy,

REACTION	HAPPY	UN-HAPPY	NO REACTION
MOTHER			
HUSBAND			
IN-LAWS			

6. If Girl,

REACTION	HAPPY	UN-HAPPY	NO REACTION
MOTHER			
HUSBAND			
IN-LAWS			

7. Do you have joint family system?

(a)YES (b) NO

8. Are you doing household work?

(a)YES (b) NO

9. Do you visit doctor with your husband?

(a)YES (b) NO

10. Do you visit doctor with your in-laws?

(a)YES (b) NO

11. Is the household work divided among other people?

(a)YES (b) NO

12. Do you have separate family system?

(a)YES (b) NO

	Strongly Agree	**Agree**	**Strongly Disagree**	**Disagree**
I feel behavioral changes in my in-laws after knowing gender of baby				
I am satisfied with my nutrition				
For my society, gender of child is very important				
I feel easy to talk about my complication				
I am treated the same way as I was treated before				
For my family, child gender is very important				
I am having regular doctor visits				
I am suffering from domestic violence after pregnancy				
I am satisfied with my medications				
Everyone has been very rude to me after pregnancy				
My in-laws supports me in my decisions				
My husband takes care of me when I am sick				
My husband hired a maid to do the household work				
I am having proper bed rest after pregnancy				
My husband supports me in my decisions				
Everyone has been very nice to me after pregnancy				
I am having proper exercise after pregnancy				
I have freedom in making my decisions				
I am suffering from abuse from my spouse				
I felt so pressurized by my family during pregnancy				

CLINICAL QUESTIONS

	Strongly Agree	Agree	Strongly Disagree	Disagree
I am suffering from severe				

hypertension after pregnancy				
I am suffering from more acne than normal				
I am having panic attacks during pregnancy				
I am suffering from pre-term labor				
I am suffering from anemia during pregnancy				
I was suffering from severe hypertension before pregnancy				
I have strong emotional mood swings				
I am feeling over nauseated with high level of sickness				
I am having morning sickness				
My feet have swollen during pregnancy				
I feel drowsiness during working				
I am suffering from continuous constipation				
I am having irregular contractions				
I feel stressed during the day				

4. RESULTS

A total of 170 pregnant females form Punjab province took part in study. All of the participating females were pregnant. With respect to age the population was divided into two groups, group 1 includes patients with less than 25 years of age including 66% of sample population, group 2 patients with 25-35 years of age include 34% of sample population. 34% of the subjects were found to be undergraduates while rest of the population .i.e. 37% were graduated from different institutes and 28% were found to have postgraduate education. Out of 170 females, few were found to be working in different professional fields while most of the females i.e. 82% said that they were house wives. A detailed review of patient demographic data is shown in table 5.

Table 5: Demographic Parameters of Subjects.

Parameters	Categories	No. of subjects	Percentages (%)
Age(years)	<25	44	66
	25-35	23	34
Education	Under-graduate	23	34
	Graduate	25	37
	Post-graduate	19	28

Work status	House-wife	55	82
	Working	12	17
Family status	Low	16	23
	Middle	47	70
	Upper	4	6
No. of live children	None	13	20
	1-3	25	37
	>3	29	43

A total of 170 females from Punjab province were included in the study. The population is divided into three groups based on their social class. In each group, level of child preference is measured. First group is called low class in which 47% of the sample population showed child preference. Data reveals that second group called as middle class showed 38% child preference while the third group called as upper class showed 15% child preference. A detailed review of all the results relating to child preference is shown in figure 14. Lower class population shows higher level of child preference due to different factors out of which the dominant factors are education and respect for females.

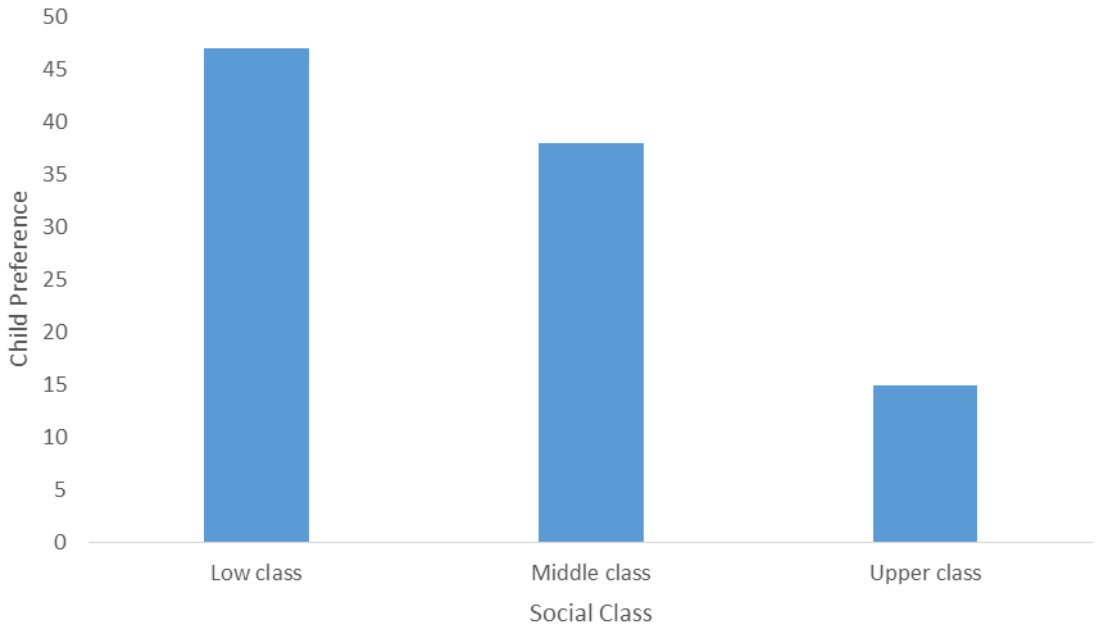

Figure 14: Child Preference in Social Class.

Different factors involved in child gender preference including education, income, employment, social class, society parameters, living standards, respect for females etc are discussed in the figure 15. Out of 170 population, 11% educated people and 22% uneducated people showed child gender preference. Data in the figure reveals that child gender

preference in more in unemployed persons 28% than in employed people 6%. Child gender preference in the rural and urban areas are very close to each other due to large number of people migrating to urban areas, 16% and 17% respectively.

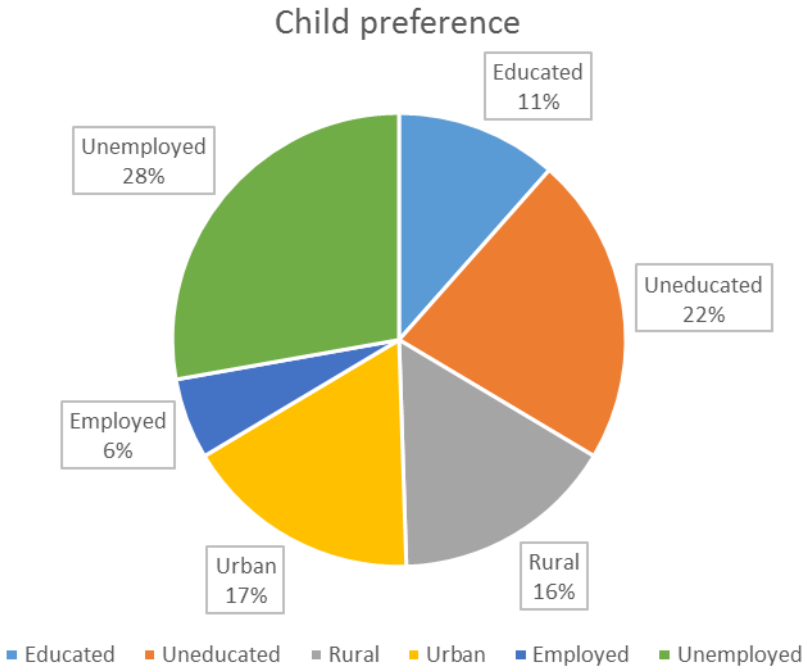

Figure 15: Different Variables in Child Preference.

Child gender preference is a vast and complex field which leads to different destinations. Most of the time boys are preferred over girls when it comes to gender priorities. Out of sample population, the preference level for boys is 69.7% as compared to 18.6% preference for girls. Only 11.6% of people give equal preference to both sexes without any gender discrimination as shown in table 6.

Table 6: Percentage of Child Gender Preference.

Parameters	No. Of subjects	Percentage
Preference for boys	60	69.7%
Preference for girls	16	18.6%
Equal preference	10	11.6%

The study of maternal response is very important to determine the detrimental effects of child gender preference on maternal health. These effects ultimately lead to a pool of maternal diseases and different types of abnormalities in children. A detailed analysis of maternal response regarding the child gender preference is shown in figure 16. the factors included in this response include behavioural changes of in-laws, nutrition, medication, society, family,

complications, treated the same way as was treated before, doctor visits, domestic violence, rudeness, support of in-laws and husband, care, proper bed rest, household work, proper exercise, freedom in decisions, abuse from spouse and being pressurized from family.

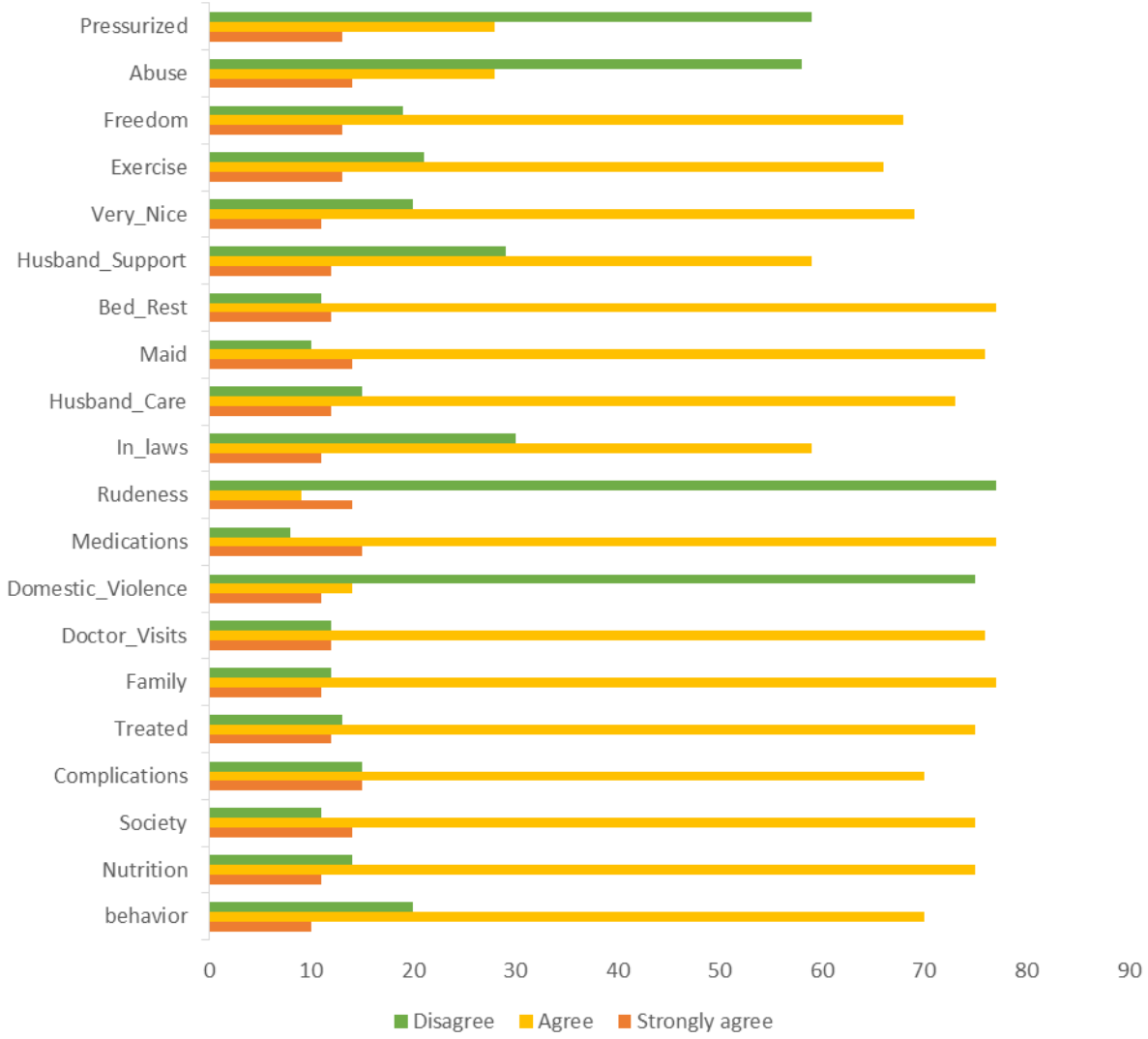

Figure 16: Percentage of Maternal Responses.

The effects of child gender preference on maternal health is shown in figure 17. The factors which are important in clinical condition of females include hypertension, anaemia, more acne than normal, panic attacks, pre-term labour, emotional mood swings, nausea, high level of sickness, morning sickness, swollen feet, drowsiness, continuous constipation, irregular contractions and feeling stress during the day. It is clearly shown in the figure that majority of females suffer from different diseases during pregnancy. Multiple reasons are involved for causing these diseases out of which the major factors are mental stress, poor hygienic

conditions, malnutrition, poor antenatal and prenatal care, improper medications and physical exertion.

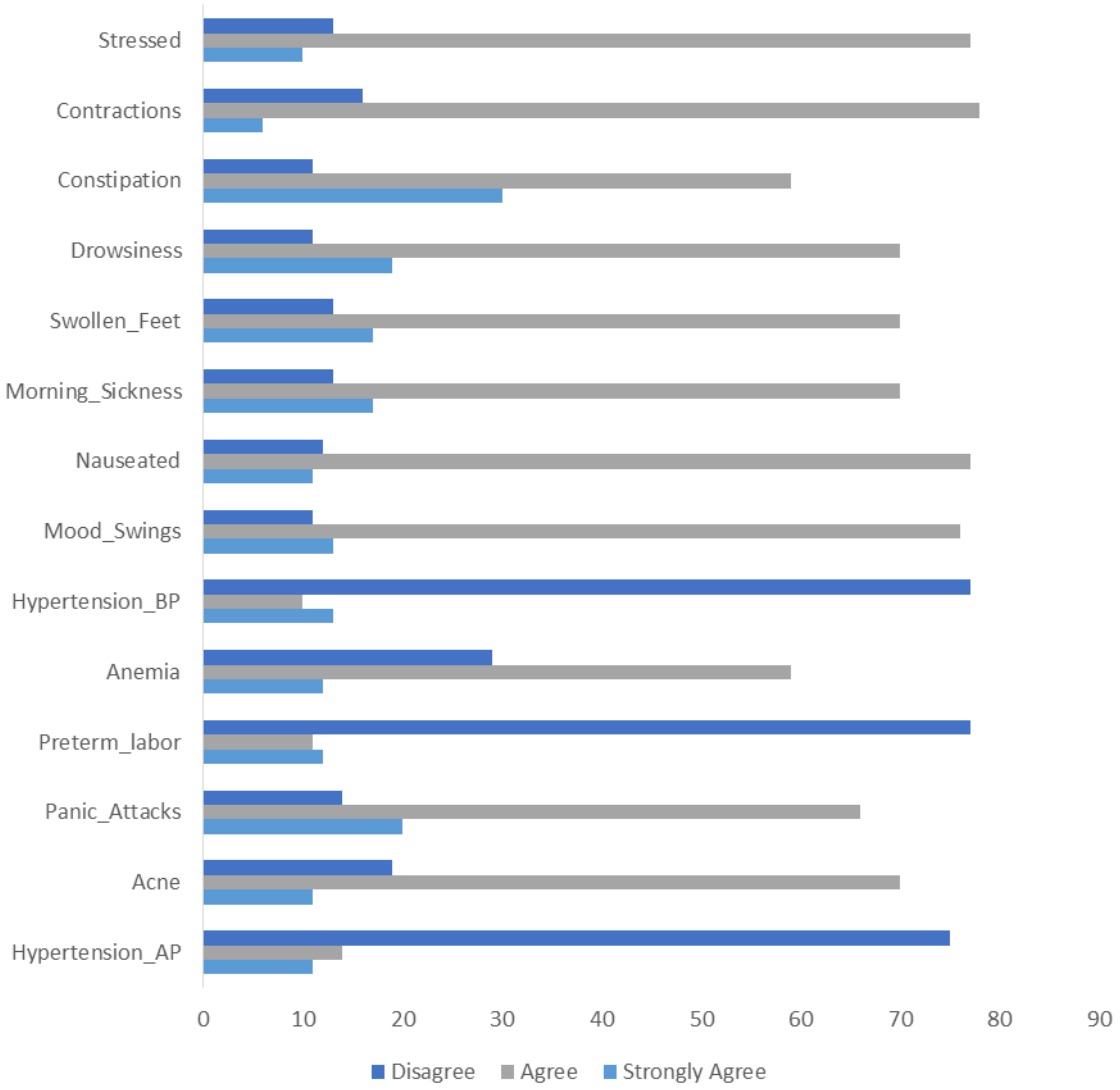

Figure 17: Percentage of Maternal Clinical Condition.

By using SPSS software, complete analysis of data is performed. The descriptive analysis of data gives the number of subjects involved, minimum value, maximum value, mean and standard deviation of the data. Descriptive analysis of data in given in table 7. It is clearly visible from the data that different factors are involved in affecting the maternal health. The mean value for the behavioural changes, nutrition, society, complications, treated the same way as was before, family and doctor visits is 1.98, 1.88, 1.71, 2.04, 2.44, 2.27 and 2.17, respectively. The mean value for domestic violence is 3.4000 which indicates that majority of females are not suffering from physical violence. The mean value for the medications, in-

laws support and husband care is 2.15, 2.55 and 2.07, respectively. The mean value for rudeness is 3.07. The mean value for household work, proper bed rest, husband support, nice, proper exercise and freedom in decisions is 2.32, 2.28, 2.07, 2.40, 2.87 and 2.38, respectively. The mean value for abuse from spouse, pressurized from family and hypertension is 3.43, 3.31 and 3.13, respectively. The mean value for emotional mood swings, over nauseated, morning sickness, swollen feet, drowsiness, continuous constipation, irregular contractions and stress during the day is 2.19, 2.22, 2.35, 2.72, 2.58, 2.85, 2.60 and 2.35, respectively. The mean value for acne, panic attacks and anaemia is 2.72, 2.61 and 2.67, respectively. The mean value for pre-term labour and severe hypertension is 3.07 and 3.18, respectively. The standard deviation for complete data set is 0.85, 0.62, 0.73, 0.81, 0.93, 1.00, 0.87, 0.83, 0.72, 1.00, 0.95, 0.88, 1.15, 0.91, 0.75, 1.01, 1.02, 1.02, 0.81, 0.95, 1.02, 0.99, 1.06, 1.16, 1.09, 1.01, 0.89, 0.93, 0.99, 1.07, 1.01, 1.03 and 1.03, respectively. The minimum value for data is 1.00 and the maximum value for data is 4.00.

Table 7: Descriptive Analysis of Data.

Parameters	N	Minimum	Maximum	Mean	Std. Deviation
I feel behavioural changes in my in-laws after knowing gender of baby	170	1.00	4.00	1.9824	.85293
I am satisfied with my nutrition	170	1.00	4.00	1.8824	.62325
For my society, child gender is important	170	1.00	4.00	1.7176	.73157
I feel easy to talk about my complications	170	1.00	4.00	2.0412	.81666
I am treated the same way as i was treated before	170	1.00	4.00	2.4412	.93553
For my family, child gender is important	170	1.00	4.00	2.2765	1.00885
I am having regular doctor visits	170	1.00	4.00	2.1765	.87944
I am suffering from domestic violence after pregnancy	170	1.00	4.00	3.4000	.83134
I am satisfied with my medications	170	1.00	4.00	2.1588	.72451
Everyone has been very rude to me after pregnancy	170	1.00	4.00	3.0706	1.00045
My in laws support me in my decision	170	1.00	4.00	2.5529	.95466
My husband takes care of me when i am sick	170	1.00	4.00	2.0765	.88380
My husband hired a maid to do the household work	170	1.00	4.00	2.3294	1.15526
I am having proper bed rest after pregnancy	170	1.00	4.00	2.2882	.91947

My husband supports me in my decision	170	1.00	4.00	2.0706	.75036
Everyone has been very nice to me after pregnancy	170	1.00	4.00	2.4059	1.01758
I am having proper exercise after pregnancy	170	1.00	4.00	2.8765	1.02745
I have freedom in making my decisions	170	1.00	4.00	2.3824	1.02671
I am suffering from abuse from my spouse	170	1.00	4.00	3.4353	.81331
I felt pressurized by my family during pregnancy	170	1.00	4.00	3.3118	.95607
I am suffering from severe hypertension after pregnancy	170	1.00	4.00	3.1353	1.02018
I am suffering from more acne than normal	170	1.00	4.00	2.7235	.99705
I am having panic attacks during pregnancy	170	1.00	4.00	2.6118	1.06692
I am suffering from pre term labour	170	1.00	4.00	3.0706	1.16445
I am suffering from anaemia during pregnancy	170	1.00	4.00	2.6765	1.09113
I was suffering from hypertension before pregnancy	170	1.00	4.00	3.1824	1.01861
I am having strong emotional mood swings	170	1.00	4.00	2.1941	.89242
I am feeling over nauseated with high level of sickness	170	1.00	4.00	2.2235	.93425
I am having morning sickness	170	1.00	4.00	2.3529	.99354
My feet have swollen during pregnancy	170	1.00	4.00	2.7294	1.07569
I feel drowsiness during working	170	1.00	4.00	2.5824	1.01278
I am suffering from continuous constipation	170	1.00	4.00	2.8588	1.03378
I am suffering from irregular contractions	170	1.00	4.00	2.6059	1.03373
I feel stressed during the day	170	1.00	4.00	2.3529	.86628

The effects of child gender preference on maternal health are clearly visible in the figure 18 (1). As the value for child gender preference increases, the maternal health is also disturbed leading to different types of problems. Panic attacks, continuous constipation, irregular contractions and pre-term labour are more common in such females. It is clearly shown in the figure that by proper care, love, affection and the mental satisfaction of pregnant females the health issues can be resolved.

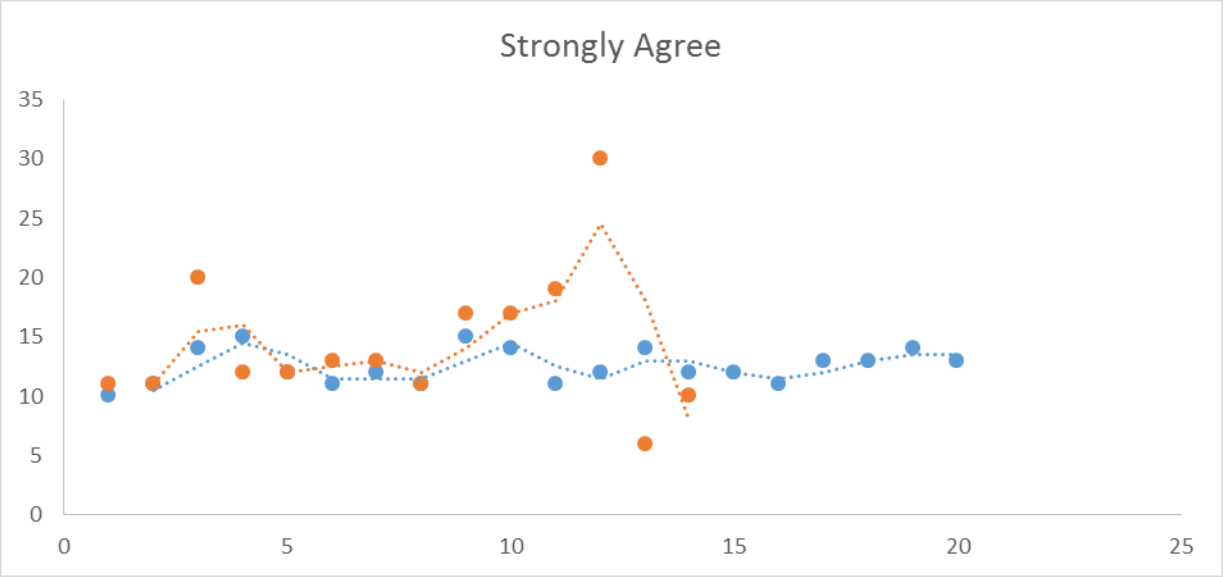

Figure 18: Effects of Gender Preference on Maternal Health (1).

The effects of child gender preference on maternal health are clearly shown in the figure 19 (2). Majority of the females suffer from different types of problems during pregnancy. Most of these problems arise due to poor antenatal and prenatal care, which deeply effects maternal health. In the figure, the values are more close to each other showing a strong relation between the child gender preference and its effects on maternal health. Child gender preference is mostly seen in the uneducated, unemployed and people living in the rural areas. Different types of educational activities should be promoted in such rural areas to improve the maternal health care activities.

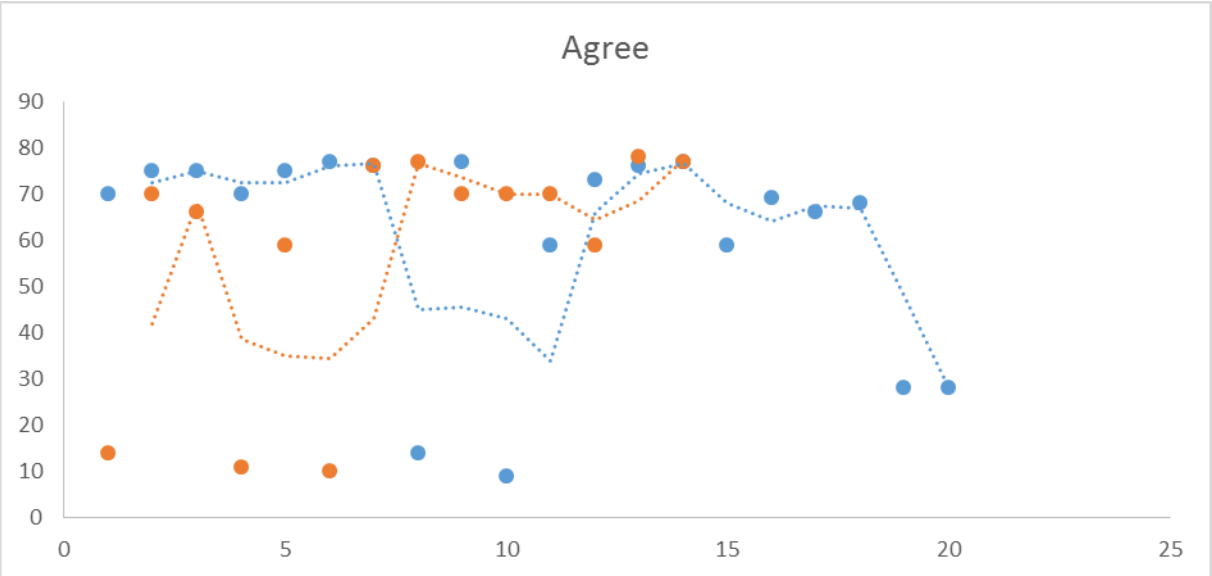

Figure 19: Effects of Gender Preference on Maternal Health (2).

The effects of child gender preference on maternal health are clearly shown in the figure 20 (3). It is clearly visible from the figure that maternal health is quite better in those females where child gender is not preferred and both genders are given equal preference whether it's a boy or a girl. Such type of behaviour should be promoted in rural areas to improve the health care activates for females.

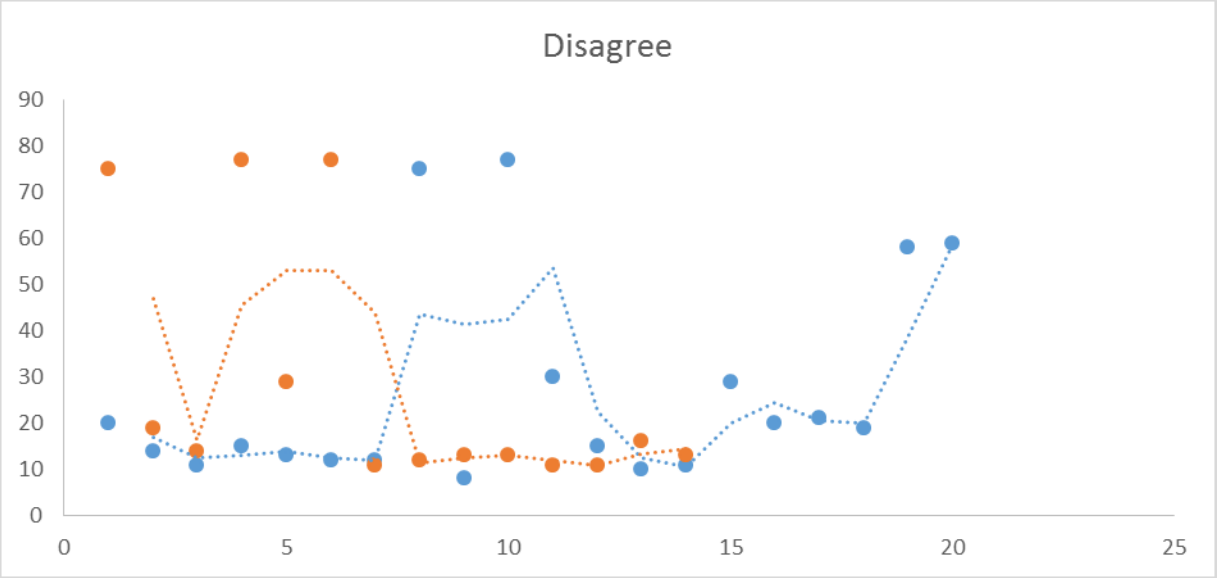

Figure 20: Effects of Gender Preference on Maternal Health (3).

4.1 DISCUSSION

At the time of the survey, the mean age of the index women was 25.2 years, while the mean age of their husbands was 36.5 years; among the 170 couples in which both partners knew their age, husbands were on average 10 years older than their wives. Educational attainment was low for both men and women, and in the vast majority of couples (67%), the husband and wife had equal education. In contrast, employment was far more prevalent among husbands; in one third of the couples (53%), the husband generated income but the wife did not, whereas women were the sole generators of income in only 6 percent of the couples. The levels of maternal health care reported by the index women for their most recent pregnancy were low.

Maternal health initiatives that focus solely on women may be flawed as they ignore the social context that they live in. These contextual factors are particularly important in patriarchal societies in Asia where women have low social status and may be dependent on their husbands with regards to decision making. For example, one of the key roles played by husbands is as economic providers which are reported to result in women's dependence on

issues such as food and nutritional intake. In this economic provider role, husbands act as potential gatekeepers to women's healthcare-seeking. Their perceptions of maternal needs are of crucial importance as they can determine delays in health seeking.

Previous studies have highlighted significant barriers to male participation as pregnancy and childbirth are often perceived as a woman's realm. Men's involvement is culturally discouraged as many of the important barriers for husbands, like social pressure, lack of knowledge and spousal communication are gender related. Pregnancy and childbirth are particularly perceived as gendered processes and there is consequently considerable social stigma that leads to male shyness and embarrassment with regards to pregnancy related discussions between husbands and wives. There is however a gradual shift towards improving male involvement in maternal health. As noted by Sternberg and Hubley "although perhaps no longer seen as part of the problem, men have yet to be seen as part of the solution". One of the surprising findings of this study was the positive desire by both Asian husbands and wives for there to be greater male involvement. This probably reflects changing social attitudes and contradicts arguments which stress the persistent centrality of women in pregnancy and childbirth that relate to differing gender ideologies. One of the possible explanations for this phenomenon is that male migration to urban centres and abroad has increased exposure to foreign ideologies that influence gender norms.

The openness to have male involvement in pregnancy and childbirth is not universal and there is a spectrum of involvement desired. At one end of the spectrum traditional beliefs persist and influence pregnancy and childbirth as a woman's domain, where women only desire female presence. At the opposite end of the spectrum women desire their husband's involvement and husbands are able to act on this, being both present and undertaking tasks such as cord-cutting, although still not actually participating in the hands-on delivery.

The results of this study suggest that governments, in their efforts to improve women's health and reduce maternal mortality, should also consider interventions that limit the negative role and the extent of socio cultural and gender norms, interventions which appear to lead to a greater and more effective use of existing health services. Policies are needed not only to strengthen the education of girls, but also to combat directly gender inequality in all aspects of women's lives and at all levels. In terms of future research, this study highlights the need for a new approach to conceptualization, measurement and methodology in order to gain better insights into the process of women's autonomy and its effects in Asia.

The results highlight the need to thoroughly explore and address context-specific causes of variable use of maternal health care if safe motherhood is to become a reality in developing countries. Numerous studies and health initiatives have been set up to improve maternal health in developing countries such as Nepal. However, most of these initiatives have tended to solely focus on the women. Whilst it is clear that pregnancy and childbirth are culturally gendered roles, it is argued that this does not mean that there is no male influence in the birth process.

There exist multiple pathways that could mediate effects of insufficient social support on pregnancy outcome. Women with low social support lack effective psychosocial resources, particularly social stability and social participation and therefore receive insufficient emotional and instrumental support from the partner, family and/or friends. During early pregnancy, a time of significant life change requiring major psychological adjustments, the perception and expectation of insufficient support clearly have a detrimental impact on maternal psychological well-being. Hence, one obvious mechanism mediating effects of social support on pregnancy outcomes is by increasing maternal stress, anxiety and depression, which is found to predict low birthweight, prematurity and intrauterine growth retardation, probably via pathways of the biological stress systems, including hormones and immune mediators. By collecting parallel data from women, their husbands and their family, this study provided rich contextual insights into the layers of influence that shape maternal health in Asian countries.

Because socioeconomic conditions and family policies that are important factors in explaining different fertility levels, are not related to a specific gender of children, we propose a ‘sociocultural’ approach to the explanation of different gender preferences. An empirical investigation of this argument needs more detailed, country-specific analyses, which have to be left to future research.

5. CONCLUSION

Few societies in the world might be unfamiliar with the phrase “Son Preference”; many are facing this dilemma since ages, documented as highest in China, India, Pakistan, Nigeria and North Korea. Although today’s woman has more liberty in decision making of children to be born, nevertheless, considerable son preference still keeps them under pressure to bear desired number of sons. In male dominated societies, gender bias is evident in every field of life, leading to female discrimination since childhood. Ladies are given inadequate authority

to choose contraceptive practices, criminal female feticide is done, thus leading to altered sex ratio at birth (SRB).

In Pakistan, every family must have witnessed gender bias of various degrees. Although such topics have always been the talk of the town, yet, it is minimally investigated/documented. Son preference or gender preference is a complex issue. It's the way a parent thinks about her/his off-spring who is not yet born/conceived. In many countries antenatal murder of girls is done, or if born, daughters face the dilemma of discrimination till death. Son preference being so rampant in Pakistan demands to be addressed at grass-root levels.

In Pakistan, preference for boys over girls is deeply culturally embedded. From birth, many women experience gendered disadvantages; less access to scarce resources, poorer health care, higher child mortality, limited education, less employment outside of the home and circumscribed autonomy. The prevalence of psychological morbidity is exceptionally high among women. We hypothesize that, among women of child-bearing age, gender disadvantage is an independent risk factor for psychological morbidity.

In Pakistan medical care is sought for children more frequently than for women, but more for sons than daughters. Critically ill male children were twice as likely as girls to be treated at hospital. In Indian Punjab, girls were breastfed for a shorter time than boys, received less high prestige food, and received medical attention later. The neglect of girls extends into later childhood and adolescence. In Pakistan, only 25% of women, compared with 49% of men have completed primary education. In urban Punjab, across all socio-economic strata female literacy is only around two-thirds that for men. For uneducated girls, 31% of parents 'did not agree' with the child attending school, compared with 7% of parents of uneducated boys. One reason for undervaluation of daughters is the cost of marriage incurred by her family. It seems plausible that un-favored daughters will be married off heedlessly and relatively young by their families. Early marriage limits educational opportunity, autonomy and financial independence. Women constitute only 28% of the Pakistani labor force. Female mortality during peak child bearing years (20-29 years) is twice as high as that for men of the same age.

This study finds that the gender preference affects the fertility and reproductive behavior of the respondents and it is necessary to reduce gender preference for the health and well-being of children and women. Punjab is a diverse province that is undergoing considerable

demographic change. Significant variations exist both between and within communities due to differences of socio-economic status, ethnicity, religious beliefs, literacy and caste. Further research is needed to explore how these variations affect male involvement in maternal and child health practices, particularly between rural and urban communities. It will also be important for future research to investigate the longer-term effects of female education interventions, and male involvement during pregnancy and childbirth itself, on maternal health and safe childbirth outcomes.

The present study showed poor educational, nutritional and other health indicators during pregnancy and post-natal period in women of lower socioeconomic status as compared to those with upper socioeconomic status. Pakistan is a poor country where about 23% of the population lives below the poverty line. Violence against women is another contributing factor towards unfavorable health. In the present study the occurrence of violence was significantly high in economically disadvantaged women and same is reported from a study. One of the indicators of malnutrition is underweight, which significantly contributes towards mother's poor health and consequently passed on as low birth weight babies. This association of low weight mothers and newborns was also seen in a study. It is prudent to note that malnourished mothers are at the verge of increased risk for complications and death during pregnancy and childbirth. Hypertension in pregnancy is another major cause of maternal mortality and a contributing factor to still birth.

If these factors remain uncontrolled, these conditions can lead to poor infant outcome and can have long-term negative impact on a woman's health. It was observed in the present study that in lower and middle socioeconomic group the frequency of anemia and pregnancy induced hypertension was almost same showing some association with lower socioeconomic and literacy status while in the upper socioeconomic group anemia was less frequent but in this group gestational diabetes was more again showing some association with effluence. It is estimated that more than half of the pregnant women in developing countries suffer from anemia and the prevalence of anemia in pregnancy in South Asia is 75% as compared to 18% in developed countries. Anemia, pregnancy induced hypertension, underweight mother and frequency of cesarean section and wound infection were significantly more in lower socioeconomic women as compared to their upper socioeconomic counterparts. Frequency of producing low birth weight babies was also more in women of lower socio-economic strata

It was determined that SES can affect pregnancy outcomes even under a universal health care systems. MA recipients tend to show higher rates of abortion, Caesarean delivery, pre-eclampsia, pre-term delivery, and obstetrical hemorrhage. Therefore, health authorities should consider investigating the kinds of barriers that exist and the factors affecting these adverse outcomes. In this study, we have analyzed the effects of gender inequality, measured at individual level by women's decision-making authority at the household, and at the contextual level by the permissive gender norms regarding violence against women, on the use of antenatal care and skilled birth attendance in different areas.

The high prevalence of psychological morbidity among women in Pakistan is concerning given recently reported strong associations with low birth weight and infant stunting. Social action, public policies and legislation are indicated to reduce culturally embedded preferences. Neglect of these fundamentals will entrench consequent inequities including gender bias in access to education, a key millennium development goal.

Women empowerment through education and financial assistance by providing jobs can improve this gender both socially and economically and reduce the adverse outcomes resulting in psychological and physical suffering.

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