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The Influence of Gender and Food Insecurity on the Eating Practices of Poor, Pregnant Women in Dhaka, Bangladesh

by

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Dedication

To the women of *Karail*.

Abstract

The purpose of this study was to investigate the interaction between rising levels of food insecurity in the urban setting and the existing gender structures and their impact on eating practices while pregnant. Using a focused-ethnography with a feminist approach in an urban slum in Dhaka, Bangladesh, we interviewed pregnant women and new mothers as well as older women, traditional midwives, delivery center staff and husbands. Knowledge around food practices while pregnant was largely in agreement with the western biomedical understanding of healthy pregnancy nutrition. However, women were largely unable to operationalize this knowledge due to poverty. Gender norms in the slum setting appear to be being challenged with respects to mobility and decision-making. However, limited access to sufficient quality and quantities of food overrode women's seemingly increased level of "freedom" in the slum. A more humanistic approach to maternal nutrition programs is proposed.

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List of Abbreviations

AI- Adequate Intake

BINP- Bangladesh Integrated Nutrition Program

BNNC- Bangladesh National Nutrition Council

BMI- Body Mass Index

CED- Chronically Energy Deficient

DRI- Dietary Reference Intake

FAO- Food and Agriculture Organization

FBDG- Food-Based Dietary Guidelines

FNB- Food and Nutrition Board

HREB- Health Research Ethics Board

IPCC- Intergovernmental Panel on Climate Change

LIC- Low-Income Country

NGO- Non-Governmental Organization

RDAs- Recommended Daily Allowances

UNDP-MDGs- United Nations Development Programme Millennium Development Goals

UNICEF- United Nations Children's Fund

UNSCN- United Nations Standing Committee on Nutrition

Chapter 1
Introduction

1.1 Maternal malnutrition and food insecurity

Malnutrition is one of the most important risk factors for poor health, both directly and indirectly, and it is estimated by the WorldBank that approximately 200 million years of life are lost every year due to the scourge of malnutrition (Schwefel, 2003). In Asia alone, an estimated 550 million people are malnourished (FAO, 2011) and young women of reproductive age are considered to be among the most vulnerable populations (Blossner & de Onis, 2005). While the issue of malnourished women is problematic all the time, it is particularly problematic when pregnancy occurs, leading to an even further decreased nutritional status which can be harmful to both the mother and the developing fetus.

The proposed causes of maternal malnutrition are numerous, complex and intertwined. Some of the "immediate causal factors" which have been said to contribute to maternal malnutrition are that women in low-income countries (LICs) often have many pregnancies and breastfeed for prolonged periods of time leaving them nutritionally depleted, do strenuous daily work, have inadequate diets, and have repeat exposure to disease and limited access to health services (Ghassemi, 1990). Furthermore, it has been hypothesized that food restrictions based on traditional knowledge that are geared towards women during pregnancy can also play a role in aggravating malnutrition (Jelliffe, 1967).

More foundationally, the lower status of women in most LICs has been hypothesized to be one of the root causes of maternal malnutrition (Ghassemi, 1990). The gender order is a social construct which manifests daily as perceptual, interactional and micropolitical activities (Greenlagh, 1995). It is, in most LICs, unequal and largely to the detriment of women (Mumtaz & Salway, 2007). While gender order is not a "timeless universal" (Mumtaz & Salway, 2007), many women around the world face barriers to recognizing their fundamental human right to health, which includes the right to access adequate food and nutrition (Shirazi, 2011). Women's nutritional status in many LICs is compromised – from childhood to old age including pregnancy – because preferential food allocation benefits men (Walker, 1997).

On top of these existing factors contributing to maternal malnutrition, there are new and emerging threats to women's nutritional well-being. One such threat is food

insecurity which has increasingly become a problem over the course of the last decade (Cohen & Garrett, 2010). Food insecurity has been defined as a condition that exists "when people do not have adequate physical, social or economic access to food" (FAO, 2010). A number of factors underlie food insecurity: climate and climate change (Douglas, 2009), urbanization (MFDM, 2005), and liberalization of food markets that lead to increased food prices (Cohen & Garrett, 2010; McCord, 2009). Regarding climate and climate change, natural seasonal fluctuations have historically affected levels of food insecurity in many regions of the world (Frongillo & Nanama, 2006; Hadley, Mulder, & Emily, 2007; Vallianatos, 2006). However, climate change outside of natural seasonal fluctuations is said to be having a profound influence on levels of food insecurity and undernutrition in LICs (Parry, Canziani, Palutikoff, van der Linden & Hanson, 2007; St. Louis & Hess, 2008). For one, climate change has led to decreased quantity and quality of crop yields (Parry, Rosenzweig, & Livermore, 2005; Slingo, Challinor, Hoskins, & Wheeler, 2005). Secondly, the political and economic nature of climate change has led to discussions around the development of biofuels as well as carbon taxes which ultimately leads to increased food prices (Hill *et al.*, 2006) and therefore higher levels of food insecurity. As for the link between urbanization and food insecurity, rural-to-urban migration is occurring largely due to economic liberalization as rural migrants seek employment in the urban centers (Grown, 2005). In the urban centers they find themselves to be reliant on the market system for accessing food and are no longer able to grow their own food. Therefore, with inadequate incomes and a reliance on the market system for food, poor urban dwellers find themselves to be more food insecure than rural populations (Ahmed *et al.*, 2007). In addition, due to rapid urbanization, there simply is less and less land available for agricultural production (Chen, 2007) which further increases levels of food insecurity.

Although a global problem, the impacts of climate change (Cambell-Lendrum & Woodruff, 2006), urbanization and liberalized food markets (Cohen & Garrett, 2010; McIntyre *et al*., 2011) on levels of food security are not equitably distributed. The people who experience the highest level of food insecurity, particularly due to rising food prices, are the poor families in LICs who spend a large portion of their incomes on food (Ahmed *et al*., 2007; Banerjee & Duflo, 2008). The urban poor, because of their inadequate incomes and reliance on the market for food, will suffer even more disproportionately because they have little to no safety net or coping mechanisms when food prices rise.

The emerging threat of food insecurity leads me to question how existing unequal gender orders, that restrict women's access to food, will interact with globally increasing levels of food insecurity and how this interplay will affect maternal malnutrition in settings with limited resources. I address this question in the context of Bangladesh; a country with a highly defined hierarchical gender order which favours men, a country with one of the highest levels of maternal malnutrition in the world and a country where levels of food insecurity amongst the poor is practically universal.

1.2 Maternal malnutrition and food insecurity in Bangladesh

According to the United Nations Standing Committee on Nutrition (UNSCN, 2004), levels of maternal malnutrition in Bangladesh are among the highest in the world. Almost half of all women in Bangladesh are considered to be undernourished with a body mass index (BMI) of less than 18.5. Not only is there a substantial negative impact on children born to malnourished mothers, but there is also an increased risk of maternal morbidity and mortality (Rahman *et al*., 1993)

Bangladesh signed onto to the United Nations Development Programme Millennium Development Goals (UNDP-MDGs) in the year 2000.[1] A number of the goals are linked to the health and societal status of women in particular. The first goal is to "eradicate poverty and hunger". The fifth goal is to "improve maternal health" and "reduce by three quarters, between 1990 and 2015, the maternal mortality ratio" (Skolnik, 2008). Since it is imperative that the issue of maternal malnutrition be targeted if Bangladesh is to fulfill its commitment to the MDGs, the government of Bangladesh, as well as other non-governmental organizations (NGOs), have launched over 27 nutrition programs targeting maternal malnutrition (MFDM, 2005).

However, recent studies regarding the efficacy of these programs in rural areas are discovering that they have been largely ineffective due to implementation problems which may have failed to consider women's unique circumstances. For instance, The Bangladesh Integrated Nutrition Program (BINP), implemented by the Government of Bangladesh with support from the World Bank in 1995, was found to have given supplements to only two thirds of the women who met the malnourished criteria. Of these women, only one-third of them began taking the supplements at the correct time and only 10% of those who began taking them at the right time complied for the recommended

[1] Information available on the UNDP-MDG website, Bangladesh at : http://www.undp.org.bd/aboutus.php

number of days (Nahar, Mascie-Taylor, & Begum, 2008). A similar finding was also discovered in an evaluation of the more recent National Nutrition Program's supplementation project in rural Bangladesh (Karim, Flora, & Akhter, 2011) where women were non-compliant with the supplementation, using the supplements incorrectly or were simply not given supplements when they should have received them (Karim *et al.*, 2011).

In Bangladesh, as elsewhere, food security has emerged as a pressing and chronic issue. Besides having erratic natural weather that has been a major influence on food security historically, the country's level of food security has more recently been profoundly affected by climate change as well as liberalization (MFDM, 2005). All of the above factors have led to rising food costs which are further contributing to the high levels of malnutrition (FAO, 2008).

The most vulnerable to food price hikes in Bangladesh are the urban slum dwellers who endure the greatest adversity in terms of food security. Urban slum dwellers are dependent on the market for their food needs (MFDM, 2005), make the most inadequate incomes (McIntyre *et al.*, 2011) and have been found to spend up to 70% of their daily incomes on food purchases (Ahmed *et al*., 2007). Food insecurity among this particular group of people in Bangladesh has been found to be almost universal (McIntyre et al., 2011).

1.3 Research question

To summarize, Bangladesh is a context where, despite numerous programs targeting maternal malnutrition, this issue continues to plague the poor. It is also well known that women's daily realities in Bangladesh are set within a backdrop of an oppressive patriarchal regime that determines to what extent women have the agency to translate knowledge into action. There are, in addition, new and emerging threats of food insecurity due to climate change, urbanization and liberalization. It is postulated that levels of food insecurity will worsen in the coming years and further exacerbate levels of malnutrition in Bangladesh. However, despite the increasing importance given to food insecurity and maternal malnutrition, there is little empirical evidence of how the traditional gender-order and increasing levels of food insecurity in the urban slum setting are interacting to affect women's eating practices while pregnant. This research addresses this knowledge gap.

1.3.1 Specific research question

How is the existing gender-order interacting with rising levels of food insecurity in a Dhaka slum and what are the resultant impacts on the eating practices of pregnant women?

1.3.2 Research objectives

1. To explore the individual beliefs, knowledge and contexts of pregnant women and other community members (including health care workers, traditional birth attendants and older women) in the slum and how these impact pregnant women's eating practices.

2. To explore the way in which the gender structures in Bangladesh are operationalized in the urban slum setting amongst pregnant women and how this influences their eating practices while pregnant.

3. To explore the ways in which rising levels of food insecurity affect the eating practices of pregnant women in an urban slum setting in Bangladesh.

4. To begin to map out the interactions between rising levels of food insecurity and the existing gender order and how this interplay may be influencing the eating practices of urban, slum-dwelling, pregnant women in Bangladesh.

5. To begin to understand how structural and social inequalities, objectively and from women's perspectives, on both the global and local scale, are affecting pregnant women's nutritional status in an urban slum setting.

Chapter 2
Literature Review and Background

2.1 Literature review strategy

The literature review undertaken was done by searching a number of databases including Web of Science, Medline, CINAHL and supported by the use of Google Scholar and Google. Types of sources utilized were journal articles, newspaper articles, textbooks and grey literature (including reports, briefings, discussion papers, and other non-peer reviewed, published books). Search terms that were used included *maternal malnutrition, Bangladesh, urban, food restrictions, food intake, pregnancy, gender, patriarchy, food security, climate, climate change, urbanization.* These terms were searched in conjunction with one another in a number of different combinations while some were searched individually with the only restrictions being that all results returned were in English.

Key journals were also searched in order to ensure that the most recent literature was being utilized. These included the *Journal of Health, Population and* Nutrition (large amounts of Bangladeshi content), the *Journal of Nutrition* as well as *Social Science & Medicine* (respected journals within the public health field with large quantities of relevant information to this study*).* There was a large number of qualitative and quantitative studies found which addressed food insecurity, maternal malnutrition, gender and traditional eating practice both globally and in the rural areas of Bangladesh but there was a scarcity of studies (both qualitative and quantitative) undertaken in urban slum settings specifically with pregnant women in Bangladesh. Also, most research surrounding maternal nutrition and nutritional status was geared towards understanding the health of their child and so there was a scarcity of literature which explored the vulnerabilities of the women themselves.

Overall, the gaps that were identified included ultra-poor, urban pregnant women's context in Bangladesh regarding eating practices; research that addresses the way patriarchal structures and gender are manifesting in contemporary, urban Bangladesh amongst ultra-poor, pregnant women regarding eating practices; and the way in which pregnant, Bangladeshi slum-dwelling women experience food insecurity in light of the existing gender-order. This study aims to begin to address these gaps in order to elucidate the ways in which pregnant, ultra-poor, urban women experience food in their specific, urban context.

2.2 Beliefs and eating practices while pregnant

Beliefs surrounding what women should eat while pregnant in order to achieve the best possible outcome for mother and child are culturally constructed. This section will discuss the definition of what constitutes a healthy maternal diet from the perspective of the western biomedical paradigm, as this is the paradigm most often utilized by westerners in developing health interventions in LICs. I will then discuss the traditional beliefs and practices surrounding eating while pregnant that exist globally and that exist, more specifically, in Bangladesh.

2.2.1 Western biomedical paradigm's nutritional guidelines for pregnant women

The western biomedical paradigm considers nutrition to be one of the important factors influencing the outcome of pregnancy. Mother and child's risk during pregnancy and childbirth are at an increased risk among women who are underweight before conception as well as during pregnancy. In order to address the needs of each gestational period, a system of Dietary Reference Intakes (DRIs) has been devised which provides nutritional recommendations for North American pregnant women. DRIs include Recommended Dietary Allowances (RDAs) and Adequate Intakes (AIs). RDAs are recommendations for nutrient intake that will meet the needs of the majority of the general population while AIs are used if there is not enough information available evidencing whether a particular intake level will meet the need of the majority of the general population. This system of dietary guidelines is further broken down into stages across child bearing, including a different set of guidelines for lactating women {{447 Health Canada 2009}}.

Health Canada (2009) recommends an increase in energy intake during pregnancy. Energy sources include proteins, fats or carbohydrates. However, while fats, carbohydrates and proteins are sources of energy, protein is extremely important in fetal development. The main role of protein in a pregnant woman's diet is to be the source of amino acids for new tissue growth during gestation. During pregnancy, it is recommended that protein intake be increased by almost double (from 46g to 71g per day) {{448 Health Canada 2006}}. Health Canada (2009) further recommends that, in the second trimester of pregnancy, "average" women should increase their caloric intake by 340 kilocalories (kcal) per day and by 454 kcal during the third trimester. Women with a normal BMI, which is considered within this paradigm to be 18.5 to 24.9, are to gain 25

to 35 pounds for a healthy pregnancy. It is further recommended that women with a low BMI (<18.5) should gain up to 40 pounds {{449 Press, E. 2010}}.

Overall, the guidelines laid out by Health Canada also recommend that, while pregnant, women should increase their levels of protein, iron, zinc, iodine, magnesium, vitamin E, vitamin C, and all of the vitamin B complex. Some suggested sources of these nutrients are in table 1 below.

Table 1. Nutrients which women are recommended to increase while pregnant and suggested sources (Wong *et a*l., 2002)

Nutrient	**Possible Sources**
Protein	Meats, eggs and dairy products
Iron	Liver, enriched breads and cereals, legumes, dark leafy greens
Zinc	Liver, shellfish, whole grains and milk
Iodine	Iodized salt, seafood, milk and milk products
Magnesium	Nuts, legumes, cocoa, meats and whole grains
Vitamin E	Vegetable oils, whole grains, green leafy vegetables, liver and nuts
Vitamin C	Citrus fruits, a number of other fruits , dark leafy green vegetables
Vitamin B complex	Meats, green vegetables, whole grains, legumes, milk

2.2.2 Bangladesh's nutritional guidelines

The western biomedical paradigm has recommended and provided "international" guidelines for the way in which pregnant women should eat so as to most effectively ensure the health of herself and her developing fetus which are likely effective guidelines for any pregnant woman to follow, in theory. Latham (1997) suggested that individual nations should be developing their own nutritional guidelines in order to be more context specific as some of the international guidelines may not be appropriate in LIC settings. While the government of Bangladesh has not released any "formal" guidelines for pregnant women, there was an attempt made to create nutritional guidelines which appear to be more relevant to their general population. The Bangladesh National Nutrition Council (BNNC) released its Food-Based Dietary (FBDG) Guidelines which are different from the above FNBs guidelines in that it takes a slightly more holistic perspective. By this I mean that they include, as well as simple tips for pregnant and breastfeeding women, guidelines around food sanitation and physical activity which

both continue to be major issues contributing to the health status of Bangladeshi people (see table 2).

Table 2. The BNNCs Food-Based Dietary Guidelines as is posted on the United Nations' Food and Agriculture Organization website (BNNC, 2011)

Eat a variety of foods everyday	• Eat from a variety of foods available in the locality • Give extra foods to pregnant and lactating mothers • Give varied and adequate foods to growing children • Give suitable diet to the elderly
Promote the advantages and importance of breastfeeding	• Learn and practice the technique of successful breastfeeding • Breastfeed exclusively for the first six months • Start home-made complementary foods when the baby is six months old
Ensure food intake to maintain desirable body weight	• Weigh all the family members regularly, if possible
Eat clean and safe foods	• Eat clean and fresh foods that are free from contamination • Clean the fruits and vegetables when eaten raw • Practice safe food storage, handling, preparation and service • Avoid rotten, stale and uncovered foods
Eat moderate amounts of fats and oils	• Give more fats to growing children • Vegetable oil should be preferred in cooking • Use fat/oil in cooking, especially while cooking leafy vegetables
Eat plenty of vegetables and fruits everyday	• Eat coloured leafy vegetables and fruits • Eat fresh fruits and vegetables daily
Use iodized salt	• Promote the use of iodized salt in cooking and preparing foods • Avoid eating too much salt and salty food

	• Limit salt intake to 5 to 10 grams per day
Drink safe water	• Drink plenty of safe water everyday
Practice healthy lifestyle	• Enjoy your meals with family members • Be moderate in what you eat and drink • Avoid smoking and control stress • Brush your teeth everyday • Walk everyday

2.2.3 Bangladeshi diet and dietary diversity

The typical Bangladeshi diet in the rural areas has been found to be lacking in diversity when compared to the recommendations of the daily food intake guidelines that have been laid out by western organizations. The majority of the daily caloric intake comes from rice and wheat (Ahmed, 1993). After rice, small, indigenous fish are the second most consumed food and have been considered an immensely important animal-source food in rural households (Heck *et al*., 2010; Roos, Islam, & Thilsted, 2003). Other major food items consumed are vegetable curries and/or pulses (*eg*. lentils) (Hutter, 1996). Green leafy vegetables are relied upon as the most vital source of vitamin A but the consumption of these is largely influenced by seasonal fluctuations (Chen, Ahsan, Parvez, & Howe, 2004).

As well as seasonal fluctuations, festival fluctuations can influence the amount of protein from livestock eaten. For instance, during *Eid al-Adha*, or "second Eid", Muslims are required to slaughter livestock (the amount they slaughter is contingent on their level of wealth). They are required to give one third of the slaughter to their friends and neighbours, one third is for their own family and one third is to be given to the poor. During this week, everyone has access to animal-source protein, even those who rarely are able to access animal-source protein sources for want of resources.

The level of diversity in a diet is influenced by socioeconomic status. One study concluded that "for most villagers, especially those belonging to lower socioeconomic status groups, the daily food intake was monotonous, consisting of the same meal pattern and the same food items" (Hutter, 1996). In another study undertaken in the rural area, members of the high income group, compared to members of the low-income groups, consumed a larger amount of all foods discussed except for cereals which was similar in

both groups. Furthermore, the low-income group consumed relatively small amounts of animal products, milk and dairy, fruits and sugar, compared to the high-income group (Alam, van Raaij, Hautvast, Yunus, & Fuchs, 2003; Islam, Akhtaruzzaman, & Lamberg-Allardt, 2004).

The composition of urban diets and the magnitude of difference in diversity between the rural and urban areas of Bangladesh, particularly in slums, has been largely unstudied. However, one study reiterated the limited diversity in slum-dwellers' diets in India (Vallianatos, 2006), indicating that the lack of dietary diversity may also possibly exist in a Dhaka slum.

2.2.4 Eating down during pregnancy

The amount of food women eat in general and during pregnancy in Bangladesh has been widely studied (Blanchet, 1984; Choudhury & Ahmed, 2011; R. Karim, Bhat, Troy, Lamstein, & Levinson, 2002; McIntyre et al., 2011; Shannon, Mahmud, Asfia, & Ali, 2008). Eating down during pregnancy (*i.e.* consuming less food) in order to avoid having too large a baby, and consequently a more difficult labour, is a commonly reported phenomenon in Bangladesh and in other South Asian countries (Christian *et al*., 2006; Hutter, 1996; Shannon *et al*., 2008). This practice is counter to the western biomedical paradigm's definition of healthy eating while pregnant, which states that women should consume more calories during this time. However, there is evidence to support the notion that Bangladeshi women are not necessarily "eating down" during their pregnancies as a result of traditional or cultural reasons. Rather, socioeconomic status has also been found to be associated with whether or not a woman increases her food intake while pregnant (Choudhury & Ahmed, 2011; Karim *et al*., 2002). Furthermore, another factor influencing the amount of food eaten while pregnant is simply that women often feel sick and nauseous and therefore eat less (Choudhury & Ahmed, 2011).

2.2.5 Food restrictions during pregnancy

Before discussing food restrictions for pregnant women, it is prudent to note that there is indeed evidence that women are certainly not blindly adhering to food restrictions and beliefs, but rather are conscious of their decisions whether or not to engage in them (Shannon *et al*., 2008; Vallianatos, 2006).

Other South-Asian countries, such as India and Nepal, believe in particularities regarding food during pregnancy (Christian *et al*., 2006; Vallianatos, 2006). Vallianatos (2006) discusses the Ayurvedic and Unani medical theories that categorize pregnancy as a "hot" condition and therefore must be balanced out by the consumption of "cold" foods. These beliefs lead to many kinds of protein sources being avoided due to meat being classified as a "hot" food. It appears that Bangladesh follows similar humoral theories of "hot/cold" foods (Anderson, 1987; Choudhury & Ahmed, 2011; Manderson, 1987). Reported "hot" foods are ducks, pigeons, beef and *hilsa* fish (the national fish of Bangladesh and a source of omega-3 fatty acids) and therefore are considered restricted food as pregnancy is a "hot" condition (Choudhury & Ahmed, 2011). There is evidence also that food taboos are still commonly practiced in rural Bangladesh as well as the avoidance of certain foods for fear of the potential impact on their own health and the health of their baby (Shannon *et al*., 2008). Shannon *et al.* (2008) found that women involved in their study chose to adhere to cultural food taboos regardless of what information was given them at their education sessions when partaking in the BINP. Mothers-in-law and elders were said to reinforce these taboos despite being counter to the western biomedicine's recommendations. For example, certain types of fish were avoided by over half of the participants because it was said that it would cause the baby to be born with "cute/small mouth" because the fish itself has a small mouth. They also avoided large-mouthed fish because they believed it would cause the baby to be big or have a large mouth. Despite some fish being out of the price-range of poor households, a number of fish that were affordable to these ultra-poor women were also considered restricted (Choudhury & Ahmed, 2011). These types of food taboos restrict women from eating a highly proteinaceous food-source. Ultimately, though, women reportedly made their decisions surrounding which food restrictions to partake in based on their financial situations, their religious beliefs, their own embodied experiences in their current pregnancies as well as in their past pregnancies, and their own desires. Women's decisions about food, then, are not simply based on nutritional requirements but also on the social contexts in which they exist (Shannon *et al*., 2008; Vallianatos, 2006).

2.2.6 Fasting while pregnant in Islamic cultures

Fasting from sunrise to sunset for one month while pregnant amongst Islamic cultures during *Ramadan* has been widely studied. It is important to touch on fasting in this section as it is widely practiced among Muslim women even while pregnant and may

influence the health and nutritional status of pregnant Muslim women. There is evidence that fasting while pregnant is detrimental to birth outcomes (Azizi, 2010). Accelerated starvation has been found to occur in pregnant women compared with non-pregnant women (Metzger, Vileisis, Ravnikar, & Freinkel, 1982) after only one day of fasting. Furthermore, some physiological studies have shown that fasting, pregnant women do not have normal biochemical and physiological indicators (Malhotra, Scott, Scott, Gee, & Wharton, 1989). Older studies undertaken have shown that the metabolic stress on pregnant women during fasting may possibly retard fetal development and ultimately neonatal growth and development (Prentice, Prentice, Lamto, Lunn, & Austin, 1983).

However, there is evidence to also support another side of the argument that fasting during *Ramadan* is indeed not harmful for the mother and developing fetus (Naderi & Kamyabi, 2004). I did not, however, find a study on fasting while pregnant amongst poor, already malnourished populations in a low-income country setting that concluded there was no harm in fasting. The studies I found that supported the claim that fasting while pregnant was not harmful took place in Saudi Arabia and in the United Arab Emirates; both relatively economically high performing countries (Mirghani, Weerasinghe, Ezimokhai, & Smith, 2003; Naderi & Kamyabi, 2004).

The issue of fasting is made more complex when one considers the socio-cultural elements such as the powerful institution of religion as well as the social stigma attached to not abiding by the laws of *Islam*. Fasting within *Islam* while pregnant is a controversial and complex issue which requires an understanding of the factors influencing pregnant women's decisions to fast or not.

The majority of the Bangladeshi population are Islamic and therefore fasting during *Ramadan* is widely practiced. Shannon *et al.*'s (2008) study found that the majority of the women in her study did fast while pregnant. However, only a small number of those women who fasted actually cited religious reasons. Despite the *Qur'an* deeming it allowable for pregnant women to refrain from fasting during the month of *Ramadan*, it was reported that women felt the need to fast because of social expectations. Although there was an expressed concern for the health of their pregnancy, the societal pressure to fast was increasingly perpetuated by elders claiming that *Allah* would save their babies from harm if they fasted while pregnant. There were no studies that I found that were set in Bangladesh and investigated physiological changes amongst poor, malnourished populations while pregnant and fasting. Overall, it appears that in the

literature, the potential harmfulness of fasting while pregnant for women and their developing fetuses is not definitive.

2.2.7 Link between women's oppression and nutritional status

Susan Walker, in an article from 1997, outlines three underlying reasons for pervasive maternal malnutrition in many low-income, patriarchal countries. First of all, women are disadvantaged from the time they are born as gender preference towards men and discrimination against women in many LICs is common. This often comes in the form of less food or lower quality foods for female children (Chatterjee & Lambert, 1990). This early unequal distribution of food plays a role in perpetuating malnourishment in pregnancy and when women are pregnant, they may continue to experience unequal food allocation within their marital households. This has been reported in other countries, like India, where it was found that only after men and children have finished eating can women sit and eat what is left over (Hutter, 1996). Secondly, women in LICs are often in a perpetual state of a reproductive cycle which increases the need for more calories and therefore can lead to malnutrition (Walker, 1997). According to the United Nations Children's Fund's (UNICEF) 2008 statistics, Bangladesh's fertility rate has dropped from 4.4 in 1990 to 2.3 children per woman today (UNICEF, 2008). This dramatic decrease in fertility in Bangladesh would mean that the effects of constant reproductive cycles on malnutrition should play a less major role. Fertility rates, though, only consider live births as an outcome and not the number of miscarriages or stillbirths which still means, for the woman, that she needs an increased amount of energy and nutrients to maintain an optimum level of health during her reproductive years. Thirdly, women in LICs have generally heavy, physical workloads and, therefore, they are chronically energy deficient (CED). Shannon *et al. (2008*) found that the participants in their study in rural Bangladesh undertook strenuous work even into the eighth and ninth month of pregnancy. However, another study undertaken in 2004 by Sudo *et al*. (2004) found that males and females in rural Bangladesh were similarly CED and that women took in fewer calories per day because they undertook relatively less strenuous activities. Regardless of amount of strenuous work undertaken on a daily basis, women of reproductive age were still likely to be micronutrient deficient because they usually ate lower quality foods than men.

There is evidence to show that there is a nutritional disparity between women and men (Ahmed, 1993; Chen, Huq, & D'Souza, 1981). Chen *et al*. (1981) postulated that this

may be because of the discrimination against women with respects to intra-household food allocation. However there are varied conclusions surrounding this issue in the literature. One study found that malnutrition in rural Bangladesh is higher among female children (Chen *et al*., 1981) but another study in rural Bangladesh found that the only significant difference in caloric adequacy was among the adults in the study (Ahmed, 1993). Heck *et a*l. (2010) found that there was a disparity between men and women who had energy intakes of less than 1500 kilocalories. 11% of women in the rural area took in less than 1500 kcal per day while only 7% of men took in less than 1500kcal per day. It was also found that disparities between males and females in rural Bangladesh exist with respects to protein intake (Chen *et al*., 1981; Heck *et al*., 2010). A diet during pregnancy that is protein deficient means there will be insufficient amino acids available to be utilized by the body in the synthesis of new tissue or for other physiological responses like immunological responses (Latham, 1997; Wong *et al*., 2002). Patriarchy and culture are primary structural determinants in the nutritional status of women as they influence both the amount of food as well as the quality of food available to women.

2.3 Being a woman in Bangladesh

There is much that it is clear from the western biomedical paradigm about what are ideal pregnancy food practices in terms of meeting ideal outcomes as defined by the paradigm. While the previous section discussed eating practices while pregnant in Bangladesh, these practices are also influenced by the existing gender order. Therefore, it is important for this study to consider the patriarchal and gender structures in which Bangladeshi women exist. In this section, I will discuss the gender-order in Bangladesh but will also preface this section by stating that the gender order in Bangladesh has a high degree of heterogeneity and the inter- and intra-gender dynamics experienced by women are always highly variable (Mumtaz & Salway, 2009).

2.3.1 The gender order in Bangladesh

Gender is said to be “a routine” which is performed daily. West and Zimmerman (1987) coined this “doing gender”. It is a “methodical and recurring” daily activity. On a daily basis, men’s and women’s actions are guided by “a complex of socially guided perceptual, interactional and micropolitical activites” which are either feminine or masculine in “nature”.

It has been argued that Islamic ideology largely determines the relationships between men and women and reinforces the structure which subordinates women to men (Chowdhury, 2009; Hossain, 1998). Bangladesh, as well as having a large Islamic contingent, is also a patriarchal society in which the subordination of women is systematically built into the societal structure. Women are generally less autonomous, less empowered, have lower levels of education, have less employment opportunities and also have a lower status within their families and societies compared to men (Hossain, 1998).

Van Staveren and Odebode (2007) state that "gender norms are an asymmetric institution" and that patriarchy " is a system that is supported by institutions that themselves are gendered and therefore work out asymmetrically for men and women"; because the ruling institutions are gendered, then the resultant impacts of policy and its implementation are asymmetrical amongst men and women. Concurring with this perspective is Chowdhury (2009) who claims that the main component of patriarchy is " systematically structured gendered inequality". Not only is the dominance of men characterized by the "rule of fathers" but it is also characterized by the "rule of husbands, male bosses and the ruling men of society, politics and economy" (Mies, 1986).

While there are many forms of patriarchy, Chowdhury (2009) argues that there are two types of patriarchy in Bangladesh. The first is public patriarchy in which the commandeering of women is undertaken by the collective; oppression of women is entrenched in policies and programs at all levels of government as well as within the health care system and within the religious institutions that exist in Bangladesh. The second type of patriarchy Chowdhury (2009) discusses is private patriarchy in which the main institution is the family as it "encourages its members to conform to the sexually differentiated roles" thereby preserving the subordinate position of women (Chowdhury, 2009; Millet, 1970).

There are a number of ways gender is often "done" in Bangladesh. One of the most powerful and salient is that men are viewed as the "bread winners" of the family and women as their dependents and "the servers of men" (Chowdhury, 2009). As a consequence, men are more highly valued in the family and in society (Hossain, 1998). This leads to a second way of "doing gender" which is the unyielding division of labour in households over which the existing gender order gives control to men (Salway, Jesmin, & Rahman, 2005). Women are generally solely responsible for cooking, washing, cleaning and child care and men rarely assist (Afsar, 2000). This "housewifisation" of

women, consequently, can lead to diminished political and negotiating power for women (Chowdhury, 2009).

A third important dimension of the gender order in Bangladesh is women's presence and male control of women's presence in the public sphere. When looking at the local level and the daily realities for women in Bangladesh, women's rights in Bangladesh are largely affected by the gendered division of the public sphere and the private sphere. Representing spaces as masculine or feminine has been deemed "central to group identity" where feminine space is the home and public spaces are largely masculine (Mohammad, 2007). An example of a space being characterized as feminine or masculine is the bazaar. The bazaar has largely been a male space in Bangladesh and therefore men have naturally tended towards being responsible for all food and household purchases thereby decreasing women's decision-making power amongst the household (Kabeer, 1997) and perpetuating women's dependence. Although this mobility dimension of gender in other South Asian cultures has been found to be fluid and variable (Kabeer, 2005; Mumtaz & Salway, 2009) and the practice of *purdah* has never been strictly adhered to in Bangladesh, women are still "deterred" from going out in public after dark and even during the day time as many public spheres are characterized as male spaces. Generally, when women enter public space they are expected to walk quickly and quietly with their heads down and covered and not arouse interest in themselves as there is very real risks of being mugged, sexually harassed and physically attacked (Salway *et al*., 2005). It is common for women to be sexually harassed in the streets and within institutions and even the police have been known to harass women (Chowdhury, 2009).

"Doing gender" for Bangladeshi women also involves "reproducing new workers" and "taking care of men and children". Therefore, one of the most important aspects of "doing gender" in Bangladesh is for a woman to get married. Chowdhury (2009) claims that "girls are married off so they can fulfill their sexual and emotional needs legally" and the universality of marriage in Bangladesh allows many women to have security as well as have a family which further fulfills the "sexual and emotional needs of men and women". Following from marriage, women are to then become mothers. Becoming a mother is not necessarily considered to be an oppressive expectation but is often viewed as a means of liberation for some women who can increase their position in the home as well as their bargaining power once they have children and there are women who view childrearing as the "most important for the existence of this world" (Chowdhury, 2009).

As stated previously, it is important to keep in mind that Bangladeshi women's experiences are not homogenous and are not "truth's to be written in stone" (Burn, 2005b) . There is a wide range of ways in which the gender order is followed, in practice, both in Bangladesh and in other South Asian countries (Kabeer, 2005; Mumtaz & Salway, 2009; Shirazi, 2011) and to assume otherwise is to paint women's experience with one brush and detrimentally view all women living under oppressive patriarchal regimes as helpless agents in their own lives.

2.3.2 Women's right to food

Of interest to this study is the basic human right to food and nutrition as well as the reproductive right to go through pregnancy and childbirth safely. Many women around the world face barriers to recognizing their fundamental human right to health, including unequal access to food and nutrition as well as traditional eating practices that could be detrimental to their own well-being (Shirazi, 2011). Many countries still do not acknowledge women as "fully human" much less people worthy of protection (Scholz, 2010).

Of particular concern, amongst the global community currently and within this study, is the issue of food security. While food security will be discussed in more detail in the next section, it is important to also view food security issues from a human right's perspective. Women are affected differentially by the global food crises as they have less access to resources in general in order to cope with the food crises. It has been postulated that the food crises has not necessarily created new gender vulnerabilities but it has exacerbated existing gender vulnerabilities and has shaped the possible spectrum of coping mechanisms which may be differentially available to men and women (Holmes, Jones, & Marsden, 2009). The fact that women are experiencing the effects of the global food crises more acutely than men, to a point that it may be affecting their health status due to inability to access proper food, is a violation of women's human rights as well as women's reproductive rights (Burn, 2005a); they are unable to confidently go through pregnancy and childbirth safely due lack of resources to access proper nutrition.

2.4 Food security

Food security is defined by the Food and Agriculture Organization (FAO) of the United Nations as "a state in which all people at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food

preference for an active and healthy life"(FAO, 1996). There are a number of factors influencing levels of food security in the world including climate and climate change, rapid urbanization rates which leave the most vulnerable populations unable to easily access food, and globally rising food prices which are more profoundly affecting vulnerable populations.

2.4.1 Climate and food security

Amongst vulnerable populations globally, seasonal fluctuations in food availability have significant impact on food security levels. Seasonal fluctuations of food availability is widely reported across many countries including Tanzania, Burkina Faso, India, Kenya and Nepal (Frongillo & Nanama, 2006; Hadley *et al*., 2007; Kigutha, van Staveren, Wijnhoven, & Hautvast, 1995; Panter-Brick, 1993; Vallianatos, 2006). These fluctuations have been found to impact maternal nutritional status (Kigutha *et al*., 1995) and levels of household food insecurity. In Tanzania, socioeconomic status and the amount of social networks were found to be strongly associated with a higher level of household food security *(*Hadley *et al*., 2007). In a slum in India, Vallianatos (2006) found food prices were also largely affected by the seasonal availability of local food.

As a natural consequence of the location of the country, Bangladesh is highly vulnerable to climactic disasters and frequently experiences short-lived disasters. This leads to increased food insecurity for members of the general population. Food insecurity generally occurs from mid-August to mid-November which is when the majority of flooding from the monsoon season occurs (Shaheen, de Francisco, El Arifeen, Ekstrom, & Persson, 2006). One study showed that the prevalence of wasting in the period from 1981 to 1982 was unchanged throughout the seasons. However, in the period from 1995-1996 the prevalence of wasting went from 13% in a relative season of food security to 23% during a relative time of seasonal food insecurity. (Hels, Hassan, Tetens, & Thilsted, 2003). This implies that the "normal" seasonal fluctuations that occur during the year have come to have a larger effect on both the level of food insecurity experienced by households throughout the year as well as the nutritional status of households throughout the year.

2.4.2 Climate change and food security

Climate change has a profound influence on the level of food security in the world. As per the status quo, the impacts of climate change on health, as well as food security is not equitably distributed (Cambell-Lendrum & Woodruff, 2006). Undernutrition in LICs in particular demonstrates climate change sensitivities (St. Louis & Hess, 2008). It has been concluded by the Intergovernmental Panel on Climate Change (IPCC) with a high level of confidence that climate change will degrade the levels of malnutrition in LICs even further (Parry *et al*., 2007). Climate change and food security are related in a number of ways. Some reviews are beginning to show that climate change is likely to decrease the crop yields in the poorest regions of the world (Parry *et al*., 2007; Porter & Semenov, 2005; Slingo *et al*., 2005; Taub, Miller, & Allen, 2008; Tubiello, Soussana, & Howden, 2007). Not only will the quantity be reduced but so too will the quality of the cereal grains grown in many of these countries (Porter & Semenov, 2005; Tubiello *et al*., 2007). Another impact of climate change will be the increased costs of necessary fertilizer due to the depletion of oil resources globally (Frumkin, Hess, & Vindigni, 2007), the discussion of cap and trade carbon taxes which may increase fuel prices and the diversion of arable land to growing biofuels which leads to reduced food crops and therefore higher food prices (Hill *et al*., 2006). All people will experience the effects of climate change but there will be some populations who will experience more severe and acute burdens than other populations (WHO, 2008a) and who have a "supposed" low level of adaptive capacity (Adger, 2006; Parry *et al*., 2007).

Bangladesh has three major rivers running through it which all drain into the Bay of Bengal; the Ganges, the Brahmaputra, and the Meghna. It is speculated that changes in flooding levels associated with climate change may cause major ecological and hydrological characteristics to change (Mirza, 2002). The World Bank (2000) estimates that the sea level will rise by about 50cm by the year 2050 and the resultant flooding and the intrusion of salt water will impact crop yields. This will leave the country unable to meet the nutritional demands of the growing population as there will be less and less cultivable land and irrigation water will be increasingly scarce (Faisal & Parveen, 2004). Some other potential impacts of climate change are increased levels of evapotranspiration, increased need for irrigation water during the winter dry months, longer and more frequent flooding and slower recession of flood water (WARPO, 2001). It is evident then, that due to the physical location of Bangladesh, climate change as it affects sea levels will pose a major challenge to ensuring food security.

2.4.3 Urbanization and food security

Urbanization, referring to a growth in the proportion of a population living in urban areas, is one of the major social changes sweeping the globe (Chen, 2007). The liberalization of trade globally, as well as erratic weather patterns, have led to large scale migrations in the last thirty years. Ultimately, the same nations that have undergone economic liberalizing reforms in recent years have also experienced large-scale rural-to-urban migrations (Grown, 2005 p.38).

Jeremy Seabrook (1996, p.177), when visiting Dhaka, described the slum as "a refuge for people displaced by erosion, cyclones, floods, famines" as well as a refuge for people displaced by development, a "generator of insecurity". Davis (2006, p.121) further describes slums as having a "Faustian bargain in a precarious ledge of land between a toxic factory and a poisoned lake". Migrants to Dhaka generally arrive with little to no skills who are also mostly illiterate. The lack of formal education hinders their ability to secure an adequate income. Findley (1982) described the demographic pattern of urban migration as bimodal, meaning that there are two types of migrants to the city: the educated migrants whom he terms as "selective" and the non-educated, unskilled migrants whom he terms as "less selective" (Begum, 1999). There are many pitfalls reported for the "less selective" migrants who decide to move to Dhaka, or other cities in the developing world. First of all, there are housing shortages, overcrowding, unreliable water, electricity and gas supplies. All services in the city and the ability to provide them are hindered due to "undeterred migration" (Begum, 1999). Begum (1999) stated that "the bulk of the recipient population in Dhaka are poor and are unable to pay for services they require and are citizens of a country which cannot afford to subsidize any further growing masses in the cities".

Due to the rapid population growth, mass urban migrations and industrialization over the last twenty years, there is a significant concern about the increasing scarcity of land and the reduced amount of soil availability for agricultural production (Lin & Ho, 2003; Yang & Li, 2000; Zhang, Mount, & Boisvert, 2004). Furthermore, soil degradation in urban and peri-urban centers is occurring due to poor urban waste management (Chen, 2007). It is postulated that the rapid use of land for urban development may be increasing the levels of food insecurity globally (Chen, 2007) and it has also been found that, in general the urban poor are more food insecure than the rural poor (Ahmed *et al*., 2007).

2.4.4 Rising food prices and food security

The cost of food, influenced by global markets, directly affects the level of food security at the household and individual level. In the beginning of 2008, food prices peaked internationally which led to food price hikes at the domestic level in most countries. The continuing saga of the global economy has further exacerbated levels of food security (McCord, 2009). The people who experience the highest level of food insecurity as a result of the price of food are the poor families inLICs who spend a large portion of their incomes on food (Banerjee & Duflo, 2008). In fact, a study of 20 low and middle-income countries found that in 18 of the countries, extremely poor households spent over half of their daily income on food everyday and some populations spent as much as 74% of their daily income on food purchases (Ahmed *et al*., 2007).

It is surmised that the levels of malnutrition in the developing world will increase due to globally rising prices of food (Campbell, de Pee, Sun, & Kraemer, 2010). Households in developing countries, because they spend a large portion of their incomes on food purchases, will have a decreased ability to purchase food. The amount and the quality of food they are able to purchase are, therefore, directly affected (Campbell *et al*., 2010). There continues to be speculation as to the extent to which nutritional status is affected by income. Some have argued that a rise in household, or per capita, income will result in improved nutritional statuses, even amongst the poorest. However, it has been observed that a rise in income level has not influenced the amount of food eaten as much as it has influenced the quality of food eaten (Ruiz-Arranz, Davis, Stampini, Winters, & Handa, 2002). The globally rising food prices have led to the necessity for the poorest to develop coping mechanisms in order to weather the relative food insecurity they experience. As well, it has been further found that, in Ethiopia, the rising food prices have differentially affected men and women (Kumar & Quisumbing, 2011), as women remain under-valued members of this society. Another concern is that the opportunity to affect change in early childhood regarding the next generation's future health and subsequently, their future earning potential is a small window of opportunity (Black *et al*., 2008; Victora *et al.*, 2008) and even the short-term rise in food prices will have a significant impact in the long-run (Brinkman, de Pee, Sanogo, Subran, & Bloem, 2010)

One coping strategy that has been reported to deal with rising food prices is to increase the amount of income. To do this, more members of the household are sent out to work including women and children even if there is a trade-off involved concerning health and education (Cohen & Garrett, 2010) as well as women's safety in the public sphere. Another coping mechanism undertaken by urban poor households is to cut back

on food consumption (CDRI, 2008) and reduce consumption of higher priced seasonal fruits, meats and eggs, vegetables and pulses in favour of staples, like rice, that are generally cheaper but less nutritious (Allen, 2008). Furthermore, spending on other household necessities will be reduced, they may use microcredit loans to buy food, ask neighbours for food, depend on food supplementation programmes and modify intra-household food allocation (Baker, 2008) where men and boys will be given a larger portion of food and perhaps better quality food than women and girls who, as stated above, may also be engaged in labourious employment to help with the costs of food. Ultimately, rising costs of food naturally is a factor in the high levels of malnutrition (FAO, 2008).

As well as a decrease in the quantity of food consumed, the quality of the food consumed often decreases as well (McIntyre *et al*., 2011). The most vulnerable to food price hikes in Bangladesh are the urban dwellers; those who are dependent on the market for their food needs (MFDM, 2005). For new, unskilled and illiterate urban migrants, the proportion of their income that is spent on food is 10% higher than the national average. In fact, the proportion of income spent on food by the poorest, urban populations is the highest in the country among all demographics (Afsar, 2000).

Moreover, urban slum dwellers endure the greatest adversity in terms of food security in that, on top of inadequate incomes and rising market prices, they must also endure little to no sanitation which compounds the acuteness of urban malnutrition (MFDM, 2005). McIntyre *et al*. (2011) found that amongst the participants in their study, ultra-poor, female heads of households, food insecurity was universal due to not being able to earn a sufficient income.

Coping mechanisms amongst the poor in Bangladesh during times of food insecurity that have been reported are that people often cut out one of their daily meals and/or stopped eating meat, fish and eggs (WHO, 2008b).. As well, there continues to be persistent intra-household disparate food allocation between men and women and boys and girls (MFDM, 2005) which might be exacerbated further because of food insecurity in conjunction with prevailing gender norms.

2.5 Chapter summary

Adequate nutrition while pregnant, through the biomedical lens, is one of many important factors that influence the outcome of pregnancy. Many traditional beliefs cross-culturally have been said to be counter to the western biomedical paradigm and,

therefore, potentially harmful to women and their developing foetuses; that women are rejecting the western biomedical definition of what constitutes a healthy diet while pregnant in favour of adhering to traditional beliefs and consequently, suffer from low nutritional statuses. This belief has been challenged in the literature in that women are reportedly not blindly adhering to traditional food practices and there are a number of culturally constructed structures that influence their decisions surrounding eating practices while pregnant. Furthermore, it is evident that women in Bangladesh experience oppression on many levels within their society which also influences their eating practices while pregnant and has an effect on women's nutritional statuses. A new and emerging issue that can potentially affect women's access to food and be a major influence on women's decisions surrounding what to eat while pregnant is the issue of global food insecurity due to climate change, urbanization and rising food prices. The literature suggests the global food crisis will affect urban poor and women in LICs disproportionately. Ultimately, it is not only the practice of "folk dietetics" that is potentially detrimental to pregnant women's nutritional status. There are multiple levels of influence on women's eating practices while pregnant and these multiple levels must be investigated in order to begin to understand the complexity behind the pervasive problem of maternal malnutrition.

To reiterate, the specific research question is: *how is the existing gender-order interacting with rising levels of food insecurity in a Dhaka slum and what are the resultant impacts on the eating practices of pregnant women?*

The objectives of this research are:

1. To explore the individual beliefs, knowledge and contexts of pregnant women and other community members (including health care workers, TBAs and older women) in the slum and how these impact their eating practices.

2. To explore the way in which the gender structures in Bangladesh are operationalized in the urban slum setting amongst pregnant women and how this influences their eating practices while pregnant.

3. To explore the ways in which rising levels of food insecurity affect the eating practices of pregnant women in an urban slum setting in Bangladesh.

4. To begin to map out the interactions between rising levels of food insecurity and the existing gender order and how this interplay may be influencing the eating practices of urban, slum-dwelling, pregnant women in Bangladesh.

5. To begin to understand how structural and social inequalities, objectively and from women's perspectives, on both the global and local scale, are affecting pregnant women's nutritional status in an urban slum setting.

Chapter 3
Methods

3.1 Methodology

I undertook a focused ethnography using a feminist perspective. The activities inherent in undertaking a focused- ethnography from a feminist perspective concentrate on the experiences of women and encourage them to voice their beliefs and needs. The philosophy of material-realism posits that there are multiple truths and realities and that these realities and truths are structured by an individual's interaction with the existing structures in a society (*eg*. class, gender, race, etc) (Denzin & Lincoln, 2005). From the knowledge garnered by feminist researchers, programs geared towards improving the status of women can be more targeted and appropriate, creating more demand for the fulfillment of women's rights and therefore be more effective

There are two underlying assumptions that led me to choose this approach to study women's health in an urban slum. The first is that

"…health is profoundly driven by the social and cultural contexts in which it exists…from the most intimate spaces of daily life to the macroeconomic policies of international financial institutions." (Freedman, 2001)

The second assumption is that women's own understandings of the current "spaces" in which they exist is crucial knowledge (Kottak, 2005) that should be utilized conscientiously by program and policy developers and the goal of the ethnographer should be to gain as much insider understanding as possible.

3.2 Study setting

The *bastee* (slum) in which I conducted this study, *Karail*, is considered to be the largest slum settlement in Dhaka. I undertook fieldwork here from October 2010 until January 2011. The key informant who introduced us to *Karail* and had been an inhabitant there for the last 18 years estimated that the slum had been established some 20 years ago. I was told that, initially, the government telecommunications company, who currently owns a large portion of the land on which this slum exists, gave plots of land to their lower-level employees to turn this land, which some participants remembered as being "jungle" at one time, into their homes. These employees built small structures on

the land in which to live. The telecommunications employees owned both the land their houses were built on and the houses which they built, thereby owing no payments to anyone. Once the employees had established their spaces, there remained large areas of undeveloped land in the surrounding area which gradually was settled by rural migrants and their families.

Karail is located in central Dhaka along Banani Lake and is between the two neighbourhoods of Banani and Gulshan; the two wealthiest neighbourhoods in Dhaka. The area was referred to as a "VIP" area by my research assistant and is the area in which most of the diplomats live and where the majority of the embassies are located. The location of this particular slum speaks to the precariousness of its existence as developers yearn for this specific area. The slum itself stretches across 100 acres of land owned by the Ministry of Science and Technology, the Public Works Department and the Bangladesh Telecommunications Company Limited. I was given estimates of the population of *Karail* from slum-dwellers that ranged from 120,000 to 250,000 people. The *bastee* consists of three areas: TNT, Jamaibazaar, and Boubazaar. TNT *bastee* is still largely inhabited by government telecommunications employees. The structures here appeared to be no more than 100 square feet. The people living in the TNT neighbourhood tended to be slightly more solvent than the people living in the other two areas of *Karail* and thus were not considered as possible participants in this study. *Boubazaar* is an area that we did not venture into to avoid working in too large of a space given the short allotted time for this study. *Jamaibazaar* is the area of *Karail* in which this study fully took place. The remainder of this section will discuss only this area of *Karail*.

The streets are narrow and many of them are lain with worn out bricks covered in dust and dirt. The narrow road we used to orient ourselves in this labrynthian area was lined with shops; tea stalls, bed carving shops, sweet shops, tailors, barbers, wood sellers (for cooking fuel) and food sellers, to name a few. All the structures for these shops were constructed of bamboo and corrugated tin. The area was in a constant state of crowding and busyness during the day time. The permanent nature of the markets in the slum, which contained most the amenities that might be required by the residents, as well as the structures and brick-lain roads, speaks to the fact that this slum is a "home" for many of the residents while others were born in the slum and have known no other home.

The homes in this area of the slum were organized into micro-neighbourhoods that generally consisted of 10 to 15 units arranged around a central unit in which the

landlord and landlady lived with their family. Each unit was no more than 40 square feet in which there was room for a double "bed" and perhaps some shelving for what little belongings they had. The units in *Jamaibazaar* were also constructed from corrugated tin and bamboo. Some had a simple dirt floor while others had a concrete pad as the floor. The prices of the units varied depending on the quality of the units as well as whether electricity and water were included in the price. Some inhabitants paid as little as 900 taka per month (13 Canadian dollars (CAD)) and these inhabitants would have the choice to pay extra for electricity and water. Where electricity and water were included in the price, tenants paid as much as 1500 taka per month (21 CAD). All of the micro-neighbourhoods that I visited had shared water pumps from tube wells where water was available at specific times of the day, shared pit latrines and a communal outdoor cooking area that would usually be covered by a roof constructed of corrugated tin to protect it from the rain during the monsoon season and the sun during the dry season. Some of these neighbourhoods had just dirt ground in the communal areas but some also had either bricks laid down or cement in the communal areas. These areas would have been the more expensive areas.

There were two types of landlords and landladies present in this slum. There were the landlords who had built their units to rent out during the birth of this slum 20 plus years previously and there were landlords and landladies who had migrated to Dhaka after the birth of the slum and were able to save enough to begin purchasing units from the original landlords; the second generation landlords. I heard no discussion of the presence of *mastaans* in this slum; the local leaders/thugs who are claimed to exploit tenants and business owners in some of the other Dhaka slums. Landlords and their families were all more explicitly capable of meeting financial obligation than their tenants, even speaking of themselves as "the middle class".

Each unit was no more than 40 or 50 square feet in which there was room for a bed and some shelving. The beds were essentially wooden frames with, either a thin mattress and thin blankets on them, or with no mattress at all and just wooden slats with some thin blankets sewn from old *sharees* (same as an Indian *sari*, long swatch of cloth that they wrap around themselves). If there was electricity, some families had a single dim light bulb dangling from the ceiling and a small fan. Many of the women had put up posters to decorate their units and clothes were hung from hangers off of the bamboo frame holding the structure in place. The units all had a thin corrugated tin door that could be locked at night with a chain and a padlock and most simply left the door open all

day and hung a piece of material over the door if they desired some privacy for resting. All of the pregnant women and new mothers, who participated in this study, shared their unit with only their husband and other children. If they had family in the slum as well, the family inhabited another unit. Therefore the occupancy of the women's units in this study was a maximum of five as none of the pregnant women or new mothers had more than two children.

3.3 Methods

Participant observation is one of the central techniques of data collection among ethnographic researchers (Creswell, 2007). I engaged in participant observation to attempt to garner information regarding everyday life of the pregnant women in *Karail* (Mayan, 2009) that may have been missed by other ethnographic techniques. As well, through participant observation, I was able to slowly introduce myself to the community and build some rapport within the small communities of slum-dwellers and this, in turn, engendered a more comfortable, open and honest environment for myself and the participants. Through daily interactions and informal discussions during informal visits, wandering through the slum markets, observing cooking practices and other daily activities as well as participating in bazaar with some young ladies, I was able to achieve the above aims of participant observation. I created field notes daily which I used to both verify information I gathered daily as well as to adjust my interview guidelines as necessary. Moreover, because I am illiterate in *Bangla*, all of my interviews had to be transcribed into English. This took a significant amount of time so the detailed field notes enabled me to stay on top of the information I was receiving daily. The data collected through this observational method also helped contextualize the data gathered during the interviews.

I chose to undertake semi-structured, in-depth interviews as my primary method of data collection. This type of interview is ideal for eliciting "detailed narratives and stories" through open and direct verbal questions during intimate encounters (DiCicco-Bloom & Crabtree, 2006; Whiting, 2008). Interviewing is also a means in which subjectivist epistemology manifests in ethnography as the interviewer and the interviewee "co-create" knowledge and minimize the distance between the researcher and participant (Guba & Lincoln, 1988). Interviews were undertaken through a back-and-forth process between me, a translator, and the participant. Also extremely important to this project initially were the key informants. We connected with one of the key informants through

the cooking staff at my apartment, who initially helped guide us through the maze of the slum until my research associate and I learnt our way around. The other key informants were introduced to us through the first key informant.

Interviews were conducted in the women's homes where we were able to obtain some privacy and I was able to observe the living conditions of the participant. The choice to interview in the home was made with the consideration of the gendered and patriarchal context in which these women exist. Attempting to set up times to meet outside of the home would not have been feasible for this particular demographic because of women's daily familial responsibilities. Often women did not know when their husbands would be home on a given day and when husbands were home there were more domestic tasks for the women to undertake. Also, most of the pregnant women did not like to walk outside of their micro-neighbourhoods for fear of getting bumped or pushed around. When planning an interview with a pregnant woman, I would always ask which time of day was best for them and then I would confirm a day with them one or two days prior. I would then return around the confirmed day and time and confirm again that they had time for an interview. If they had not remembered or did not have time, then I would set up another time with them. Most, however, did remember and were usually more than willing to take some time for the interview.

I usually would meet the women initially and have an informal conversation with them to build rapport. I would then ask if it would be alright for me to come back and visit again and perhaps do an interview with them. Upon the second visit I would set up an interview time with them and then the third and fourth visits would consist of 25 to 35 minute interviews which would focus on:

1. Their sources of advice and knowledge as well as their decisions to follow advice around pregnancy practices.
2. Daytime routines, food intake and daily bazaar habits;
3. Food practices and beliefs around food practices during pregnancy;
4. How culture and religion affect their activities while pregnant;

I undertook one focus group discussion with pregnant women during my fieldwork. I had initially set out to undertake a number of focus group discussions as a means to tease more ideas out within a group setting with the underlying assumption being that information is multiplicative; that participants can build on each other's

responses. Also, I had wanted to observe any group dynamics that may have emerged in a group setting as opposed to the one-on-one nature of the interviews. Furthermore, to verify and validate the data collected in the individual interviews, focus groups are a useful tool to ensure a certain level of accuracy (Stewart & Shamdasani, 1990).

Ultimately, the original plan to undertake more than one focus group discussion did not come to fruition for a variety of reasons; the overall short period of time allotted for fieldwork, time constraints on the individual women who had many daily duties that coincided with my research assistants schedule and women would forget that we had set a date and time for a focus group discussion. In one instance, all of the women I had confirmed for one focus group discussion gave birth to their babies in the same week that we had planned to have the focus group and the risk for the baby and the mother of walking around in the unsanitary and chaotic conditions of the slum were not risks I was willing to ask of them to take.

However, the one focus group with pregnant women I did manage to organize consisted of 3 young, pregnant women. Two were pregnant with their first child and one with her second child. I used this time to present and verify some of the information I had gathered from the interviews and from participant observation and to see if any new information would emerge in the group setting. Prior to beginning the discussion we discussed the issue of confidentiality with the group which is protocol that was approved by the Human Research Ethics Board at the University of Alberta. The focus group was undertaken in *Bangla* and recorded, with the permission of the women participating, and later translated and transcribed by my research associate into English.

3.4 Participants

To ensure that the data being collected surrounding the experience of pregnant women were from "fresh" memories, participants had to be either pregnant at the time of the study or had to have given birth in the six months prior to the fieldwork. With the help of the *dais* (traditional-skilled birth attendants, or TBAs) and *shasta shubika* (delivery center's health worker) at the local NGO delivery center, I was introduced to the initial women who participated in this study. I did not exclude any women for any characteristics such as religion, educational level, income-level, employment status or parity as I was not particularly investigating the associations of these characteristics with nutritional status. Also, as a part of a means to validate and verify information received from pregnant women, I undertook interviews with members of the general population.

This included husbands, older women and mothers, one mother-in-law, a variety of *dais* (traditional and skilled birth attendants, or SBAs) and landladies. I also engaged in informal discussions with the local pharmacists in the local bazaar. During my preliminary interviews, however, I found that any participant who had engaged with a researcher previously, acted slightly hostile, resentful and complacent (understandably so, as this is a slum in which many researchers have undertaken projects previously and without any "development" or "help" for the participants). Therefore, when I found possible participants I would generally exclude them if they had talked with a researcher in the past to avoid using the little time I had in the field inefficiently.

Opportunistically, I took my initial meetings with the women as opportunities to ask if they knew anyone else who had had a baby recently or was currently pregnant and, by this snowball technique, was able to meet more pregnant women. I even was introduced to an entire new neighbourhood by initiating a conversation with a woman with a newborn baby in the street.

Table 3. Number of each type of participant involved in this study

Participant type	***n***
Pregnant women and new mothers	13
Older mothers	3
Mothers-in-law	1
Husband	3
Health Care Worker	5
Landladies	2
Total	27

All of the participants in this study were Muslim and all of the pregnant women were married. Although it is the ideal in Bangladesh to be living in a joint family structure (Aziz, 1979), most of the participants in this study live in a nuclear family structure. This has been reported elsewhere as a common phenomenon in cities and particularly among poor populations (Kolenda, 1987; Vallianatos, 2006). Vallianatos (2006) postulated that this is likely a consequence of urban migration.

Among those who had migrated to Dhaka from the rural areas, there was no pattern as to which rural areas the participants had come from initially. This is likely because of the small geographic size of Bangladesh; migrants do not have to consider

distance when migrating to the city. Some of the participants had other family living in Karail in a different area of the slum while some had family in Dhaka, outside of the slum. Most who had family in the rural area, whether in-laws or natal, claimed they visited the rural area sometimes but there were some participants who stated that they never visited the rural area for reasons of poverty.

The daily incomes of the pregnant women's households ranged from 100 taka per day to 200 taka per day; about 2CAD per day. The majority of the women's husbands were rickshaw pullers, while the remainder of husbands undertook other occupations of snack seller, fish seller, water seller, sales clerk, tailor, hotel work and tea stall work. Among these young, pregnant women, most had not attended any more than primary education, if that. One woman had completed up to class 8 which is the end of secondary education in Bangladesh and students graduate from this class at sixteen years old. None of the pregnant women in this study were working in the garment factories at the time of this study but many had previously worked in garments before becoming pregnant or married. A small number of the pregnant women continued to work while pregnant as domestic staff in wealthier homes but had taken on only part-time hours. There were no other types of employment cited by any of the pregnant women who participated in this study.

3.5 Research assistant

One young woman worked with me as my research associate and translator. She was from a middle-upper class family who lived in the neighbourhood of Uttara, an hour's commute, one-way. Also, due to her unmarried, upper-middle class status, she had no other familial duties and was able to commit on a daily basis. It was necessary to have a female research assistant in order to eliminate the power differential that could have existed if I were to have employed a male as my research assistant. Despite my research assistant being the same gender and nationality as the participants, the socioeconomic difference between her and the participants, still contributed to an inevitable, already-existing power differential created by my presence, a western, white person. This power differential may have influenced the information given to me from the participants.

3.6 Analysis

The recommended method of data analysis for ethnographic studies was used to analyze the data. As per Mayan (2009), a content analysis was undertaken. In order to ensure that the data was not analyzed in a manner that is detached from its content, a more latent content analysis was conducted (Denzin & Lincoln, 1998; Mayan, 2009) whereby meanings of specific passages were analyzed in order to establish appropriate categories as well as to ensure that I was honouring the complexity of these women's specific contexts. As well, I utilized the coding, categorizing and theme creation methods as outlined by Foss and Waters (2007). Furthermore, the steps of analysis were interrelated and often carried out in conjunction and in reverse as it is a continual and non-linear process.

The process I embarked upon consisted of reading and re-reading the transcripts from pregnant women while making notes in the margins. Codes were developed throughout this process. I then extracted the coded excerpts from the transcripts and organized them into broader categories. Following this, I re-read all of the interviews in order to ensure the context had not been lost as well as to organize the broader categories into even broader themes. Throughout this process, I continually kept notes containing insights, questions and ideas in order to aid in the interpretation of the data (Birks, Chapman, & Francis, 2008).

As stated in a previous section, I utilized the transcripts from non-pregnant women, health care workers and husbands as well as the one focus group I was able to organize, to triangulate the information given to me by pregnant women. After the pregnant women's transcripts were coded, categorized and themed, I coded the transcripts of the other groups of participant and repeated the same process of organizing them into broader categories and into even broader themes. During this process, I noted any other emerging ideas or thoughts that fell outside of the scope of this research project so that they may be followed up at a later time if the fortunate opportunity arises.

3.7 Rigour

Mayan (2009) discusses rigour in qualitative research as was laid out by Lincoln and Guba (1985). This set of criteria includes credibility, dependability and confirmability. These criteria were developed because the values inherent in qualitative research did not adhere to the values of the positivist paradigm where the criteria for rigour included validity, generalizeability and reliability (Mayan, 2009). Today, Lincoln

and Guba's (1985) set of criteria are commonly used in qualitative research (Mayan, 2009; Polit & Beck, 2004).

There are a number of mechanisms utilized to operationalize and establish credibility, dependability and confirmability. First of all, credibility is used to "assess whether the findings make sense and if they are an accurate representation of the participants and/or the data" (Mayan, 2009). Some techniques undertaken to ensure credibility throughout the research process are being engaged in the research setting for a prolonged period of time and triangulation of data. There were ongoing discussions with colleagues as well as other members of the research team surrounding the findings in order to more fully understand and interpret the data (Mayan, 2009; Rothe, 2000; Tuckett, 2005) as best was possible for myself as an "outsider".

Secondly, dependability is "the opportunity, post hoc, of reviewing how decisions were made through the research" (Mayan, 2009). This is accomplished through the use of an audit trail that documents the decisions that were made while undertaking the research and analysis. This was done using personal memos and the practice of journaling throughout the research process (Ryan-Nicholls & Will, 2009; Tuckett, 2005).

Lastly, confirmability is "used during the data collection and analysis phase to ensure that the findings are logical" (Mayan, 2009); in other words, do the findings make sense. This can be accomplished by, again, using and audit trail and examining the data and interpreting the data throughout the research process. Reflexivity has become an important technique to ensure confirmability (Lincoln & Guba, 1985). The process of reflexive journaling was undertaken daily throughout the research process and field notes and transcribed interviews were utilized throughout the process in order to ensure that what was being observed and heard were logical.

Other specific techniques of ensuring rigour were undertaken. Throughout the proposal writing process, the research and analysis process, I was able to exploit the expertise of my supervisor, an experienced qualitative researcher. This was imperative for the continuous process of reviewing methods, data collection strategies, sampling and analysis so as to guarantee a high level of methodological coherence (Mayan, 2009).

3.8 Ethics

Ethics approval for this study was granted by the Health Research Ethics Board Panel B (HREB) at the University of Alberta (See Appendx D). Fieldwork, whether in low-income country settings or amongst vulnerable populations, always brings with it

specific ethical challenges. All of the data collected regarding the identification of the women and the other participants in the study was largely generic information and was stored in a password protected database on my computer and was only accessed by me. Also, as per the protocol outlined for protecting the data, the data will be stored in locked cabinet in my supervisor's office at the University of Alberta for five years following the research process.

My research assistant acted as a witness when garnering consent from women to participate and there were consent forms signed by myself and my research associate. I did not ask these women to sign consent forms because, through conversations with my contacts in Bangladesh, my supervisor, and reports in other research (Mumtaz, 2002; Vallianatos, 2006), I learnt that it can be difficult to obtain signatures or thumbprints from a population who lives in slum areas with high rates of illiteracy. Vallianatos (2006) even recalls that stories in the slum in which she worked circulated about how people in the past had unknowingly signed forms they could not read and, as a result, lost their properties or other valuable commodities. This protocol was accepted by the Human Research Ethics Board at the University of Alberta.

3.9 Incentives

As a token of gratitude for the time spent with us during interviews and sometimes for entire days, I did choose to give small incentives. This was also approved by HREB. We did not discuss incentives prior to discussions or interviews. Only after we were finished did we give incentives. For key informants who introduced to the slum and acted as guides during a number of points throughout the research, we gave small amounts of money for their time away from their daily work. Often they would spend upwards of three hours at a time helping us.

For participants who we met with regularly, we gave small gifts that were deemed appropriate by other local colleagues who had worked in this setting in the past. My research assistant and in-country support person aided me in conceiving of ideas for these tokens of appreciation. For instance, during the time of *Eid*, when it was traditional for women to receive a new *sharee* from their husbands or their families, we gave them new *sharees* that were deemed "appropriate" for women living in the slum. This choice was made because giving gifts that were deemed to be too "fancy" has the potential to create resentment amongst other residents in the slum and there were very specific types of *sharees* worn by slum-dwelling women as opposed to middle or upper-class

Bangladeshi women. As well, when the winter months began, we gave "winter" scarves to the women who participated. Another type of gift we gave was when participants' babies were born, we would bring them a small gift for their baby, like baby soap and oils as the bathing and oiling of babies was an important activity after birth. It was my desire to give the participants functional and appropriate gifts to thank them for their time and interest and not a gift that reinforced their situations, like bags of rice, which would may have been interpreted as me implicitly recognizing just how extremely poor these women are. This may have been construed as offensive because the women in this study exhibited to me a sense of pride and dignity in their homes and their lives.

As for the focus group, in order to thank participants for their time, I provided tea and snacks for the participants and their children, not in a manner that reinforced their precarious food insecurity situations but in a way that was culturally acceptable; women gathering around together, talking or "gossiping", drinking local tea and eating snacks from a local vendor.

3.10 Chapter summary

To most fully begin to understand the perspective of pregnant women regarding the various factors affecting their nutritional status, not only on the individual level within the slum setting, but also on the societal and global level, affecting their nutritional status, a feminist, focused ethnography was undertaken. As I chose to take a feminist approach, the respondents which this project centered around were pregnant women and new mothers. Other perspectives from the general population and health care workers were also gathered as a means to ensure that my interpretation of the information collected was logical within this specific context. With the help of my research assistant who acted as my main linguistic and cultural translator, I undertook participant observation to build rapport and to gather information about the slum setting and the daily lives of the people living there. Furthermore, I chose to do semi-structured interviews, conducted in a manner which kept in mind the underlying value of learning from each other, to delve more deeply into women's perceptions in a more focused way. Lastly, I was able to organize one focus group discussion that enabled me to garner different information from the respondents as well as verify some of the interpretations of information I had already received through the interview process. Due to inevitable unexpected events, organizing more than one focus group as I had planned, was did not come to fruition during this short time in the field. A content analysis was done on the

transcribed interviews and, to ensure that the complexity of the data was not lost, a more latent analysis was done as well, considering the larger context. Throughout the research process, a number of mechanisms were utilized to ensure credibility, dependability and confirmability; one model of the criteria for ensuring rigour in qualitative research. The ethical challenges posed by fieldwork in low-income settings or amongst vulnerable populations are standard ethical challenges but the solutions to these challenges must be considered keeping in mind the unique setting of the study in which the participants exist.

Chapter 4
Results

Investigating the eating practices of pregnant women in *Karail* led me to identify three overarching themes that begin to encompass the various obstacles women face in undertaking healthful eating practices while pregnant. On the individual level, women must wrestle with their own knowledge, experience and beliefs about eating practices while pregnant amidst a bombardment of "old" and "new" information; on the societal level, women face an unyielding patriarchy which clearly defines the gender roles of women and in turn affects their nutritional status in a number of ways; and on a global level, women must find ways to undertake healthful eating practices amidst a time of rising levels of food insecurity globally leading to increased food prices which affect the urban poor more profoundly than any other demographic. This chapter will discuss the findings from this study in terms of these three overarching themes and quotes will be provided where relevant.

4.1 Knowledge, experience and beliefs about food practices while pregnant

Women have many sources of information regarding eating practices while pregnant. Their own knowledge, or the knowledge they received, was sometimes traditional, sometimes bio-medically based, and sometimes a mixture of both. Pregnant women's direct interactions with doctors and local NGOs gave them access to a fair amount of advice based largely on the western biomedical paradigm. Pregnant women in this study stated they received advice about eating practices while pregnant from family members, the general population, non-governmental organizations and their employees as well as doctors. The skilled birth attendants (SBAs) and community health nurses working for the local delivery center advised pregnant women to "*take fish, meat, eggs and milk regularly*" (pregnant woman).

When comparing the information given women from more "traditional" sources and the information given women from more "modern" sources, I found that the gap between these two types of knowledge sources was not large. Knowledge was obtained through the afore-mentioned sources but women's knowledge and beliefs about what to eat while pregnant also came from her own embodied experience and knowledge. The question then is why women are not "following advice" or doing what they know or believe to be 'healthy" practices?

Even amidst the omnipresent NGOs in the slum, traditional sources were still deemed important sources of knowledge and most often the more traditional sources of information were giving information that was not far from the bio-medically based knowledge. Women were advised by other older women "*to eat more vegetables and take more water*" (pregnant woman). Despite this type of advice coming from more "traditional" sources, it is not counter to the western biomedical paradigm. In a culture where older women hold a higher status than younger women and all older women are referred to by younger women as "auntie", advice from older women still holds weight.

The traditional birth attendants interviewed, or *dais*, also reported that they told pregnant women that they should be eating "*meat or fish…on a daily basis*" (*dai*) and to eat "*peas… and vegetables*" (*dai*). Again, these beliefs are not counter to the western biomedical paradigm. The *dais* made no mention of superstitions regarding food intake while pregnant which may have been a product of the fact that the three *dais* interviewed had spent some time exposed, through some training, to health centers and in government hospitals. The non-reporting of superstitions and food restrictions might also have been a means to exhibit their "modern" knowledge to myself and my research assistant. It also could be that the food superstitions traditionally reported (particularly from the rural areas of Bangladesh) are not immediately thought of when considering appropriate eating practices while pregnant due to this facet of the culture being so profoundly embedded.

4.1.1 Disconnected advice from NGOs to pregnant women

It was stated on a number of occasions by all the women accessing services from the local delivery center that the advice regarding food that was given to them was largely inappropriate to the context in which these women found themselves. While the delivery center was advising women to eat more meat and drink more milk, the women were struggling to afford the daily costs of their basic staples let alone be able to afford expensive food items like these.

Due to poverty, all the women accessing services from the local delivery center could not fully follow the advice given to them from this bio-medically based service. Women, particularly when discussing the advice they were receiving regarding what types of food they should be eating while pregnant, all said that they could not follow the advice they were given from the NGOs (eat more meats and fishes, dairy, *etc.*) and doctors due to the fact that "*poor men cannot afford"* things like *"meat and fish everyday"* (pregnant woman):

> *[NGO] doctor advised me to take sufficient vegetables, milk and eggs… I cannot afford to manage those. I cannot even afford these once per month because of my financial crisis.* (pregnant woman)

Dais and SBAs from the local delivery center, when asked what women should eat if they are poor, altered their advice slightly:

> *Pregnant women should take vegetables, daal and rice. These are better than fruits and milk*. (delivery center staff)

It was suggested by delivery center staff to pregnant women, however, that even if they cannot afford fruits on a daily basis that they should at least try to eat fruits on a weekly basis. Even this modified advice, of at least trying to eat fruits weekly, was not a feasible option for many of the women in this study.

Dais were asked about the advice they gave regarding food and whether they altered their advice regarding food if they knew the woman which they were counselling would not be able to afford things like meat, milk and other protein-rich foods:

> *We told them that if they can get meat or fish, that they should eat these on a daily basis. Those who are rich, I tell them to eat meat and fish. Those who are poor like me, I suggest them to eat peas, low-priced fishes like shing fish and also vegetables.* (*dai)*

This modified advice, which considered the solvency of the pregnant woman being counselled, included items that would be affordable for most of the pregnant women in this study. Vegetables, peas and some small, fresh fish were reported to be eaten often by the participants. The *dais*, and their life experience and less "training" from an institution, and perhaps their traditionally more holistic perspective on pregnancy and childbirth, seemed to counsel women on eating practices with advice that was more relevant and achievable for poor, pregnant women.

Women were also unable to follow advice from doctors and NGO workers about taking "*vitamins and medicines"* as well as uptaking medical services deemed important within the bio-medical paradigm, like sonograms. They would have had to reduce the

amount of food they and their families would eat that day if they were to follow this advice:

> *Doctors suggest taking the medicines but nobody supplies it free of cost… it costs 30 or 40 taka per week… we should follow their advice but due to want of money we cannot follow their advice and I cannot take the medicine.* (pregnant woman)

> *The doctors of [the delivery center] advised me to take medicine. They also said that I am suffering from a blood deficiency but I have no money to buy the medicine…* (pregnant woman)

Some of the women, however, did indeed purchase the medicines and the vitamins that were recommended. We did not probe as to whether these women were able to financially sustain taking vitamins throughout the course of their pregnancies.

It was reported that other doctors were charging a day's wage for a visit, about 100 to 150 taka. Regardless of the price, though, there were also reports of concerned husbands taking their wives to see doctors and paying for the services. Other health services were reported to be too expensive to access:

> *Madam, from where will we get that much money [for sonogram]? Setting up a tea stall, food, clothes and education for my children are all huge expenditures.* (pregnant woman)

Therefore, there was a disconnect between what the doctors and NGO staff were recommending to women for staying healthy and the amount of resources women had to access these services and obtain vitamins.

4.1.2 Fasting while pregnant

When discussing fasting, women were receiving bio-medically based advice as well as more "traditional" advice. There was a variety of beliefs surrounding whether or not a woman should fast while pregnant. Advice supporting the western biomedical paradigm's belief that women should not fast while pregnant was given to women in a manner that was justified in the *Qu'ran*. Young women reportedly had been advised not to fast while pregnant because *"during the pregnancy period it is not compulsory to*

perform fasting" (pregnant woman). As well, women were being advised by their family members that while breastfeeding they should not fast or she would not produce enough breast milk. Furthermore, pregnant women who had been ill while attempting to fast during *Ramdan* were told by doctors to stop fasting. In all cases such as this, the doctor's advice was followed.

There was, overall, an acknowledgment of what the more "modern" advice on fasting for pregnant women is but it is disregarded by even the SBAs employed with the "modern" delivery center who believe it is more important to act as a good Muslim. The SBAs at the local delivery center, who generally are dealing with pregnant women within the biomedical paradigm, still believed that women should fast regardless of what the doctors might advise. Fasting is *"compulsory for a Muslim"*:

> *[Delivery] center advises that women should not do the fasting. They suggest that due to fasting the baby may be at risk. But I think this is not true. Some women refrain from fasting as they desire to. In our time we did the fasting and saw nothing harmful. If we believe in Allah, we should be fasting at the time of pregnancy…It is compulsory for a Muslim.* (delivery center SBA)

Women were heterogeneous with respects to whether they fasted or not while pregnant during *Ramadan*. Some women explicitly followed advice from others regarding the potential dangers of fasting while pregnant and therefore did not fast while others disregarded the potential risks and fasted for reasons like *"fear of death"* (pregnant woman) and because it was required of them as Muslims and the rewards from Allah would be greater:

> *Yes I did fast during this Ramadan. I made the decision to fast this year because everyone does it. It is the code of Islam. One of the neighbours told that two times the reward can be achieved from Allah if anyone fasts during the pregnancy period. I was four or five months pregnant…I did not feel any problems during fasting time.* (pregnant woman)

This divine justification for fasting while pregnant despite the potential risks articulated by the western biomedical paradigm to the developing fetus appears to still hold significant power among pregnant women in the slum.

Overall, pregnant women in the slum encounter a number of different people with different knowledge and beliefs surrounding fasting while pregnant. The issue of fasting while pregnant remains to be a controversial issue with more local religious practices not only being counter to the beliefs of western biomedical paradigm, but often overriding them.

4.1.3 Food proscriptions for pregnant women

There were some food proscriptions mentioned after probing women. Young women in the study acknowledged these proscriptions but also seemed to not believe them wholeheartedly as they would laugh while relaying this knowledge to us. The few mentions of advice given to pregnant women regarding food superstitions were from older women:

> *Someone advised me that if I eat Mirgel fish then maybe my baby will suffer from mrigy (epilepsy). And they also suggest me not to eat fish with big mouth size (boal fish, mini fish). If I eat bigger mouthed fish then the mouth of my baby will be bigger also… the neighbour woman told me that she heard it from her ancestors like her mother-in-law, mother and others*. (pregnant woman)

The above food proscriptions were re-iterated by the women in the focus group. Other different beliefs about eating practices were also cited by the women in the focus group when probed. The spice *kali jira* was claimed to be help reduce body pain and also to produce breast milk. As well, *magur* fish was claimed to be beneficial to eat as it helped to "*produce more blood"* (pregnant woman) which, although not probed on this issue, can be taken to mean a prevention of anemia as often anemia was referred to as a "blood deficiency". Cold rice was deemed to be a restricted food because it could cause colds and pneumonia for the baby. There was mention of duck as being a restricted meat for reasons the women did not clearly articulate except that they made a joke that it was a restricted food because it would make the baby's voice sound like quacking. This may be further evidence that women may not take these food beliefs too seriously. Lastly, grapes were deemed to be restricted because they would "*make the body hot"* (pregnant woman). This was the only mention of foods being characterized explicitly as being "hot" or "cold" foods, despite the literature discussing the existence in Bangladesh of humoral theories of "hot" and "cold" foods. These humoral theories surrounding food may not be

something that is expressly articulated in everyday discussions around eating practices while pregnant.

A number of these "superstitions" may be contrary to western biomedical knowledge in that they have often been accused of being nutritionally detrimental to the mother. For example, many of the superstitions surrounding food involve foods that are highly proteinaceous and rich in fatty acids (eg. fish) which, according the western biomedical paradigm, are major sources of protein.

Furthermore, there was also evidence that some of the beliefs surrounding the quantity of food that should be eaten during pregnancy are changing also:

> *We heard previously that more eating is not good for the upcoming baby because more eating would lead to a bigger child and would cause problems at birth. Now-a-days we hear that more eating is good for the upcoming baby.* (young woman, daughter of a *dai*)

Eating down as a means to avoid having a large baby was not mentioned by any of the other participants or even by the older women in this study.

4.1.4 Cravings, preferences and aversions

Cravings were not commonly reported among the women in this study. Only a small number of the participants reported feeling cravings for special foods since they had been pregnant. One of the cravings cited was watermelon and tamarind (sour pickles). Some of the older women interviewed also claimed they had craved tamarind during their pregnancies also. This is a popular snack for the general population in Bangladesh and therefore these cravings may not necessarily be related to pregnancy. The women also believed that because of their financial situations, taking "special snacks" was not possible:

> *It depends on personal will. Personal will does not dominate or is not implemented in poor families*. (pregnant woman)

More than cravings, preferences of the women were reported. Overall, the women unanimously liked to eat vegetables. It was not clear whether they liked eating

vegetables for health reasons or whether they craved the taste of vegetables. Regardless, vegetables were the cheapest and most plentiful foods in the market:

> *Fish, meat, I like everything! The [food] I like most is vegetables. If there is fish and meat in the home I just go for vegetables.* (pregnant woman)

> *The vegetables provide sufficient vitamins. Sometimes I don't like to eat fish and meat. So, I prefer vegetables much more and I also think that I have been taking more rice with vegetables.* (pregnant woman)

Therefore, women knew vegetables were healthy for them, they liked to eat them and they could afford them and so they made vegetables a large part of their daily diet next to rice. Women even said they preferred vegetable over meat and fish which may be their own embodied experience or it may be a coping mechanism for not being able to afford fish and meat regularly or that they simply were experiencing aversions to meat. If vegetables had not been affordable then it is likely that women would not have been able to include them in their diets in a sufficient way. Regardless, the women were making decisions about what they ate based on their own preferences.

On the other hand, the most commonly cited reasons for avoidance of food or eating less food was women's embodied experience of being sick while pregnant, not traditional beliefs about food. Most of the women claimed that, due to their feelings of sickness while pregnant, they were simply turned-off by all foods and not just one or two particular foods. Some could not "*tolerate egg and daal"* while pregnant. Most women reported feeling sick during, at least, the first three months of their pregnancies. The women reported that, during these times of sickness, they did not feel like eating at all due to the nausea. Most claimed that they wished they could eat during these times but that they could not manage to and that they just did not "get any taste" from food. Some women reported that they experienced even more severe health issues which affected their ability to eat healthily during their pregnancy because they could not afford both the medicines from the doctor for "blood deficiency" and a sufficient amount of healthy foods:

> *I could not take anything for the first three months of my pregnancy. At that time I felt like vomiting even when I was drinking water. Now I feel like I can take*

food but cannot manage enough food due to lack of money…I have to take medicine everyday…I am suffering from fever and also I feel weakness. I have no strength and I have a blood deficiency. (pregnant woman)

The women coped with their feelings of nausea by simply not eating, or by eating very little. Medicines were an unaffordable expense for most of the families in this study. The above quote exemplifies one of the many trade-offs involved in food intake while pregnant; medicines for her "blood deficiency" and her fever were deemed as more important than purchasing good food. Also, some of the husbands were reported to have been fairly concerned with their wife not eating anything while sick. One husband that had been attending the local delivery center's sessions for husbands regarding the health of their pregnant wives claimed that when his wife was feeling too ill to take any food, because he had learnt at the delivery center that it is important that she eat daily, he "*forces her to take food*" (husband).

4.2 Patriarchal structures and gender norms influencing eating practices

Not only do women's individual knowledge, beliefs and experiences influence their eating practices while pregnant, so too do the pervasive normative gender structures that ensure women fulfill their gender roles within their households and within society.

4.2.1 Fulfilling gender roles

Some women still do eat last in their household due to their belief in fulfilling their gender roles: *I sit last for food…I have to feed my children by my own hand.* (pregnant woman) This practice of women feeding their children by hand at every meal was widely practiced, even among middle and upper class families in Bangladesh. This may create, in poorer households, issues of unequal food distribution where there simply may not be enough food to fulfill the desires or nutritional requirements of the entire household and the pregnant women will eat last after everyone else is fed.

This practice, as well as the normative gender practice that was reported of catering to the desires of their husbands and children when deciding what foods to purchase and cook at the risk of not eating sufficient quality of food, may be contributing to women being malnourished in general and during pregnancy:

No one [in my family] is fond of food that much. My husband and also my children. No one. Some foods are only eaten by me. I asked my husband to take food and eat. He replies 'no I won't'. If I bake an egg, then he will eat. And if it is vegetables, they will not eat. My husband does not like vegetables. He goes for training at the delivery center and he heard from them that vegetables are good. He comes home with vegetables for me. He usually does not like vegetables as much as I do. Many times, the food I cook is not liked by my husband or my children. In that case I feel stress. How will they eat? What will I do? I am stressed… so I always give priority to their wishes and choices. (pregnant woman)

Other women also describe cooking things for their husbands despite their dislike for certain foods. An inevitable consequence of catering to the desires of their husbands and children is that they may find themselves neglecting their own needs for certain types and amounts of food as it is likely that, in the financial space in which these households exist, there is simply not the resources to provide for everyone's desires in the household. However, as was touched upon previously in this chapter, despite the desires of the husbands and the family regarding food choices, women were adamant that if they simply asked their husbands to make a purchase of a specific bazaar item their husbands would oblige them. This means that even though there are ascribed gender roles for men and women which might include women catering to the desires of her family, the women in this study who did ask for things from the market that were good for her nutritional status did not entirely lack control and agency and all inter-gender dynamics in a patriarchal, Islamic society are not homogenous:

…most of the time he buys bazaar items depending on his desire…my husband prefers to buy fish and he does not like vegetables. But in my pregnancy period I need vegetables. At my request he will purchase vegetables. (pregnant woman)

4.2.2 Family structure and women's dependence

The family structure in the slum often tends to be slightly "non-traditional". This may be affecting women's access to resources, like food. Women in this study had many natal family members living close by them in the slum. Traditionally, married women living with their natal family has all of her expenses paid for by her family. There may be

a protective element to having married, pregnant women looked after by their own natal families as opposed to being looked after by her in-laws, where her status in the household would be lower and therefore her access to resources, like food, less:

> *My mother bears all types of food expenses. This is the custom in our country that when I live with my parents they will bear all sorts of my expenditures.* (pregnant woman)

Having natal family living close by in the slum and being actively involved in the lives of their daughters appears to be a means of creating a support system so times of scarcity may be less severe. One woman in this study, who lived with her husband in the slum, had her natal family living close by. Everyday this woman would look after her little brother while her mother, father and husband were at work. Her father supported her and covered all of her expenses. Her food recall for one of the days I met with her was more substantial than some of the women who had no support system in the slum:

> *[For breakfast] I ate in my mother's house…pumpkin and prawns. Besides that, in my house I cooked fish with potatoes and also shutke* (dried fish) *with kochu (*a green vegetable)*… I desired to eat pumpkin. My mother cooked it yesterday night so she called me over to eat pumpkin curry this morning.* (pregnant woman)

It may be that women whose natal family is living nearby and helping with expenses and choosing foods from bazaar for themselves and their pregnant daughters may be attempting to look out for the best interest of their pregnant daughters. This potentially protective measure for women, however, still perpetuates the beliefs surrounding women's "delicate" constitutions, and does not promote women taking matters into their own hands in a proactive way.

4.2.3 Food purchasing and women's mobility

Control over who is making the food purchases likely plays a role in influencing the quality and quantity of food being purchased within these pregnant women's households. As covered in more detail in chapter three, there were large bazaars available within the slums with a wide variety of fruits and vegetables, spices, oils, rice dried fish, and some meat shops. All the essentials could be purchased within a close distance from

their homes. It was found that either the husbands undertook the daily bazaar purchasing once they collected their earnings for the day, or other family members like a natal father did the shopping, or the women themselves would receive cash daily from their husbands after they arrived home from work and then they would undertake the daily food purchasing from the bazaar.

The women in this study were largely responsible for either purchasing the food or telling their husbands what to purchase. Some women had husbands who did the daily bazaar on their own accord but stated that if they desired anything, even if her husband did not desire it, like vegetables, they would simply ask their husbands to purchase them and their husbands would "*fulfill her desires"*. One woman, while answering a question regarding what she had eaten for breakfast that morning, said that she had eaten *hilsa* fish, or *fish ilish*. This is the national fish of Bangladesh and it is relatively expensive to purchase. I asked her how she was able to afford this fish and she responded by saying, "*though it is costly, my husband brings it regularly to fill my desire"* (pregnant woman). Her husband, who regularly undertook the bazaar responsibilities, when asked how he made decisions about which food items to purchase, echoed his wife and said that "*according to her desire I buy bazaar items*" (husband). It is important to consider the heterogeneity of the inter-gender relations between husbands and wives and not assume that all husbands do not desire to please their wives because the existing gender-order, in general, places women lower in society's hierarchy.

Many husbands undertook the daily shopping practice regardless of their working schedules for a couple of reasons. Husbands were scared for their wives' physical health in the busy market in the slum and also because many of the women and men alike believed it shameful for a woman to be out in public doing bazaar:

> *I don't go [to bazaar] now but I went previously. As now I am pregnant…in bazaar there is a crowd and if anyone pushes me or hurts me at this stage…you know how accident does not take much time…besides that, in our family, no one wants me to go to bazaar.* (pregnant woman)

> *My husband [does bazaar everyday]…he does not allow me to do bazaar due to my physical condition. I also did not go to bazaar previously. It is not honourable for a woman to do bazaar or go in public places* (pregnant woman)

If women did undertake the daily shopping, they did it because their husbands did not have time due to working:

> *I usually do bazaar… [my husband] cannot manage the time for shopping…There is no problem at all with me going to bazaar alone.* (pregnant woman)

None of these women reported enjoying doing bazaar or feeling more "liberated" because they had this responsibility. Most stated that they actually disliked being responsible for the daily food purchasing due to the over-crowdedness at the market and they feared that anything might happen to them while out alone. None of them reported actually feeling they had gained independence from being solely responsible for the purchasing of food items. It appeared that it was an accepted reality of living in an urban slum and living on subsistence wages that the women must partake in activities that might otherwise be deemed "dishonourable" and social norms that claim that women should not be in public and doing bazaar.

In the rural area, it was reported that women must always wear the veil when out in public and therefore they did not undertake the daily shopping:

> *In the rural area my husband did the bazaar because in the rural area women do not go to bazaar. The men refrain the women from going to bazaar. They like to keep women in the veil always.* (pregnant woman)

In the slum, most women did not wear a *burqa* or a *niqab* if they were going about their business in the slum and doing bazaar. There was heterogeneity amongst the families in this slum with respects to beliefs surrounding women doing bazaar. There were many women walking "freely" in public within the boundaries of the slum, but that claimed when they left the slum they wore a *burqa*. The slum itself seemed to act as the "home" where women could walk around without the veil. There were even young, married women who walked about the market in the slum without so much as a scarf covering their untied hair; but not without being scolded from elder men in the market. It seemed to be acceptable that women could "*go to bazaar without any rigid veil*". Women further mediated these social norms by oftentimes loosely covering their heads with the tail end of their *sharees* and also covering their pregnant midsections with extra fabric

from their *sharees* in order to avoid being ”*embarrassed*” by their “c*ondition*” or “*illness*”, as they often referred to their state of pregnancy.

There are still beliefs circulating in the urban slum that are grounded in the dominant social structure which view women as weak and unable to do things for herself. These beliefs are not only perpetuated by men but also by the young women themselves as they define themselves as their society defines them. However, it is also detrimental to view women entirely as passive victims within this gender-order.

4.3 Food insecurity due to globally rising food prices influence eating practices

Food insecurity due to rising prices of food and inadequate incomes was reported by all the participants in this study. Although there are a number of factors influencing food security levels, the price of food in the market is the manifestation of all of these influences “on the ground” and therefore, is the problematic issue identified by the participants with respects to accessing food. Rising costs of food is the most proximal reason for decreased access to food for participants.

4.3.1 Rural access to food versus urban access to food

There was a resounding and almost nostalgic claim that acquiring high quality and quantities of food was easier in the rural area and that this was affecting the health of pregnant women in the urban slum:

> *Long before, we took our meal fresh and hygienic and we had no want of fresh foods. We collected fresh milk, fish and other foods from the land and those were fresh and hygienic. But this is not possible in the city. The city dwellers are able to get fresh food only half the days of the week. So the pregnant women suffer from malnutrition and they feel weak and [the dais] can do nothing for them.* (*dai*)

This was echoed by another young, pregnant woman who not only commented on the quality of food but also the quantity of food:

> *There are some differences between Dhaka and the rural area. We get fresh and pure foods in the rural area. But in Dhaka it is not easy to get fresh and pure*

foods. The taste of food in the village in better than Dhaka City. In the village the quantity of cooked food is much bigger than here. (pregnant woman)

What appeared to be the central issue surrounding the quantity of food that could be accessed and, consequently, the level of food insecurity experienced by these women in Dhaka compared with the rural area, was the fact that people in the rural area could grow their own food and harvest their own fish. Whereas in Dhaka, the women believed this was not something that could be remedied and therefore everything must be purchased:

At that time there was a huge kitchen garden. We could get vegetables as much as needed. We had ponds. At that time nothing was bought. But it is not possible in Dhaka City. Here you have to buy everything and nothing is free of cost. (older woman/ delivery center *dai*)

Due to the households in the slum having to purchase all of their foods, they struggle daily with earning enough to eat everyday and the physical limitations of the slum setting is a factor in not being able to have both quality and a sufficient quantity of food that is fresh and free.

4.3.2 Coping mechanisms for high food prices

Coping mechanisms in times of food insecurity have been widely studied in the world. It was not a surprise to find similar coping mechanisms amongst the women and their families in this study. Women claimed they mediated the food insecurity in a couple of ways:

[My husband] did the shopping yesterday… if I cooked it at morning time today then there would be nothing left for supper today. (pregnant woman)

The above response was given by a woman who, on one of the days I visited with her, had reported that she had eaten *panta bhat* (a rice and water gruel) for breakfast that morning. It is evident from her response above that there is indeed food rationing going on which is affecting the quality of her diet. Her husband had shopped the day before and she had cooked that food for lunch and dinner, with some remaining to be cooked for the

following day and if that were cooked for breakfast there would be no more food for the rest of the day so she ate a breakfast practically devoid of nutrition in order to save some food for dinner.

Husbands skipping meals was reported as well. The husbands sometimes skipped breakfast because there were no items to eat for the morning meal, despite many of the husbands requiring massive amounts of energy for their jobs as rickshaw drivers. None of the women said they had skipped a meal but, as well as the woman in the previous paragraph who ate a rice gruel for breakfast that day, there were other reports of eating nutritionally devoid breakfasts, like *moori* (puffed rice).

4.3.3 Saving leftover bazaar money

The women who undertook the responsibility of making food purchases all reported that they had, at one point or another during their married lives, saved the leftover money from the daily bazaar money given to them by their husbands. This saved money was deemed by all the women as *"security money"* and was used normally for "*times of scarcity"*.

> *I also save some portion of money from the bazaar. Sometimes my husband cannot earn. At that time I spend this saved money. My husband also knows about this… [the amount I save] depends on the price of the bazaar items. When the price is high I save 10 taka. When the price is low I can save 15 to 20 taka.* (pregnant woman)

When discussing this practice with the women in this study, they found it an amusing topic as it was a practice which was not talked about openly with their husbands although their husbands were aware that it was occurring. Because the husbands were benefiting from this practice there was no issue with their wives siphoning off money from the daily bazaar money.

> *…Yesterday my husband earned 100 taka… the total cost of bazaar was 120 to 130 taka. The extra 30 taka needed [in order to buy the bazaar items] I had saved earlier from day to day bazaar money.* (pregnant woman)

These savings are being used to subsidize the cost of food, or even pay for the entire daily bazaar if husbands are unable to earn enough in the day to cover the cost or if their husbands earn nothing at all during the day.

Due to the rising costs of food, women reported that they were less and less able to save the small amounts of leftover daily bazaar money. It may be that the loss of this ability to save money to ease catastrophic expenses like medicines, bribes and food when their husbands do not earn enough money has the potential to affect pregnant women's nutritional status in times of financial drought which is more often than not for this particular population.

4.3.4 Coping mechanisms to continue saving leftover bazaar money

In order to be able to continue to save some bazaar money despite rising costs of food women reported that they might purchase less foods:

> *I sometimes buy less amounts of oil and rice. By this process I save little a little amount of money. When my husband is not available or sometimes he cannot earn, in that period I buy bazaar with theses savings. Nobody taught me this strategy. I learned it from the experience in need.* (pregnant woman)

Consequently, when women start purchasing less and less food due to the rising costs of food in order to save a little bit extra from the daily bazaar money, their nutritional status will be affected.

4.4 Chapter summary

Pregnant women in this slum in Dhaka are confronted with a number of struggles when it comes to their eating practices. They grapple with the knowledge they receive from authoritative figures from within the western biomedical paradigm and the knowledge given them from trusted/respected other members of the general population. However, much of the advice given pregnant women regarding eating practices despite whether it was from a more traditional source or whether it was from a more "modern" source, was extremely similar. It seemed, though, that women believed the advice being given them from the local delivery center was most often inappropriate and disconnected from the context of these pregnant women's lives due to lack of financial resources therefore most women were not able to operationalize the advice they were given. This

disconnect also affected women's choice to heed advice regarding vitamins and medicines for pregnancy; as women had to choose between purchasing vitamins or purchasing enough food for her and her family. Overall, it seemed that the *dais* had more insight into the context of theses women's lives as opposed to the staff at the delivery center, despite the fact that a large portion of the staff also were slum-dwellers. Another decision regarding eating practices a pregnant woman must make, if her pregnancy coincides with *Ramadan* (or other short fasting periods throughout the year, for that matter) is whether or not she will fast. Fasting may be risky for the mother and her developing fetus. Pregnant women reportedly had received advice that they should not fast while pregnant and this advice sometimes came with religious justifications for avoiding fasting while pregnant. Many women had tried to fast while pregnant but if they felt sick during fasting, at the advice of doctors, they stopped fasting. Older women TBAs and *dais* knew that women were being told not to fast but they maintained their beliefs that fasting was a means to being a good Muslim. Women did not blindly fast during *Ramadan*. They had heard both types of advice and made the decisions largely for themselves. As far as food restrictions and superstitions, there were a number of them mentioned and discussed but rarely did a woman claim that she followed these restrictions but there were hints of acknowledgement regarding this type of knowledge as it came from these women's elders. Cravings were not a major influence on women's eating practices. Food aversions due to sickness and lack of money while pregnant were reported by the majority and not because of superstitions or food taboos.

The patriarchal ethos built into the system in Bangladesh plays a role in influencing women's ability to eat sufficient quantities and quality of food. The practice of women eating last may result in unequal distribution of food. The desires of the other members of the household taking precedence over the needs and desires of a pregnant woman may also be contributing to malnutrition. The practice of being looked after by her natal family, as opposed to her marital family, due to the diverse family structures that exist in a slum setting, may carry a protective element with it for these young pregnant poor women whose husbands are often unable to earn enough in the day for the daily bazaar. These practices imply that women must be good wives and mothers to fulfill their gender roles, and women are too weak to look after themselves or take any proactive action to do so. On the other hand, many of the women in this study were being proactive in that they were responsible for deciding what items to purchase from the bazaar regardless of whether they were the ones actually doing the purchasing. Husbands

seemed to be willing to fill the wishes of their wives whether it be by purchasing necessary food items while pregnant or for special food items for cravings. Although many of the husbands undertook bazaar out of fear and worry for their wives and the potential for them to be hurt while out doing bazaar or because it was deemed shameful for a pregnant woman to be out in public, there were many women who were solely responsible for doing daily bazaar. Due to the time constraints on their husbands, this was a necessary part of everyday life. The women all reported that they did not like undertaking this task as they feared for their safety. This may be a different, more seemingly independent role for women than if they were in the rural area but they do not seem to be enjoying it. It seemed that the slum area was deemed to be a "home" and many of the rules for women that apply outside the realm of the slum applied less inside the slum, like the wearing of the veil outside of the slum but it was not required inside the slum for any of the women in this study.

Lastly, pregnant women in the slums have to contend with issues arising from the global market which affect them more profoundly than any western demographic . As most of the women in this study were from a rural area originally, these women understood the pitfalls of living in the urban area with respects to the quantity and quality of food that was available to them. Because they must depend on the market system for their food purchases, increases in food prices are devastating to their households, particularly because they spend so much of their household's daily incomes on food purchases. Some of the coping mechanisms reported in this study was rationing food supplies and substituting important meals with nutritionally devoid food items like rice-water gruel. Skipping meals by husbands was also reported but not by pregnant women. Also, women who do bazaar are given cash from their husbands daily. After purchasing the daily bazaar items, they usually have been able to save the little money that might be left over. They used this "security money" to purchase foods on days their husbands did not earn enough or to pay for other costs that might arise (like bribes). However, due to rising food prices, the women have been less able to save money from bazaar. To compensate they have been purchasing less food so as to still save some little bit of money. This slow spiral into being able to purchase less and less foods and being unable to save any money for food in times of scarcity is possibly having a major effect on the nutritional status of pregnant women.

Chapter 5
Discussion

Often in the literature, "folk" dietetics has been assumed to be counter to the western biomedical paradigm and therefore influencing pregnant women's nutritional status for the worse (Choudhury & Ahmed, 2011; Shannon *et al*., 2008). Traditional beliefs surrounding eating practices while pregnant have been characterized by four possible outcomes: those that are beneficial, those that are harmful, neutral, or whose effects are unknown (Jelliffe & Bennett, 1961; Jelliffe, 1967). The possibility that many traditional beliefs surrounding eating practices while pregnant may not be as detrimental as the western biomedical paradigm claims has been debated (Vallianatos, 2006). On top of beliefs around food practices while pregnant, gender structures that are oppressive to women have also been found to influence maternal nutritional status not only during pregnancy but throughout women's entire lifecourse (Walker, 1997). In this study I argued that food insecurity has emerged as a more salient factor affecting the rates of maternal malnutrition (MFDM, 2005). The following discussion will aim to situate the findings from this research within the literature. Also, I hope to highlight some of the more unique findings and what they imply in the larger context in terms of the interaction between rising levels of food insecurity and normative gender structures and the influences this interplay may be having on maternal eating practices among poor, urban women. Finally, a more humanist approach to maternal health interventions, which takes into account the context of poor, pregnant women's lives, is proposed as a means to allow for more targeted interventions.

5.1 Women's eating practices while pregnant and food insecurity: knowledge, beliefs and action

When probed while being interviewed, women in the current study were readily able to identify local beliefs surrounding food restrictions and taboos while pregnant. The fact that these women live in an urban setting and are exposed to different sources of information has not eliminated the existence of these beliefs. Other current studies also found that, in Bangladesh, there are still widespread food taboos and food restrictions in both the rural and urban areas (Ahmed *et al*., 2010; Choudhury & Ahmed, 2011). As well as a number of other animal-source proteins that were found to be restricted and would also generally be unaffordable to the urban poor, a number of other small fishes that were

indeed affordable were also deemed restricted foods as a result of taboos (Choudhury & Ahmed, 2011). In light of the increasing levels of food insecurity among the urban poor, food restrictions such as these, small affordable fishes, may become increasingly detrimental to pregnant women's nutritional status.

However, some of the studies cited in the previous paragraph, which support the above findings, did not directly address the fact that "Ideology is not synonymous with behaviour" (Vallianatos, 2006) thus women do not blindly follow food restrictions (Ahmed *et al.*, 2010; Choudhury & Ahmed, 2011). Women in the current study did not strictly adhere to food restrictions or other traditional food practices. This inconsistent adherence to food proscriptions by poor women has also been shown in other studies done both in rural Bangladesh and in an urban slum in India (Shannon *et al*., 2008; Vallianatos, 2006).Vallianatos (2006) claimed that:

> *"Pregnant women do not blindly follow dietary proscriptions but, rather, interpreted these cultural norms based on their own individual characteristics and needs. The women's navigation of these dietary rules was rooted in their reproductive histories and embodied knowledge, as well as their particular household contexts."*

Adherence to food beliefs was largely dependent on women's financial situation in this study. This has been found elsewhere in rural Bangladesh and in urban India (Choudhury & Ahmed, 2011; Vallianatos, 2006) where poor women believed that, because of their financial situations, they needed to eat whatever was available to them and they believed nothing would happen to them if they went against traditional beliefs under the circumstances (Vallianatos, 2006). In the urban slum, increasing levels of food insecurity could be said to be an element of women's "particular household context" and therefore they are navigating these traditional food practices in light of a decreasing level of access to food.

In rural Bangladesh, the most commonly cited reason for pregnant women not increasing their food intake was unequal distribution of food in the household followed by lack of decision-making power (Shannon *et al*., 2008). My data does not suggest unequal food distribution was occurring within households. However, when the participants had other children it was reported that they would sit last for food in order to feed their children by their own hand. With that being said, it is not necessarily the case

that they would be getting less food than any other family members. The households of most of the women in this study only consisted of themselves and their husbands and therefore food allocation within the household did not emerge as an issue. It has been found, though, that increasing levels of food insecurity has the potential to exacerbate gender vulnerabilities created by the gender-order and therefore women may be vulnerable to increased levels of unequal food allocation within the home (Holmes *et al*., 2009) even if their household only consists of themselves and their husbands.

From this study, it appears that while socio-cultural factors influence women's eating practices while pregnant, their financial situation appears to be a more important factor in determining their food intake.

5.2 Authoritative knowledge and food insecurity in the slum

It was found in this study that women understood and could identify what constituted a healthy diet as defined by the western biomedical paradigm's ideal of meat, eggs, dairy, vegetables *etc*. This finding is supported in the literature that has found that women in the Dhaka slums had an accurate idea as to the root causes of malnutrition (Goudet, Rashid, & Griffiths, 2011) and also that they are aware of the inadequacy of their families diets (McIntyre *et al*., 2011).

The women involved in this study reportedly learnt about "good" eating practices from NGO staff from the local delivery center, doctors, landladies, garments colleagues and neighbours. In Vallianatos's (2006) study women's sources of information were from health care and NGO sources while Ahmed *et al*. (2010) found that women in the slum in Bangladesh first and foremost sought advice and knowledge from relatives, if they had any living close by in the slum. In this study, while few women had relatives nearby, landladies emerged as a respected source of knowledge in the slum. This is a relatively new type of social connection specific to urban areas in Dhaka and has been reported previously (Ahmed *et al*., 2010). These landladies could potentially constitute a new point for maternal health and nutrition interventions.

It is likely that the western biomedical paradigm's definition of healthy eating practices while pregnant is becoming the authoritative knowledge in the slum. In Valliantos's study (2006) in an Indian slum, largely due to the growing presence of maternal health programs, participants' definition of a healthy diet while pregnant was exactly the same as the "mantra" of the NGO fieldworkers in the slum; "eat green leafy vegetables, milk, juice and fruits". Interestingly enough, this "mantra" was also recited by

the participants in this study. Some other examples of how the biomedical paradigm may be becoming hegemonic in the slum was the unanimous belief that women should be increasing their amount of food while pregnant, or that women are now choosing not to fast during *Ramadan* while pregnant because of the potential risks they had heard about from non-traditional sources. These examples may represent the effects of women being exposed to new sources of knowledge and having fewer elders around to ensure compliance to traditional beliefs.

The question becomes then, if elder women and traditional midwives in the rural area are valued as the authoritative knowledge on pregnancy and childbirth (Afsana & Rashid, 2000), what then becomes of this more "traditional" authoritative knowledge on pregnancy and childbirth in the urban slum setting in the absence, largely, of elder women and traditional midwives who have been reported to be responsible for ensuring adherence to traditional beliefs (Ahmed *et al*., 2010; Choudhury & Ahmed, 2011)? Afsana and Rashid (2000) found that the authoritative knowledge in the rural area, due to the increasing presence of NGOs, was undermining more and more the traditional knowledge while women were beginning to increasingly accept the biomedical model as the authoritative knowledge. This may be occurring in the urban setting as well. Inherent in the biomedical approach to development is the inevitable dismissal of other kinds of knowledge (Jordan, 1997). An interesting side effect of this acceptance of the biomedical model as the source of authoritative knowledge is that women in rural Bangladesh have been reported to have been less comfortable discussing beliefs surrounding childbirth and pregnancy in more traditional terms (Shannon *et al*., 2008). I suspect this "discomfort" also influenced women's manner in which they discussed traditional food beliefs with my research assistant and I. What has also been reported is traditional midwives "marginalising" their traditional knowledge and practices due to the fear of being indicted for malpractice (Afsana & Rashid, 2000). While some of the more potentially harmful practices may have been reduced due to the emerging authoritative knowledge of the biomedical paradigm, it is also the case then that some of the rich and functional traditional beliefs and practices surrounding pregnancy and childbirth may be becoming obsolete, but this requires further research. Women in many societies have been perceived to be the "bearers and reproducers" of, not only children, but of culture (Arditti, 2009). Dissolving women's knowledge of traditional beliefs around eating practices while pregnant, because they *might* be harmful to women and their foetuses as defined by the western biomedical paradigm, may result in the loss of "another way of

knowing". It may be prudent for western development project developers to consider any local and traditionally authoritative knowledge they can when developing their programs in order to perhaps find innovative and functional ways to meet the new food insecurity challenges that are emerging.

Choudhury and Ahmed (2011) found that, in the rural area of Bangladesh, many women were not accessing antenatal care services for a number of reasons. The top three reasons were financial constraints, perceived lack of benefit and mobility restrictions. In the present study, women did not necessarily have financial constraints to accessing the services of the local delivery center, nor did they really have mobility restrictions, but they did report a perceived lack of benefit from the services. The "mantra", discussed in the above paragraph, regarding what pregnant women should eat, is evidently being recited across the subcontinent. While this "mantra" certainly has the defining characteristics of a well-rounded and healthy diet, it was deemed to be inappropriate by the women in this study because of their financial situations and their increasing levels of food insecurity; how could they afford milk, eggs, meat and dairy on a daily basis? The lack of consideration for the ability of women to access all of these wonderfully healthy foods led some women to even say that, because it was impossible to follow the advice of the NGO staff, they were not really interested in utilizing the services of the local delivery center. There is the possibility that women are feeling a lack of consideration for their individual situations by the NGO programs and therefore are being deterred from utilizing the services, which also include incredibly useful services (ie midwives trained in hygienic childbirth procedures and how to recognize childbirth and pregnancy complications and make referrals).

5.3 The gender-order and access to food in urban slum

It is important to note here that the underlying assumption of this entire next section, which will discuss gender structures and patriarchy and its influence on eating practices in light of growing food insecurity, is that inter-gender power relations as well as intra-gender power relations are highly variable and highly situation dependent (Dufour, 1999; Mumtaz & Salway, 2009; Tong, 1998). This is important to keep in mind when discussing gender and patriarchy, and Islamic cultures, for that matter, as Islamic societies should also never be deemed to be homogenous in their beliefs and practices (Shaheed, 2009).

Women in my urban fieldsite appeared to be challenging hegemonic gender roles in that they seemed to have increased control over household resources as well as more mobility and visibility. For instance, many women were actively involved in the household management of finances and being responsible for household food purchases. This observation is supported by Salway *et al*. (2005), who argue that the gender roles of women in Dhaka slums are in "state of flux". This study supports the notion that this increased visibility, mobility and control over resources may allow for an increased amount of opportunities and negotiation space for improving the terms of women's lives. There is some question, however, as to whether these challenges are welcome challenges by women. This study partly answers this very question posed by Salway *et al*. (2005) as women in this study unanimously disliked participating in doing the daily shopping as well as some women believing themselves that these types of activities (*ie.* being out in public in general, being out in public while pregnant) are shameful for women. In the rural areas of Bangladesh, it has been found that generally women have no part in daily food purchasing and that this lack of power may contribute to women's high levels of malnutrition (Shannon *et al*., 2008). This increased power of decision-making within the household over food purchases in the urban area could be thought to play a potential role in improving women's nutritional status. However, this new "power" may not have a significant impact once the higher costs of food in the urban area and the fact that women are less and less able to access sufficient quality and quantities of food are taken into account. They likely remain as nutritionally deficient as their rural sisters, except the underlying causes are different; for the rural women, their nutritional deficiencies may be more likely to be grounded in power structures of gender and patriarchy, whereas the urban women's nutritional deficiencies may be grounded more in global power structures that are responsible for rising food prices and inadequate incomes. Lockwood (2009) succinctly discusses the notion that women having more control over resources in the home (*ie*. having control over the resources to purchase food and the decision-making power to make food purchases) is necessary for women's empowerment. However, this type of control is not sufficient and is limited by the existing societal structures (*ie.* reliance on market-based food systems in urban areas):

> *"Women's control of strategic material resources and capital—the material basis of "power" in all capitalist systems—is a necessary condition for achieving a position of relative authority and power in both the household and community.*

> *It is important to note, however, that the extent to which women are able to control resources and capital will in part be determined by prevailing gender ideologies and family structures. Thus one can conclude that where women in developing regions are able to produce strong material base, and where gender ideology empowers them to control it for their own ends, they will be in a position to achieve greater gender equity with men."* (Lockwood, 2009).

Furthermore, women in the slum are increasingly living within non-traditional family structures. This has been widely reported within urban migration studies (Afsar, 2000; Huq-Hussain, 1995; Matthews, Ramasubban, Rishyasringa, & Stones, 2003). In this study, there were a number of women living closely with their natal family. In my observation, they appeared to be in a slightly less vulnerable position regarding "nutritional adequacy". It has been found that women's health status is associated with the amount of contact she has with her natal kin (Bloom, Wypij, & Das Gupta, 2001). As well, it has been found that relatives in the slum are the social connections that largely help with economic problems (Ahmed *et al*., 2010). One could assume that help with economic problems could manifest as help with food as in a Mumbai slum where natal kin were shown to help specifically with food (Matthews *et al*., 2003). What might be shifting is the ways in which families are formed. Most women in this study were married to men that they had met in the slum. The inhabitants of the slum come from all over Bangladesh. Traditionally in Bangladeshi culture, marriage is endogamous, meaning women marry men who may be their relatives or who may come from a family with whom the woman's parents are already acquainted. This practice has been said to be protective for young women as it allows a fair amount of contact with her natal family which is helpful if relations with her in-laws are unsavoury (Matthews *et al*., 2003). Because young women are marrying men from the slum whose families most of them have never met, there may be a decreased amount of kinship ties which have often played protective roles in the lives of women in Bangladesh. On the other hand, the increased contact with natal kin in the slum, which was experienced by a few women in this study, may still provide a protective element for young women. Overall, in this study, it appeared that this more non-traditional way of married women living close to or with their natal kin is helpful for young pregnant women in obtaining more and better food than those who have no connections in the slum and are completely reliant on their husband's, generally, inadequate daily incomes.

5.4 Living in an urban slum and food insecurity

Rural to urban migrations in Bangladesh due to the shifting global economy to more liberalized and globalized policies are proving to be largely detrimental for the migrants who are unskilled (Afsar, 2000). In the current study, although family members were able to find employment and women were also able to be employed, incomes were inadequate for confidently assuring that daily basic needs like food and shelter were met.

Amartya Sen (1981) was able to demonstrate that food security is first and foremost an issue of accessibility rather than availability. Since the inception of Bangladesh as a nation state in the early 1970s, donors and multi-lateral lending groups like United States Agency for International Development and the World Bank have been "extending their reach', so to speak, into Bangladesh (Jahan, 2007; Nahar, Masice-Taylor & Begum, 2008). With the acceptance of aid and of loans from these types of groups come stipulations in the form of compliance with the priorities of the group giving the money or as structural adjustment programs. Recently, the United States Agency for International Development pledged $922 million dollars to Bangladesh in an attempt to scale up agri-business in the hopes that this will help to mediate rising levels of food insecurity (The Daily Star, 2012). The "business-as-usual" approach to combating undernourishment, as outlined by the money lenders or donors, which involves increasing agricultural production for export could be debated to be largely non-beneficial for the local population (Holt-Gimeenez & Shattuck, 2011). The products of large-scale agricultural endeavours in LICs are often exported to meet developed countries' needs; generally the very same developed countries from which the donor money came. Furthermore, as small farmers are pushed off their land by big agribusiness, they migrate to the urban centers to find a new source of income. As reiterated throughout this study, this rural-urban migration often increases the food insecurity levels of those who choose to make this move (Holt-Gimeenez & Shattuck, 2011). Ultimately, availability of food is not the issue in the urban context of Bangladesh but rather issues of acces.

In the urban areas, what I observed is that food is available but, for poor, pregnant women who must wrestle with patriarchal influences and the global food crisis, not easily accessible. The women in this study, old and young, if they had indeed migrated from the rural area, unanimously perceived that obtaining sufficient quantities and quality of food was more difficult in Dhaka. The reasons for this included their

perceived lack of fresh foods in the market for slum-dwellers, perceived inability to grow their own food and therefore, because they felt dependent on the market-system, rising food prices affect their ability to access the food that is available (Akter, 2009).

The women in this study felt that they were at the mercy of the market-system for providing food for her and her family. This finding is supported in the literature and it is well known that the most vulnerable to food price hikes in Bangladesh are the urban dwellers; those who are dependent on the market for their food needs (MFDM, 2005; Akter, 2009).

To reiterate, it is also well known that the people who experience the highest level of food insecurity as a result of the price of food are the poor families in low-income countries who spend a large portion of their incomes on food (Banerjee & Duflo, 2008) and the literature has found that, on average, the urban poor spend between 50-74% of their daily incomes on food purchases (Ahmed *et al*., 2007).

The coping mechanisms for managing food insecurity that were reported in this study have been found to be used elsewhere in Bangladesh (WHO, 2008b; MFDM, 2005). Cross-cultural studies have shown examples of coping mechanisms like consuming less food, eating fewer meals, buying cheaper foods, sharing with neighbours, acquiring food from charities, gardening and finding wild foods (McIntyre *et al*., 2011). Many of the women reported these same coping mechanisms, and included sharing with natal family in this study, but none reported gardening or finding wild foods. I suspect that this is due to being in an urban setting and women lacking the physical space and resources to try and grow food. As far as wild foods go, according to a proposed pathway of deterioration of household food security (Dufour, Staten, & Reina, J.C., & Spurr, G., 1997; Dufour, 1999; Etkin, 1994; Hamelin & Beaudry, M., & Habicht, J.P., 2002; Moreno-Black & Guerron-Montero, 2001; Tarasuk, 2002; Vallianatos, 2006), the act of consuming wild foods is undertaken just before resorting to begging for food and just after reducing diversity in the diet and reducing number of meals and consuming less food. The women in this study were generally at the level of reducing diversity of food and changing to cheaper and lower quality foods as well as reducing the size of meals and the number of meals consumed daily. Therefore, the nutritional status of the pregnant women in this study is precarious and the range of coping mechanisms or adaptive capacity in times of increasing food insecurity is narrow.

One of the coping mechanisms discussed in this study was the practice of siphoning off money from the daily bazaar money their husbands gave them. The finding

that women siphon off money left over from the daily bazaar purchases has also been found in other studies (Darnton-Hill & Cogil, 2009; Salway *et al*., 2005). Slum-women in Dhaka have been found to undertake this practice to have money for their own personal expenditures. This practice has been noted among rural women in Bangladesh but it seems as if women in the urban slum feel a "sense of heightened vulnerability" in the precarious setting of the urban slum (Salway *et al*., 2005). However, in light of the women in this study claiming they used this savings for purchasing food in times of scarcity, it has not been discussed in any profound detail in the literature how this practice of saving money is affecting their levels of vulnerability with respects to nutrition. If women are able to save less and less money, the range of adaptation available to them amidst growing levels of food insecurity becomes narrower and narrower.

5.5 Moving forward

To begin targeting maternal malnutrition interventions, it will become increasingly more crucial to consider that poor, urban women are experiencing rising levels of food insecurity due largely to rising costs of food and their perceived reliance on the market-system. Not only are they acutely experiencing increasing food insecurity levels, they also have to manoeuvre through the existing, oppressive gender structure that exists in Bangladesh. How these two factors interact is important to bear in mind when developing interventions to combat maternal malnutrition.. A humanist approach to development would allow room for an approach that McIntyre *et al*. (2011) deem "Whole Person Development". It has also been recommended by Goudet and Rashid (2011),that "interventions for nutrition must be informed by their intended participant's knowledge and perceptions in order to more likely succeed". No development issue can be completely removed from its context, particularly where humans, with all their complexities, are concerned.

Approaches to improving the nutritional status of women should be subjective and non-linear processes. The traditional and linear ways in which the promotion of "healthy" maternal eating practices have been approached are Information and Education Campaigns (IECs) and supplementation. This implies that the usual approach to maternal malnutrition has been largely based on curing the problem rather than preventing the problem; addressing proximal causes. While curing the problem of maternal malnutrition among urban poor women is indeed important, the solution of supplementation is not a long-term solution. It is equally, if not more important, to address the upstream

determinants of these women's malnutrition and the more distal causes, including gender structures and food insecurity. Furthermore, when approaches to improving the maternal nutritional statuses of women are undertaken with the understanding of all of the factors influencing women's ability to put knowledge into practice, more points of intervention emerge; a wider range of intervention points which include top-down and bottom-up approaches.

5.6 Chapter summary

.To begin to tackle the challenge of maternal malnutrition in light of increasing food insecurity, the full context in which urban, poor women exist must be considered; women know what constitutes a healthy pregnancy diet but they are not acting on this knowledge due to external and internal factors. Moreover, women in the urban slum are falling into roles which could be deemed as challenging normative gender roles. Their increased visibility and mobility as well as control over household financial decision surrounding food may be leading to an increased ability to negotiate within their households. However, the potential benefits to women's nutritional statuses from this new "freedom" may be nullified by the rising levels of food insecurity in the urban setting. Ultimately, women's nutritional status while pregnant is affected by what is occurring at the global level. Increased liberalization, climate change and oil prices are some of the key factors responsible for increasing food prices. While most of us here in the west hardly feel these rising prices, those in the slums of Bangladesh, on the other hand, who spend upwards of 80% of their daily incomes on food, feel the consequences of these global forces in a profound and acute way. To claim that more nutritional education and supplements will help reduce maternal malnutrition amongst women living in the slum setting is to neglect to consider the immensely larger forces at play within this globalized, inequitable world. Not only is a local, on the ground level analysis important for understanding women's experiences, so too is a global level analysis important to comprehend how global practices can acutely affect individual women on the other side of the world. Considering the local, societal and global context in which women exist may help highlight possible points of interventions on multiple levels to address maternal malnutrition from as many angles as possible.

5.6.1 Further research

Further research is required in the urban slum settings in Bangladesh. Unearthing women's specific vulnerabilities to rising levels of food insecurity, globally, will be necessary to develop and implement top-down interventions and bottom-up interventions like policies addressing food insecurity. Generally, more research on the gender dimensions of food insecurity amongst the urban poor is needed to increasingly understand the profound effects food insecurity is having on malnutrition rates. The urban poor also experience food insecurity in a different way than the rural poor. This will be important information to provide to policy makers and funding bodies to provide evidence that there is more to malnutrition than simple nutrient deficiencies but that the global food market and the forces behind increasing levels of urbanization play a powerful role in exacerbating malnutrition, particularly amongst the most vulnerable populations. More research on interventions that appear to approach food insecurity in a more humanistic and targeted way, like urban agricultural activities or microcredit insurance plans geared towards decreasing food insecurity, are also needed.

5.6.2 Study limitations

This research was undertaken in one large urban slum in Dhaka, Bangladesh. It cannot be assumed that the findings from this study can be generalized to other slums in the country or elsewhere in the world. This study was conducted by myself in a population where English was not the first language. All of the participants spoke *Bangla*, thus all of the interviews were conducted in *Bangla* by my research assistant, a local native-speaker. I had to rely then, on translated transcripts and the cultural interpretations of my research assistant. Although I was aware of this limitation and tried to mediate it as much as possible through discussions with my research assistant and other colleagues as well as by going through the translated transcripts with my research assistant to ensure accurate translations, it cannot be guaranteed that I understood the information in the same way a *Bangla* speaker might. Moreover, I lived in Dhaka for only five months and this is not necessarily enough time to garner a full understanding of the culture and other non-verbal cues.

Despite efforts to minimize the effects of my "westerness" (eg. I walked and talked in a manner that many women commented on as being "like a man"; that I walked "freely") there was a power differential that existed between me and the participants. Also, a power differential existed between my research assistant and the participants

because of my research assistant's status as middle-upper class and highly educated. This power differential, may have led participants to provide answers that they thought we were seeking. Moreover, as a westerner, it may have been perceived by participants that I would be able to give them financial assistance as everyone largely pointed to poverty as the root of the problem.

Chapter 6
Conclusion

6.1 To Conclude

The scourge of malnutrition is a global issue with the most vulnerable populations, women and children, being inequitably affected (Schwefel, 2003). On top of already existing unacceptable levels of malnutrition, the rising levels of food insecurity in the world are further affecting impoverished populations' nutritional status (Cohen & Garrett, 2010) . While women are among the most vulnerable populations, pregnant women in LICs often lead lives that have been deemed under "double jeopardy" as they endure, not only lifelong oppression that leads to their lower nutritional statuses, but also the nutritional strain that pregnancy adds (Ghassemi, 1990). In Bangladesh, rates of maternal malnutrition are among some of the highest in the world (UNSCN, 2004). It is imperative that the issue of maternal malnutrition be targeted directly if Bangladesh is to fulfill its commitment to the MDGs. There have been studies that have shown that interventions undertaken in the past have been largely ineffective because they have neglected to consider all of the elements of women's lives (*ie*. poverty and gender structures, social norms). Without the consideration of all of these forces, as well as the consideration of the rising levels of food insecurity caused by climate and climate change, rising oil prices, liberalized trade policies, and how all these forces interact and affect maternal malnutrition, interventions will likely continue to be "band-aid" solutions.

A focused-ethnography, using a feminist approach, was undertaken. Participant observation, interviews and a focus group were utilized to gather data. The findings indicated that women have many knowledge sources and bodies of knowledge that generally run parallel to the western biomedical's paradigm of what defines a healthy pregnancy diet. That there were still traditional food proscriptions "floating around" in the slum-setting does not mean that women are blindly adhering to them. Because, traditionally, in the rural area, older women and midwives are the authoritative knowledge sources as well as the enforcers of traditional food beliefs, the lack of their presence in the slum-setting has led to new sources of authoritative knowledge; NGOs, medical professionals and landladies. It appears that, through the presence of NGOs and medical professionals, that a standardization maternal nutrition education is occurring and women know what the basic tenets of this education are. If this biomedical, authoritative knowledge is pervasive, then why are pregnant women's nutritional statuses not

improving? One possible answer may be that women are unable to operationalize their knowledge due to external factors. One external factor is the existing gender structures that favour men and dissociates women from decision-making within the household as well as limits their mobility. In this study, women were found to have an increased freedom of mobility as well as increased involvement in the management of the household than perhaps women from the rural setting. Not all of the women welcomed these challenges. This new "freedom" may be influencing and helping to increase the nutritional status of pregnant women in the slum but the biggest factor cited by all was the issue of food insecurity due to rising food prices and their perceived reliance on the market-system. In the rural area, women remembered being able to grow food and harvest fish and they were able to access sufficient quantities of food. Ultimately, while women may be challenging gender roles in the urban setting compared with the rural setting which is often more traditional, all of these potential benefits may become negligible due to the inability to simply access food because the price it too high and because they cannot grow food.

This study highlights the complexity of maternal malnutrition in the urban setting. Maternal nutrition interventions will likely have to include much more than nutrition education programs because women are aware of how to be healthy during pregnancy regarding food and women are making decisions about food practices within their households, but they are largely unable to access food due to the limited resources afforded to a slum-dwelling pregnant woman and her family. What is needed are interventions that are increasingly more targeted and view women as part of the larger whole; a more humanist approach. This approach would utilize a kind of whole person development strategy (McIntyre, *et al*., 2011) in order to identify key, realistic intervention points for each woman's unique context. This has the potential to lead to more creative interventions at many more levels than just the local NGOs.

6.2 Dissemination of findings

One of the most important actions that can be undertaken at the completion of a research project is to disseminate the findings. As part of my commitment to disseminate the findings of this research, I will aim to have this work published in at least one peer-reviewed academic periodical. Also, I will present these findings through posters and presentations at conferences pertaining to maternal health, global health and qualitative research methods. Furthermore, I plan to share the results of this study with interested

parties in Bangladesh who are involved in urban health initiatives so as to add to the breadth of knowledge surrounding maternal malnutrition in Bangladesh.

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Appendix A: Interview guide for participants

Interview/ Focus Group Discussion Guide for Pregnant Women	
Questions	**Prompts, notes**
Section 1: Day time routine and food	
1.2 Tell me about how you spend your time everyday.	*Note all practices pertaining to food and energy expenditure to probe with in further questions
2.1 Do you cook all of the meals in the household? 2.2 Did you shop for food today at the Bazaar? What did you buy? 2.3 What did you have for breakfast today? For Lunch?	*elicit discussion surrounding cooking and eating habits *probe as much as possible for details regarding what type of food was purchased, who purchases food (we can find out how much food costs from others) and extracting information about decision-makers
3.1 Tell me about dinner time at your home?	* Try to elicit details regarding the process of serving the family, the cooking process, time eaten, who is present for dinner
Section 2: Food and other practices during pregnancy	
1.1 How many months pregnant are you and how has your pregnancy been? Not complicated? Complicated? Is this your first pregnancy? 1.2 When you were a young girl, what did you learn about food? What did your family eat for meals? 1.3 Since you have become pregnant do you eat more food? Less food? The same? 1.4 If you have changed your eating habits, why? 1.5 If you have not changed your eating habits then, why?	*might also need to find out if they themselves are form a rural area and have moved to the city, and why. This will help to put their experience into context. *how much time was spent walking and doing work, domestic and/or paid work, what kind of work. Pay particular attention to energy expenditure *Can include information from previous pregnancies *Try and elicit environmental reasons as well as internal reasons
2.1 Is there anything you have not eaten since becoming pregnant? Why? 2.2 Is there anything you have eaten more of since becoming pregnant? Why?	*Continue asking 2.1 and 2.2 until exhaustive and detailed *Try and probe for environmental reasons
3.1 Do you believe that a pregnant woman should eat more food when she is pregnant? Less food? The same? Why? 3.2 Where did you learn about how much or what type of food you are supposed to eat when pregnant? 3.3 Has a health care worker, friend or family member told you what you should eat during pregnancy? What did they tell you? Did you eat what they told you to eat? Why?	*If this is not the first pregnancy, ask about how it was with their other children *Trying to determine where pregnant women are acquiring their knowledge about eating during pregnancy

Section 3: Culture	
1.1 Have you ever been pregnant during Rhamadan? Did you fast during that time? Why or why not? 1.2 Do you fast for other reasons when you are not pregnant? When you are pregnant? Why or why not? 1.3 What types of activities, if any, have you noticed yourself doing differently since you've been pregnant?	*Elicit discussion about Islamic beliefs and teaching regarding eating and pregnancy *Detailed reasons for fasting *Information on work load increases or decreases, whether they go out alone and are visible publicly and whether it is different since being pregnant
2.1 Have you been told stories about what some food may do to you or your baby if you eat it while you are pregnant? Who told you these stories?	* Detailed stories about the effects of food on them and the baby and where they first learnt about these
3.1 Who do you learn the most from in your life? Tell me about them. What are they like?	*Trying to determine where their trusted knowledge comes from * Trying to figure out who the decision makers might be
Section 4: Knowledge Translation	
1.1 Have you attended prenatal care? Was there nutritional supplements given out? Was there information given to you? Did you use the supplements or information? If so, how did you use them? If not, why didn't you use them?	*Probe for environmental as well as internal reasons for using supplements or not *Probe for details about how they used the supplements if they received them *Probe for perceptions of supplements

Interview/ Focus Group Discussion Guide for Mothers-in-Law	
Questions	**Prompts, notes**
Section 1: Day time routine and food	
1.1 Tell me about how you spend your time everyday.	* note any activities pertaining to shopping for food, sharing meals with people, being around their daughters-in-law, who else they spend time with
2.1 Do you cook any of the meals in the house? 2.2 What did you have for breakfast today? For Lunch?	*elicit discussion surrounding cooking and eating habits *probe as much as possible for details

3.1 Tell me about dinner time at your home?	* Try to elicit details regarding the process of serving the family, the cooking process
Section 2: Food practices during pregnancy	
1.1 When you were pregnant did you eat more food? Less food? The same? 1.2 If you changed your eating habits, why? 1.3 If you did not change your eating habits then, why?	*Try and elicit environmental reasons as well as internal reasons
2.1 Is there anything you did not like to eat when you were pregnant? Why? 2.2 Is there anything you did like to eat more of when you were pregnant? Why?	*Continue asking 2.1 and 2.2 until exhaustive and detailed *Try and probe for environmental reasons
3.1 Do you believe that a pregnant woman should eat more food when she is pregnant? Less food? The same? Why? 3.2 Where did you learn about how much or what type of food you are supposed to eat when pregnant? 3.3 Did a health care worker, friend or family member tell you what you should eat during pregnancy? What did they tell you? Did you eat what they told you to eat? Why or why not?	*Trying to determine where pregnant women are acquiring their knowledge about eating during prenancy
Section 3: Culture	
1.1 Were you ever pregnant during Rhamadan? Did you fast during that time? Why or why not? 1.2 Do you fast for other reasons when you were not pregnant? When you were pregnant? Why or why not?	*Elicit discussion about Islamic beliefs and teaching regarding eating and pregnancy *Detailed reasons for fasting
2.1 Were you told stories about what some food may do to a mother or her baby if they ate it while they were pregnant? Who told you these stories?	* Detailed stories about the effects of food on them and the baby
3.1 Who do you learn the most from in your life?	*Trying to determine where their trusted knowledge comes from
Section 4: Knowledge Translation	

1.1 Did you attend prenatal care? Was there nutritional supplements given out? Did you use them? If so, how did you use them? If not, why didn't you use them?	*Probe for environmental as well as internal reasons for using supplements or not *Probe for details about how they used the supplements if they received them *Probe for perceptions of supplements

Interview/ Focus Group Discussion Guide for Men	
Questions	**Prompts, notes**
Section 1: Day time routine and food	
1.1 Tell me about how you spend your time everyday.	
2.1 Do you cook any of the meals in the house? 2.2 What did you have for breakfast today? For Lunch? 2.3 Do you shop for groceries? Is this something you enjoy doing?	*elicit discussion surrounding cooking and eating habits *probe as much as possible for details *also try and get info on work, wages, hours, exertion levels *trying to get information on who purchases the food for the family, how much is spent on food
3.1 Tell me about dinner time at your home?	* Try to elicit details regarding the process of serving the family, the cooking process
Section 2: Pregnancy and Food	
3.1 Do you believe that a pregnant woman should eat more food when she is pregnant? Less food? The same? Why? 3.2 Where did you learn about how much or what type of food a woman should eat when pregnant? 3.3 Did a health care worker, friend or family member tell you what women should eat during pregnancy? What did they tell you?	*Trying to determine where pregnant women are acquiring their knowledge about eating during prenancy
Section 3: Culture	
1.1 Should a woman who is pregnant fast during Rhamadan? Why or why not? 1.2 Do you fast? Does your family fast? Who fasts? Why or why not?	*Elicit discussion about Islamic beliefs and teaching regarding eating and pregnancy *Detailed reasons for fasting

2.1 Were you told stories about what some food may do to a mother or her baby if they ate it while they were pregnant? Who told you these stories?	* Detailed stories about the effects of food on them and the baby
3.1 Who do you learn the most from in your life?	*Trying to determine where their trusted knowledge comes from
Section 4: Knowledge Translation	
1.1 Did your wife attend prenatal care? Was there nutritional supplements given out? Did you learn about them too? If so, what did you think about the supplements?	*Probe for environmental as well as internal reasons for using supplements or not *Probe for details about how they used the supplements if they received them *Probe for perceptions of supplements
Interview/Focus Group Discussion Guide for Non-Pregnant Women	
Questions	**Prompts, notes**
Section 1: Day time routine and food	
1.1 Tell me about how you spend your time everyday.	
2.1 Do you cook any of the meals in the house? 2.2 What did you have for breakfast today? For Lunch?	*elicit discussion surrounding cooking and eating habits *probe as much as possible for details
3.1 Tell me about dinner time at your home? Is this how it is at your friends places too?	* Try to elicit details regarding the process of serving the family, the cooking process
Section 2: Pregnancy and Food	
3.1 Do you believe that a pregnant woman should eat more food when she is pregnant? Less food? The same? Why? 3.2 Where did you learn about how much or what type of food a woman should eat when pregnant? 3.3 Did a health care worker, friend or family member tell you what women should eat during pregnancy? What did they tell you?	*Trying to determine where women are acquiring their knowledge about eating during prenancy
Section 3: Culture	

1.1 Should a woman who is pregnant fast during Rhamadan? Why or why not? 1.2 Do you fast? Does your family fast? Who fasts? Why or why not?	*Elicit discussion about Islamic beliefs and teaching regarding eating and pregnancy *Detailed reasons for fasting
2.1 Were you told stories about what some food may do to a mother or her baby if they ate it while they were pregnant? Who told you these stories?	* Detailed stories about the effects of food on them and the baby
3.1 Who do you learn the most from in your life?	*Trying to determine where their trusted knowledge comes from
Section 4: Knowledge Translation	
1.1 Do you know anyone who has gone to prenatal care? Was there nutritional supplements given out? Did you learn about them too? If so, what did you think about the supplements? 1.2 If you were pregnant, would you go to prenatal care? If so, why? And if not, why not?	*Probe for environmental as well as internal reasons for using supplements or not *Probe for details about how they used the supplements if they received them *Probe for perceptions of supplements

Appendix B: Information letters and consent forms

Information Letter for Pregnant Women (18-49)

UNIVERSITY OF ALBERTA

Hello,

My name is Adrienne Levay and I am a graduate student at the School of Public Health at the University of Alberta. I am working in Dhaka over the next several months to learn more about pregnancy and food beliefs in your community. By being involved in this project, you can share your experiences related to food and pregnancy in your community and provide valuable information about mother and child illness in Bangladesh.

Procedure: After being given some information, you will be asked if you are interested in participating in this study. You may choose to not participate and no questions regarding this decision will be asked. If you agree to participate, you will be involved in the following:

1. Talking with me and other research assistants about your experiences with food and pregnancy, your family and your friends. We will conduct an interview in whichever language you are most comfortable in (English or Bengali) and can meet at a time and location that is convenient for you. The interview will require 1-2 hours of your time.
2. We may ask you if we can do more interviews to gather more information after reading over the interview notes. This may require an additional 1-2 hours of your time.
3. We will ask you if you have any friends or contacts that you think would be interested in participating in this study. We will also ask you if you think your husband/partner would be interested in participating in a focus group discussion (a group discussion with other husbands/partners) on their thoughts on pregnancy and food.
4. All interviews will be tape-recorded and analyzed.

Benefits: By being involved in this study, you can help us better understand the experiences of pregnancy and food intake and what parts of your environment affect your food choices so that perhaps better nutrition programs can be started in the future in your community.

Risks: Sharing personal information about pregnancy, food intake and cultural beliefs may make some people uncomfortable. During interviews, you may choose not to answer questions. Furthermore, you can choose to withdraw from the study at any time. We will keep all information private and no personal information about you (names, contact information, etc…) will be released.

Confidentiality: We will keep your answers and information private through the following procedures:

1. Your name will be changed into a code that only myself, my research team and my supervisor in Canada will have access to.
2. You have the right to not answer any questions that you do not feel comfortable answering. Moreover, if you say something that you would like to be kept out of the study, you may tell us at any point and we will exclude it.
3. You can withdraw from the study at any point in time without any consequences and no explanation is needed.
4. The only people with access to the information that you provide will be my research team, my supervisor in Canada and myself.

5. We are required to keep all information for at least five years after the study is completed, therefore, we will keep everything in a locked cabinet in the office of Dr. Zubia Mumtaz, my supervisor, in the Department of Public Health Sciences at the University of Alberta in Canada.

The information gathered for this study may be looked at again for further questions and research projects. The research ethics board will review the use of this information to ensure that it is done ethically.
If you have any questions or concerns at any point in the research, you may contact me (Adrienne Levay) at alevay@ualberta.ca and _____ (phone number to be determined in Bangladesh). Or you may contact my supervisor, Dr. Zubia Mumtaz at zubiamumtaz@phs.med.ualberta.ca.

Consent Form for Pregnant Women (18-49)

UNIVERSITY OF ALBERTA

Title: Maternal Malnutrition in Bangladesh: Gender and Agency

Principle Investigator: Adrienne Levay, School of Public Health, University of Alberta, Canada, alevay@ualberta.ca Mobile: TBD in Bangladesh
Supervisor: Dr. Zubia Mumtaz, School of Public health, University of Alberta, Canada. zubiamumtaz@phs.med.ualberta.ca

Consent of Participant

Please circle YES or No for the following questions:

Do you understand that you have been asked to participate in a research study involving interviews?	YES	NO
Have you read and received a copy of the attached information sheet?	YES	NO
Do you understand the benefits and risks involved in taking part in this study?	YES	NO
Have you had adequate opportunity to ask questions and discuss the study and your participation?	YES	NO
Do you understand that you are free to withdraw from the study at any time, without having to give a reason and without facing any consequences?	YES	NO
Has the issue of confidentiality been explained to you?	YES	NO
Do you understand who will have access to the information you provide?	YES	NO
Do you agree to participate in this study?	YES	NO

This study was explained to be by: _____
Participant Name (print): _____
Signature or thumbprint of participant: _____
Date/Time: _____
Witness (print name): _____
Witness Signature or thumbprint: _____
Date/Time: _____

I believe that the person signing this form understands what is involved in this study and voluntarily agrees to participate.

Signature of investigator or designee: _____
Date/Time of consent: _____

Information Letter for Mothers-in-Law

UNIVERSITY OF ALBERTA

Hello,

My name is Adrienne Levay and I am a graduate student within the School of Public Health at the University of Alberta. I am working in Dhaka over the next several months to learn more about pregnancy and food beliefs in your community. By being involved in this project, you can share your experiences related to food and pregnancy in your community and provide valuable information about the reasons for mother and child illnesses.

Procedure: After being given some information, you will be asked if you are interested in participating in this study. You may choose to not participate and no questions regarding this decision will be asked. If you agree to participate, you will be involved in the following:

1. Talking with me and other research assistants about your experiences with food and pregnancy, your family and your friends. We will conduct an interview in whichever language you are most comfortable in (English or Bengali) and can meet at a time and location that is convenient for you. The interview will require 1-2 hours of your time.
2. We will ask you if you have any friends or contacts that you think would be interested in participating in this study as participants for focus groups or as participants for individual interviews.
3. All interviews will be tape-recorded and analyzed.

Benefits: By being involved in this study, you can help us better understand the experiences of pregnancy and food intake and what parts of your environment affect your food choices so that perhaps more effective nutrition programs can be started in the future in your community.

Risks: Sharing personal information about pregnancy, food intake and cultural beliefs may make some people uncomfortable. During interviews, you may choose not to answer questions. Furthermore, you can choose to withdraw from the study at any time. We will keep all information private and no personal information about you (names, contact information, etc…) will be released.

Confidentiality: We will keep your answers and information private through the following procedures:

1. Your name will be changed into a code that only myself, my research team and my supervisor in Canada will have access to.
2. You have the right to not answer any questions that you do not feel comfortable answering. Moreover, if you say something that you would like to be kept out of the study, you may tell us at any point and we will exclude it.
3. You can withdraw from the study at any point in time without any consequences and no explanation is needed.
4. The only people with access to the information that you provide will be my research team, my supervisor in Canada and myself.
5. We are required to keep all information for at least five years after the study is completed, therefore, we will keep everything in a locked cabinet in the office of

Dr. Zubia Mumtaz, my supervisor, in the Department of Public Health Sciences at the University of Alberta in Canada.

The information gathered for this study may be looked at again for further questions and research projects. The research ethics board will review the use of this information to ensure that it is done ethically.

If you have any questions or concerns at any point in the research, you may contact me (Adrienne Levay) at alevay@ualberta.ca and _____ (phone number to be determined in Bangladesh). Or you may contact my supervisor, Dr. Zubia Mumtaz at zubiamumtaz@phs.med.ualberta.ca.

Consent Form for Mothers-in-Law

UNIVERSITY OF ALBERTA

Title: Maternal Malnutrition in Bangladesh: Gender and Agency

Principle Investigator: Adrienne Levay, School of Public Health, University of Alberta, Canada, alevay@ualberta.ca Mobile: TBD in Bangladesh
Supervisor: Dr. Zubia Mumtaz, School of Public health, University of Alberta, Canada. zubiamumtaz@phs.med.ualberta.ca

Consent of Participant

Please circle YES or No for the following questions:

Do you understand that you have been asked to participate in a research study involving interviews?	YES	NO
Have you read and received a copy of the attached information sheet?	YES	NO
Do you understand the benefits and risks involved in taking part in this study?	YES	NO
Have you had adequate opportunity to ask questions and discuss the study and your participation?	YES	NO
Do you understand that you are free to withdraw from the study at any time, without having to give a reason and without facing any consequences?	YES	NO
Has the issue of confidentiality been explained to you?	YES	NO
Do you understand who will have access to the information you provide?	YES	NO
Do you agree to participate in this study?	YES	NO

This study was explained to be by: _____
Participant Name (print): _____
Signature or thumbprint of participant: _____
Date/Time: _____
Witness (print name): _____
Witness Signature or thumbprint: _____
Date/Time: _____

I believe that the person signing this form understands what is involved in this study and voluntarily agrees to participate.

Signature of investigator or designee: _____
Date/Time of consent: _____

Information Letter for Members of the General Population (>=18)

UNIVERSITY OF ALBERTA

Hello,

My name is Adrienne Levay and I am a graduate student within the School of Public Health at the University of Alberta. I am working in Dhaka over the next several months to learn more about pregnancy and food beliefs in your community. By being involved in this project, you can share your opinions related to food and pregnancy in your community and provide valuable information on the related risks factors that contribute to mother and child illness in this particular culture and environment.

Procedure: After being given some information, you will be asked if you are interested in participating in this study. You may choose to not participate and no questions regarding this decision will be asked. If you agree to participate, you will be involved in the following:

4. Talking with me and other research assistants about your experiences and opinions related to food and pregnancy, your family and your friends. We will conduct an interview in whichever language you are most comfortable in (English or Bengali) and can meet at a time and location that is convenient for you. The interview will require 1-2 hours of your time.
5. We will ask you if you have any friends or contacts that you think would be interested in participating in this study as participants for focus groups or as participants for individual interviews.
6. All interviews will be tape-recorded and analyzed.

Benefits: By being involved in this study, you can help us better understand the experiences of pregnancy and food intake and what parts of your environment affect your food choices so that perhaps more effective maternal nutrition programs can be started in the future in your community.

Risks: Sharing personal information about pregnancy, food intake and cultural beliefs may make some people uncomfortable. During interviews, you may choose not to answer questions. Furthermore, you can choose to withdraw from the study at any time. We will keep all information private and no personal information about you (names, contact information, etc…) will be released.

Confidentiality: We will keep your answers and information private through the following procedures:

6. Your name will be changed into a code that only myself, my research team and my supervisor in Canada will have access to.
7. You have the right to not answer any questions that you do not feel comfortable answering. Moreover, if you say something that you would like to be kept out of the study, you may tell us at any point and we will exclude it.
8. You can withdraw from the study at any point in time without any consequences and no explanation is needed.
9. The only people with access to the information that you provide will be my research team, my supervisor in Canada and me.
10. We are required to keep all information for at least five years after the study is completed, therefore, we will keep everything in a locked cabinet in the office of

Dr. Zubia Mumtaz, my supervisor, in the Department of Public Health Sciences at the University of Alberta in Canada.

The information gathered for this study may be looked at again for further questions and research projects. The research ethics board will review the use of this information to ensure that it is done ethically.

If you have any questions or concerns at any point in the research, you may contact me (Adrienne Levay) at alevay@ualberta.ca and _____ (phone number to be determined in Bangladesh). Or you may contact my supervisor, Dr. Zubia Mumtaz at zubiamumtaz@phs.med.ualberta.ca.

Consent Form for Members of the General Population (>=18)

UNIVERSITY OF ALBERTA

Title: Maternal Malnutrition in Bangladesh: Gender and Agency

Principle Investigator: Adrienne Levay, School of Public Health, University of Alberta, Canada, alevay@ualberta.ca Mobile: TBD in Bangladesh
Supervisor: Dr. Zubia Mumtaz, School of Public health, University of Alberta, Canada. zubiamumtaz@phs.med.ualberta.ca

Consent of Participant

Please circle YES or No for the following questions:

Do you understand that you have been asked to participate in a research study involving interviews?	YES	NO
Have you read and received a copy of the attached information sheet?	YES	NO
Do you understand the benefits and risks involved in taking part in this study?	YES	NO
Have you had adequate opportunity to ask questions and discuss the study and your participation?	YES	NO
Do you understand that you are free to withdraw from the study at any time, without having to give a reason and without facing any consequences?	YES	NO
Has the issue of confidentiality been explained to you?	YES	NO
Do you understand who will have access to the information you provide?	YES	NO
Do you agree to participate in this study?	YES	NO

This study was explained to be by: _____
Participant Name (print): _____
Signature or thumbprint of participant: _____
Date/Time: _____
Witness (print name): _____
Witness Signature or thumbprint: _____
Date/Time: _____

I believe that the person signing this form understands what is involved in this study and voluntarily agrees to participate.

Signature of investigator or designee: _____
Date/Time of consent: _____

Appendix C: Research assistant and focus group confidentiality agreements

Research Assistant/Transcriber Confidentiality Agreement

This study is being undertaken by Adrienne Levay through the School of Public Health, University of Alberta. The purpose of this project is to qualitatively investigate possible associations between the perpetual and pervasive problem of maternal malnutrition in Bangladesh and the amount of agency women have, within the gender structure, to transform knowledge into action. Data from this research may be used to create modifications and improvements to maternal health practices in Bangladesh. The results may be written up for publication in academic journals, conference presentations and reports to organizations involved in maternal health projects in Bangladesh.

Project title: Maternal malnutrition in Bangladesh: Gender and agency

I, _____, the *Research Assistant/Transcriber*, agree to:

1. Keep all the research information shared with me confidential by not discussing or sharing research information in any form or format (eg. Disks, tapes, transcripts, etc.) with anyone other than the research team.

2. Keep all research information in any for or format (eg. Disks, tapes, transcripts, etc) secure in my possession.

3. Return all research information in any form or format (eg. Disks, tapes, transcripts, etc.) to the principal investigator when I have completed the research tasks.

4. After consulting with the researcher/research team, erase or destroy all research information in any form or format regarding this research project that is not returnable to the researcher/research team (eg. Information stored on a computer hard drive).

Research Assistant/ Transcriber

_____ _____ _____

(Print name) (Signature) (Date/Time)

Principle Researcher/ Investigator

_____ _____ _____

(Print name) (Signature) (Date/Time)

If you have any questions or concerns about this study, please contact:
Adrienne Levay
School of Public Health, University of Alberta, Canada
alevay@ualberta.ca Phone number TBD in Bangladesh

Focus Group Discussion Confidentiality Agreement

This study is being undertaken by Adrienne Levay through the School of Public Health, University of Alberta. The purpose of this project is to qualitatively investigate possible associations between the perpetual and pervasive problem of maternal malnutrition in Bangladesh and the amount of agency women have, within the gender structure, to transform knowledge into action. Data from this research may be used to create modifications and improvements to maternal health practices in Bangladesh. The results may be written up for publication in academic journals, conference presentations and reports to organizations involved in maternal health projects in Bangladesh.

Project title: Maternal malnutrition in Bangladesh: Gender and agency

I, _____, the focus group participant, agree to:

Keep all the research information shared with me confidential by not discussing or sharing research information with family, friends and community members so as to protect the privacy of all of the focus group participants.

Participant

_____ _____ _____

(Print name) (Signature) (Date/Time)

Principle Researcher/ Investigator

_____ _____ _____

(Print name) (Signature) (Date/Time)

If you have any questions or concerns about this study, please contact:
Adrienne Levay
School of Public Health, University of Alberta, Canada
alevay@ualberta.ca
Phone number TBD in Bangladesh

Appendix D: Ethics approval from the University of Alberta
Approval Form

Date:	June 16, 2010	
Principal Investigator:	Zubia Mumtaz	
Study ID:	Pro00014069	
Study Title:	Maternal Malnutrition in Bangladesh: Gender and Agency	
Approval Expiry Date:	June 15, 2011	
Sponsor/Funding Agency:	CIHR - Canadian Institutes for Health Research	CIHR

Thank you for submitting the above study to the Health Research Ethics Board - Health Panel . Your application, along with revisions received June 5, 2010, has been reviewed and approved on behalf of the committee.

A renewal report must be submitted next year prior to the expiry of this approval if your study still requires ethics approval. If you do not renew on or before the renewal expiry date, you will have to re-submit an ethics application.

Approval by the Health Research Ethics Board does not encompass authorization to access the patients, staff or resources of Alberta Health Services or other local health care institutions for the purposes of the research. Enquiries regarding Alberta Health Services administrative approval, and operational approval for areas impacted by the research, should be directed to the Alberta Health Services Regional Research Administration office, #1800 College Plaza, phone (780) 407-6041.

Sincerely,

Glenn Griener, Ph.D.
Chair, Health Research Ethics Board - Health Panel

Note: This correspondence includes an electronic signature (validation and approval via an online system).