

# **BELIEFS REGARDING FOOD CHOICES AND DIETARY PRACTICES OF PREGNANT WOMEN: THE CASE OF JAMES TOWN, ACCRA - GHANA**

**A Research Project submitted to Van Hall Larenstein University of Applied Sciences  
in partial fulfilment for the degree of Master in Management of Development,  
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### **DEDICATIONS**

I dedicate this work to Mrs Sally Gidiglo, my wife, Prince, Princess and Priest, and to the Director of Statistics Research and Information Directorate of the Ministry of Food and Agriculture, Ghana. Mr George Harrison Opoku.

## **Abstract**

This study investigated the influence of beliefs on food choices and dietary practices of pregnant women in James Town, Accra - Ghana. This was premised on the fact that several maternal deaths were associated with malnutrition during pregnancy. The outcome of this study is intended to enable the targeting of interventions appropriately. James Town was chosen as a study area for two cardinal reasons; It is a Ga ethnic dominated community in urban Accra, and in most places, ethnicity is the basis for the prevalence of belief systems. Secondly, James Town is less than 3 kilometres from the Korle Bu Teaching Hospital (KBTH), where most of the serious pregnancy cases are referred to. Cases of maternal deaths relating to nutrition could therefore originate from James Town. A study of autopsy records in Korle revealed a disturbing rate of pregnancy related deaths were linked to malnutrition. Ten pregnant women in various period of pregnancy and of varied ages and experience with pregnancy, were interviewed on a one-on-one in-depth basis. Two focus group discussion forums were held, and three influential key informants within the community were engaged to give their understanding of what informs the food choices and dietary practices of pregnant women in James Town. A nutritionist, a midwife and a community health nurse working in the main health facility within James Town, in addition to six other key informants were interviewed. The study found food choices of pregnant women were more diverse in the urban areas, because most food crops produced from various places are finally sold in the urban areas. This gives pregnant women in the James Town community a wider choice of fruits, vegetables and foodstuff compared to their counterparts in the rural areas. The Agboghloshie market, known for low priced fruits, vegetable and foodstuff is 3 kilometers from James Town, making availability of fruits, vegetables and other foodstuffs good. For dietary practices, pregnant women of James Town snacks about 3 or 4 times between meals, they like their food hot and ate their last meal early enough for proper digestion and assimilation at night. Dietary practice of pica, where pregnant women crave for non-food substances, was not admitted by any of the interviewed pregnant women, but there was evidence of its use among them. The study did not find any evidence of food choices and dietary practices that lead to malnutrition been influenced by belief systems of religion, culture and tradition in James Town. There are several nutrition related programmes in James Town and these have been a source of information on good nutrition practices. Moreover, a lot of support have come from the leaders of the community, in encouraging good nutrition of pregnant women of James Town. Health and nutrition promotion is proved effective when supported by community leaders, and in James town, this has led to the acceptance of most of the conventional scientific knowledge on nutrition. Increased intake of fruits and vegetables in addition to their normal staple foods of Banku and Kenkey, have probably led to the improvement in nutrition related pregnancy issues like anaemia. This is evidenced by the steady improvement of Haemoglobin (HB) status of women at the time of their delivery over the last three years of 2017 to 2019. In order to consolidate these gains and bring maternal deaths related to nutrition to the barest minimum and meet the UN target of 70 in every 100,000 live births, this study recommends the introduction of urban home gardens to be a source of supply of fresh vegetables and fruits, the promotion of simple home-made processing of fruits and vegetables, occasional reorientation of leaders of James Town, especially males, in issues of nutrition during pregnancy, promotion of fortified maize for their banku and kenkey, and finally, further research is needed into the pros and cons of the practice of pica, which is the craving and eating of non-food items. In the case of James Town, is the consumption of C during pregnancy.

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**Abbreviations**

DHIMS	District Health Information Management System
EPMM	Ending Preventable Maternal Mortality
GDHS	Ghana Demographic and Health Survey
GHS	Ghana Health Service
GSS	Ghana Statistical Service
KBTH	Korle Bu Teaching Hospital
MMR	Maternal Mortality Ratio
MoFA	Ministry of Food and Agriculture
MUAC	Mid Upper Arm Circumference
PW	Pregnant Woman
SDG	Sustainable Development Goal
SRID	Statistics Research and Information Directorate
UN	United Nations
UNICEF	United Nations International Children Emergency Funds
WHO	World Health Organisation
WIAD	Women in Agriculture Directorate

## CHAPTER ONE INTRODUCTION

In this research, I explored the influence of beliefs on the food choices and dietary practices of pregnant women in the coastal urban poor community of James Town in Accra, Ghana and how these choices impact malnutrition. Evidence from studies conducted in nutrition during pregnancy, shows that women with undernutrition before and during pregnancy, have increased the risk of metabolic disorders and other complications during labour and birth (Nguyen, 2019). The food choices made by pregnant women during pregnancy have consequences for them and the unborn babies. Food and drinks consumed during pregnancy are the main sources of nourishment for the baby to be born (Nierenberg, 2018).

I focused on food choices and dietary practices because these may have good or bad outcomes and are observable, as observed in a study on dietary practices in north western Ethiopia (Demilew, et al., 2018).

Beliefs and practices regarding what and how to eat (e.g. food taboos), how to manage pregnancy and delivery, how to feed children or how to treat illnesses are shaped by a society's cultural and religious belief system and the body of traditional knowledge embedded herein (Amugsi, et al., 2013). The focus of this study was on those beliefs that relate to culture, religion, and tradition and the influences such beliefs have on the food choices and dietary practices of pregnant women. Obviously, adequate food and enough micro and macro nutrients are necessary if malnutrition in pregnancy must be avoided. This is because a pregnant woman requires an extra 300 calories of energy daily during pregnancy (Jacobson & Zieve, 2018). An inadequate consumption of the right quantity and quality of healthy foods may lead to malnutrition with its attendant complications for both mother and baby (Salem, et al., 2016).

### 1.1. Background

In committing to the realization of the 2030 agenda for Sustainable Development, member States of the United Nations (UN) recognized that the dignity of the individuals are fundamental, and that the Agenda's goals and targets should be met for all nations and people and for all segments of society (UN, 2016). The UN, by the Global agenda declared a central, transformative promise of "Leaving no one behind" (UN, 2016), and to actualise the promise, on 1 April 2016, the United Nations (UN) General Assembly proclaimed 2016–2025 the United Nations Decade of Action on Nutrition (WHO, 2016). The third Sustainable Development Goal (SDG Goal 3) seeks to ensure the health and well-being for all, at every stage of life and is aimed at improving reproductive, maternal and child health. (UN, 2016), and by that be able to reduce maternal mortality worldwide to 70 in every 100,000 live births (ibid).

The World Health Organisation (WHO), in urging a well-coordinated and integrated action on malnutrition, declared that, addressing the double burden (under and over nutrition) of malnutrition was key to achieving the Sustainable Development Goals and that also addresses the commitments to the Rome Declaration on Nutrition, within the UN Decade of Action on Nutrition (WHO, 2016). Dr. Ian Askew, Director of Reproductive Health and Research at WHO, is quoted as saying "*Pregnancy should be a positive experience for all women, and they should receive care that respects their dignity.*" (UN News, 2016), this care includes good nutrition, family planning counselling, and healthy lifestyle promotion (ibid).

In conformity to "leaving no one behind", and addressing all possible areas of malnutrition, this study focused on the beliefs of pregnant women that influences their food choices and dietary practices, which may eventually lead to malnutrition and its consequences during labour and childbirth.

The 2018 Global Nutrition Report, released by the World Health Organisation revealed an unacceptably high global burden of malnutrition, that affected all countries (rich or poor). The report highlighted that if action was taken then, it was not going to be too late to end malnutrition in all its forms. (WHO, 2018)

Ghana, as a member state of the UN, has various programs to achieve the SDGs (USAID, 2018). These programs include Ghana Shared Growth and Development Agenda (GSGDA) II (2014–2017), The Coordinated Program for Economic and Social Development Policies (2017–2024), National Nutrition Policy (2013–2017) among others (ibid).

The report on Ghana's nutrition profile revealed that Ghana's adult population faces a malnutrition burden, and that 46.4% of women of reproductive age have anaemia, and 6.6% of adult women have diabetes (UNICEF, 2020). Meanwhile, 16.6% of women and 4.5% of men are obese (ibid). The Ghana Demographic Health Survey report (2014), under the heading – Prevalence of Anaemia in Women - reported that pregnant and lactating women had a higher prevalence of anaemia (45%) as compared to 41% of women who were neither pregnant nor breast feeding (GSS & GDHS, 2014). According to this report, pregnancy poses a slightly higher risk for women, when it comes to being anaemic.

“Pregnancy is the most crucial nutritionally demanding period of every woman's life” (Demilew, et al., 2018) as cited in (Goldberg, 2002) and the choice of food and dietary practices of pregnant women certainly is important because malnutrition in pregnant women may lead to complications such as gestational anaemia, hypertension, miscarriages and foetal deaths, and can also cause pre-term delivery and maternal mortality (Salem, et al., 2016). It is absolutely necessary to improve nutrition status of pregnant women during pregnancy to avoid possible health conditions of children when they become adults (Danielewicz, et al., 2017).

## **1.2. Research Problem**

Ghana's agriculture has expanded over the years, as reported by the Statistics Research and Information Directorate (SRID), and this was largely due to the introduction of “Planting for Food and Jobs” initiative started in 2016; which led to increase in staple food production (SRID, 2018). This increase in the availability of food, did not directly lead to good overall nutrition, because as captured in a study, *“in the urban poor communities, about a third of women are overweight or obese and the majority of these women have undernourished children”* (Boatema, et al., 2018: 1). Children suffer the consequences of malnutrition, manifesting in poor human development, later in life and maternal education has consistently been associated with child malnutrition (Frempong & Annim, 2017).

There are beliefs, half-truths and myths surrounding pregnancy in a lot of human societies. A study on the nutritional behaviour of expectant mothers in rural India reported 64% of pregnant mothers were reducing the quantity of food they were eating in the first six months of pregnancy, believing that restricting food to the babies, makes babies smaller, thereby making delivering easier (Mahmood, 2011). These practices and beliefs are not unique to any one location. A study in South Eastern Nigeria, also found that it was common for pregnant women to avoid eating snails and grasscutter meat and also restricted the eating of eggs for children, till they were two years old (Ekwochi, et al., 2016).

The consequences of malnutrition of pregnant women, in some cases were fatal. This was reported in a study of autopsy reports from the Korle Bu Teaching Hospital (the biggest referral hospital in Ghana and located close to the study area) as reported in the Ghana Medical Journal in 2013, reveals some staggering statistics. Of the 5,247 deaths among women aged 15–49, 12.1% (634) were pregnancy-related, and 2.8% of those cases were a result of anaemia (Der EM, et al., 2013) Anaemia is a nutrition related ailment and

therefore a malnutrition problem (Sahin, et al., 2015). The enormity of the problem necessitated the launching of a Nutrition Policy for Ghana in 2016, and at the launch, the Minister of Health declared *“The policy aims at ensuring optimal nutrition of all people living in Ghana throughout their lifecycle.”* (MoH, 2016).

Several studies in nutrition and food choices have been done, especially in the northern and rural populations of Ghana, however, not many have been done in the southern Ga ethnic dominated urban areas of Ghana. In a study in Indonesia on urban and rural dietary differences Kosaka , et al., (2018: 2) concluded *“dietary/energy intake patterns differ in rural as compared to urban areas in West Java”*. This is also confirmed in another study on food preferences in different geographic locations in Ghana, *“in rural Ghana, diet concentrated on starchy foods; in urban Ghana, nutrition was dominated by animal-based foods”* (Galbete, et al., 2017: 1). Despite the differences in food compositions, pregnancy related nutrition issues are still high in the urban areas of the southern Ghana.

In summary, increased food production has not improved the nutrition status of pregnant women. Data still shows maternal mortality rate is high and there has not been enough studies in the southern urban and ethnically dominated parts of the country, to unearth the reasons for such data.

### **1.3. The Problem Owner**

The problem owner of this study is the Women in Agriculture Directorate (WIAD) of the Ministry of Food and Agriculture (MoFA). WIAD is mandated among other things *“to promote improved nutrition interventions: bio-fortification, food fortification, food enrichment, nutrition education in relation to food production, postproduction, and food consumption.”* (WAAPP, 2020).

The directorate (WIAD) lacks sufficient information on what influences the food choices and dietary practices of pregnant women in the James Town community of Accra, Ghana, and has therefore, commissioned SRID to research into the beliefs regarding Food Choices and Dietary Practices of Pregnant Women in the James Town community of Accra, Ghana.

SRID of the Ministry of Food and Agriculture, Ghana, of which I am a staff has tasked me to lead the research process. SRID is mandated to provide relevant, accurate, and timely agricultural statistics and information for stakeholders to ensure that agricultural statistics generated for policy formulation, planning, project implementation, monitoring, and evaluation are efficiently communicated within the Ministry of Food and Agriculture (MoFA) and to the public. (MoFA, 2020).

### **1.4. Research Objective**

The objective of the research was to identify food choices and dietary practices of pregnant women in the James Town community in Accra that impact malnutrition, and identify the cultural, religious and traditional beliefs that influences such choices and practices. This will enable WIAD to improve upon the nutrition related interventions for pregnant women in the James Town community of Accra and ultimately the level of malnutrition.

### **1.5. Research Question**

What beliefs influences food choices and dietary practices of pregnant women in James Town, Accra?

#### **1.5.1. Sub questions**

- What are the food choices made by pregnant women?
- What are the dietary practices of pregnant women related to pregnancy?
- What are the cultural, religious, and traditional beliefs regarding nutrition during pregnancy?
- What are the sources of information of food choices and dietary practices regarding pregnancy?
- What are the areas of agreements and contradictions with conventional scientific knowledge and how it affects the nutrition status of pregnant women?

In this chapter, I have attempted to set the context of this research, with an introduction and a background from the global perspective about the need and value of good nutrition for pregnant women. This is buttressed by WHO, that every country has a malnutrition problem and that pregnant women need special care, this care includes nutrition. I further pointed out the evidence of pregnancy related deaths in Ghana's biggest referrals hospital (Korle Bu Teaching Hospital), of which pregnancy related malnutrition featured. I talked about foods avoided by pregnant women as a result of beliefs embedded in culture, tradition and religion, I then narrowed it down to my commissioners need for information on the beliefs that influence food choices and dietary practices of pregnant women in James Town, Accra. Furthermore, in chapter two of this report, I will expound on the key concepts of this research.

## CHAPTER TWO LITERATURE REVIEW

In this chapter, I situate the key concepts of this research in relation to relevant information from other works on beliefs, pregnancy, food choices, and dietary practices that aided this study.

Broadly speaking, inadequacy of food and hunger is a global problem. According to the United Nation (UN, 2016) almost 800 million people do not have adequate food daily and had to go to bed hungry. This is after progress had been made in reducing hunger in the years prior to 2016, and about one in every nine people globally suffer from hunger today (Global perspective: human stories, 2019). Of interest to this study is the food intake and nutrition of pregnant women. This is because malnutrition during pregnancy has implication for both prenatal health and delivery of babies (Salem, et al., 2016).

The third goal of the SDGs is to ensure the promotion of healthy lives for all people at all ages. The WHO, in line with that, and with a focus on deaths during pregnancy, released a strategy paper on Ending Preventable Maternal Mortality (EPMM). This strategy was adopted as SDG target 3.1: aimed at reducing global Maternal Mortality Rate to less than 70 per 100 000 live births by 2030. (WHO, et al., 2019).

A more specific target was to prevent pre-eclampsia (a pregnancy complication), promote good nutrition, detect and prevent diseases, and ensure the supplementation of food nutrients before pregnancy (WHO, 2020). High quality micro and macro nutrients during pregnancy is a necessity for the upkeep of mother and child during pregnancy (Danielewicz, et al., 2017). A well-established scientific fact is that, the nutritional status of the pregnant woman affects the outcome of the pregnancy, especially in relation to birth weight (Maqbool, et al., 2019).

A study in a rural district in Ghana (Arzoaquoi, et al., 2015) on food prohibitions for pregnant women, observed that some beliefs for prohibiting certain foods during pregnancy, were the birth of babies with deformities (monkey babies), disrespect of ancestors and community elders. Women could be stigmatised for perceived noncompliance to food prohibitions during pregnancy, thereby forcing involuntary compliance.

In another study in the Jember district of East Java in Indonesia, the news of pregnancy was normally received with enhanced consumption of fruits, vegetables and herbs by the expectant mother during pregnancy, but at the same time prohibited the consumption of other animal protein sources such as shrimps, chicken liver, egg and fish (Ningtyias & Kurrohman, 2020). Indicating that one society can promote good food choices, which conforms to conventional scientific knowledge, whilst at the same time prohibiting others. The reasons for prohibiting shrimps, is that shrimps are said move backwards and that could affect the delivery process at child birth, the blackish liver of chicken may affect the lip colour of the baby, and the consumption of fish and eggs could lead to the baby smelling fishy (ibid).

Regarding urbanisation and taboos, of the 200 adults interviewed in a study about food taboos in Ashongman, a near urban community in Accra, Ghana (Gadegbeku, et al., 2013), 60% of the respondents had knowledge of food taboos, but only 37% believed and adhered to them. This possibly could be an indication that food choices based on cultural and traditional beliefs tend to wane with urbanisation. In her study of nutritional behavior of pregnant women in rural and urban Poland, Suliga E. (2016) observed that pregnant women from the urban areas consumed more vegetables, milk, dairy products, sea fish and wholemeal cereal products. They also drank more fruit and vegetable juices than their counterparts from the rural areas (Suliga, 2015).

In Mexico, a study of rural and urban women observed that Women from the urban area had more variety in their diets than those from the rural areas, and therefore had different food choices (Caamaño, et al., 2016).

Food choices and dietary practices significantly changes in some cases between the rural and urban environment of the same country as above in Mexico and collaborated by (Galbete, et al., 2017) . In Ghana whilst urban women ate more animal products their counterparts in the rural areas ate more crop-based foods.

Food choices of urban pregnant women may differ from those of the rural area, because of the wider variety to choose in the urban areas.

## **2.1. Key Concepts:**

The key concepts of this study are *Food Choices, Dietary Practices, Beliefs, Malnutrition, Hygiene and Pregnancy. Conventional Scientific Knowledge*

### **2.1.1. Food Choices**

Food choice refers to what and how people decide on what to buy and eat. Ones upbringing, culture and heritage play an important part in the complex set of factors influencing food choices (EUFIC, 2020). In this study, food choices refer to foods that are chosen to be eaten by respondents. This is what is adopted in this study.

Food choices may also be physiologically influenced by changing levels of appetite for food in a pregnant woman. Pregnant women may have intense cravings for some foods and be averse to other foods during pregnancy (Maqbool, et al., 2019). This natural phenomenon can lead to malnutrition in a pregnant woman.

The choice of food could also be socioeconomic, as in the case observed in a study where wealthier Ghanaian women of childbearing age experienced overnutrition, whilst the poorer counterparts experience undernutrition. Both problems have implications for maternal and child health (Aikins, 2014).

Food choices could also be influenced by location, as in a study comparing foods eaten by Ghanaians in rural Ghana, urban Ghana and Ghanaian migrants in Europe. The study observed that while starchy foods dominated those in rural Ghana, those in urban Ghana had more animal-based products, whilst those in Europe appear to be highly diverse in their diets (Galbete, et al., 2017).

Food choices are also influenced by how foods are labelled and marketed (Leng, et al., 2016). It may also be influenced by an individual's perception of what constitutes healthy eating (ibid).

### **2.1.2. Dietary Practices**

Dietary practices are observable actions or behaviour concerning food. These habits can be classified as either good or poor (Nana & Zema, 2018). When to eat, what form the food is, whether preferred in a liquid or solid form, bought or cooked, snacking, intensity of cravings, whether appetiser is needed before food is eaten, the personal and environmental hygiene of the person handling the food etc. These are observable dietary habits and may have malnutrition implications. Food choices are therefore about the WHAT they eat and dietary practices about the HOW it is eaten

### **2.1.3. Beliefs**

Beliefs are at the centre of what we do and the limits we can reach, and these beliefs also determine what we do not do and why we do not do such things (Fuhrman, 2020). These beliefs are expressed in many ways; mainly through religion, culture, and tradition.

It may be difficult to understand the source, roots or background of a certain belief on nutrition during pregnancy. In this study beliefs are looked at along the lines of religion, culture and tradition as follows:

#### **2.1.3.1. Religious beliefs**

Religion is a difficult concept to define, and it is expressed more in what it does (Austin, 2020). Religion in the context of this study is what people say and do in relation to religious texts like (scriptures, instructions, or creeds) they hold sacred. In the James Town community Christianity, Islam and Traditional religion are dominant as in other parts of the Greater Accra region of Ghana (GSS, 2012).

In a study on post-partum beliefs of Ghanaian women, Aziato, et al (2016) emphasised the need to understand the religious beliefs of women in labour and child birth and that, in order for health care professionals to serve their clients well, their training should incorporate components of religion to enable them provide holistic care. The study further pointed out that religious beliefs have influence on dietary practices such as the intake of water and food, and that for the avoidance of confronting the effects of evil spirits, it is believed in some Ghanaian communities that, water should not be drank in public during pregnancy (ibid).

In another study in the Talensi district of the Upper East region of Ghana, religious beliefs influencing diagnosis and the treatment of malnutrition among children was observed. Even though, no direct reference was made to pregnancy, it is safe to assume that religion in the traditional settings influences the processes of childbirth and childcare (Amugsi, et al., 2013). The study showed, it was not uncommon to find some women or mothers absconding with their malnourished children from nutrition rehabilitation centres back to their villages for traditional treatment (Boatbil, et al., 2014). It is also common for the intake of animal source foods to be low in disadvantaged populations; sometimes these foods are avoided because of religious beliefs (WHO, FAO, 2006). The influence of religion on the choice of food cannot be overemphasised.

#### **2.1.3.2. Cultural beliefs**

Culture, according to the Centre for Advance Research and Language Acquisition of the University of Minnesota, [...] *is a shared pattern of behaviours and interactions, cognitive constructs, and affective understanding that are learned through a process of socialization. These shared patterns identify the members of a culture group while also distinguishing those of another group [...]* (CARLA, 2020).

Culture for this study refers to the observable behaviour of a group of people that is unique to them, and this behaviour is dynamic and may change over time.

There are cultural and traditional norms that prepare the younger females for their roles in pregnancy and motherhood, an example is puberty rites in some cultures. In Levesque (2011) as cited in Weisfeld (1997).

The people of James Town are Ga by tribe. The Gas settled in the coast of Ghana and their economy has evolved around the sea (Atlantic Ocean). It is a common saying in Ghana that the Gas do not like travelling, probably because the sea provided all they needed, and the presence of the capital city also spurred development around, so there was no real need to move out. Their cultural identity has therefore



been largely preserved. Folklore Ga music has mainly evolved around food. Kenkey, a maize dish is a traditional food of the Gas and goes with spicy chilli and fried fish (Mahama, et al., 2011; pages 12 & 41). Alcohol consumption traditionally goes with spicy foods in Ghana, which probably, explains why alcohol consumption is high in the James Town community. This could be an example of culture influencing one's dietary practices.

Ethiopia, Gambia, Nigeria, Gabon, and the Democratic Republic of Congo are examples of many countries that have cultures that forbids the consumption of certain foods. These foods, as explained in a study by (Chakona & Shackleton, 2019) are rich in iron, carbohydrates, animal proteins, and micronutrients. The reasons for forbidding or restricting such foods, is mainly because of the fear that the child may develop bad habits after birth or may be born with diseases, other reasons were fear of delayed labour due to large babies and the beliefs that certain foods stimulate continuous menstruation, leading to infertility in women. Cultural beliefs could therefore lead to malnutrition.

#### **2.1.3.3. Traditional beliefs**

Traditional knowledge as explained by (Punchay, et al., 2020) borders around the relationships between the living and the environment, passed on over a long time through culture and folklore. This is mainly expressed in taboos and the forbidding of certain foods for pregnant women. Tradition in the context of this study is activities that is believed may incur mystical consequences when one's behaviour deviates from the norm or expectations of ancestors.

Although different societies have traditional beliefs regarding harmful foods for women during pregnancy, they also have traditional knowledge of foods regarded as beneficial for several reasons. Example is the consumption of zinc-rich seeds in porridge by some Nigerian pregnant women. During pregnancy they are also encouraged to eat the leaves and the barks of different trees, which are good sources of vitamins, calcium, copper, iron, zinc, some protein and fat. These food components increase breastmilk production, expel intestinal worms and ensures increase weight-gain in infants (Chakona & Shackleton, 2019) as cited in (Lockett & Grivetti, 2000).

#### **2.1.4. Malnutrition**

According to WHO, malnutrition refers to deficiencies, excesses, or imbalances in a person's intake of energy and/or nutrients (WHO, 2016). This is the definition this study worked with.

#### **2.1.5. Hygiene**

Hygiene refers to personal and environmental cleanliness that leads to healthy living.

*[...] Personal hygiene during pregnancy is important, since pregnant women are most vulnerable to infections by germs in the environment, they live in. Due to hormonal changes, pregnant women sweat more and may have more vaginal discharges than do non-pregnant women [...]* (The Open University, 2020). Bathing and hand washing with soap is the most important hygiene action a pregnant woman can take, especially before preparing food and after going to the toilet. If possible, a pregnant woman should wash her body every day with clean water (ibid). For this study the focus was on the existence and access to toilet facilities and running water and the practices of hand washing after visiting the toilet and before cooking, well swept compound, well-ventilated sleeping place and clean environment.

#### **2.1.6. Pregnancy**

Pregnancy refers to the period from conception to birth. Pregnancy usually last 40 weeks (Spong, 2013). Even though there are debates over the duration of pregnancy, this study relied on the opinions of respondent, observations of researchers and identification of pregnant women by health and antenatal services.

These concepts and their explanations guided this research.

#### **2.1.7 Conventional Scientific Knowledge**

Scientific knowledge, by Legal definition, refers to a knowledge that is based on scientific methods which are supported by adequate validation (USLegal, 2019). This knowledge must be tested, subject to peer review, published and have a known margin of error and acceptability within the scientific community(ibid). Case in point is Iron and folic acid supplements, are important for preventing anaemia during pregnancy (Mousa, et al., 2019). This is largely accepted by the scientific community and adapted for this study

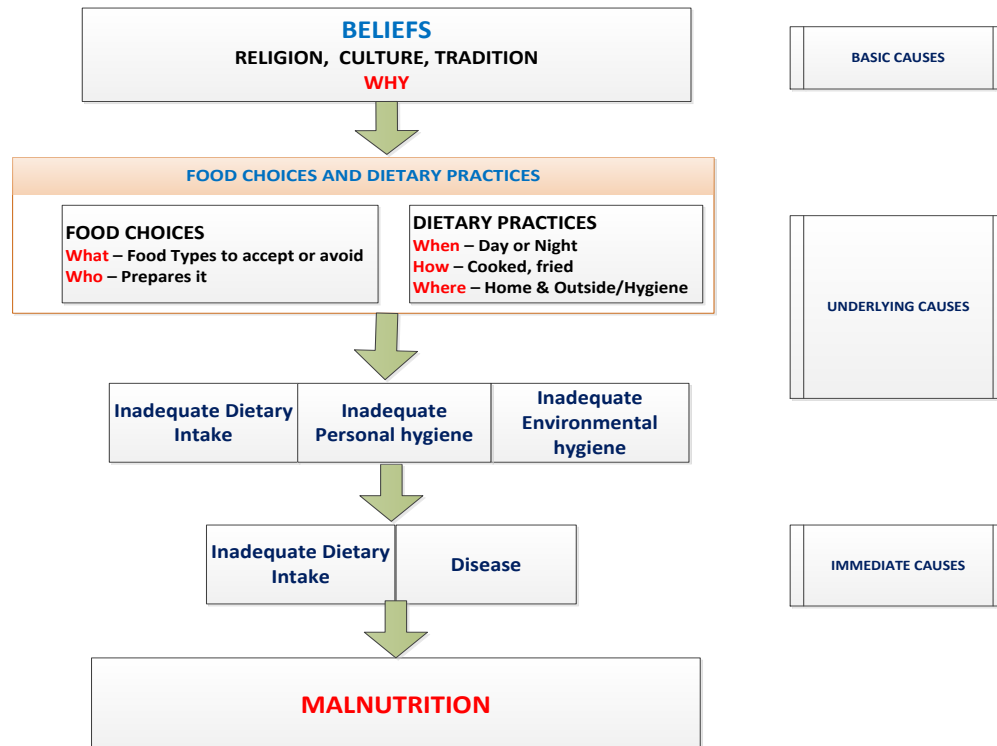
## 2. 2. Conceptual Framework

The UNICEF framework (UNICEF, 2015) as a tried and tested guide, has three levels of causes of malnutrition; basic, underlying and immediate and also shows that the causes of malnutrition are multisectoral, cutting across sectors such as agriculture, health, environment, belief systems, education, water and sanitation. Assessment and analysis can be done with this framework at all levels to improve nutrition(ibid).

The multisectoral approach in this study has to do with belief systems (Usó-Doménech & Nescolarde-Selva, 2015) as a basic cause. Choices of which food to eat and which dietary practices to engage in, may be influenced by such beliefs as religion, tradition and culture. The effects of which may lead to inadequate dietary intake and when coupled with unhealthy personal and environmental hygiene as underlying causes, may lead to a disease situation of the pregnant woman, thus affecting the good utilisation of food and finally lead directly to malnutrition.

Figure 1 Conceptual Framework

### Theoretical Concept: Beliefs that Influence Food Choices and Dietary Practices



#### Adapted from UNICEF Framework

The theoretical concepts and their working definitions have been explained in this chapter, the use of the UNICEF framework has been adapted to aid the study in covering the basic, underlying and immediate causes of malnutrition in the pregnant women in James Town. In chapter three, I will delve into the methods used to collect data and actualise this study.

## **CHAPTER THREE RESEARCH METHODOLOGY**

In this chapter, I discussed research strategy in the context of COVID-19, the study area, the engagement of Research Assistants, sampling of respondents, the various methods and data collection tools used, issues of ethics, time scheduling and how data was analysed.

### **3. 1. Research Strategy**

The research was an in-depth case study where direct investigation of the cases are involved. The cases in this research are the situation in James Town based on the experiences and stories of the pregnant women themselves. Evidences was be deduced from multiple sources, and in the use of multiple groups and tools to triangulate the data that comes from the primary cases. The approach in this research was primarily qualitative, looking more into what the pregnant women do and why they do them, instead of, merely how many of them do or did them.

#### ***COVID-19***

The entry borders into Ghana were closed during the research period (The Guardian, 2020), therefore Research Assistants were engaged to work with me from the Netherlands. COVID restrictions within Ghana were the keeping of a one-meter distance, compulsory wearing of nose mask in a gathering, provision of hand washing and sanitising equipment and maximum duration of one-hour meetings. Even though there was no lock down in the country at that time, movement and gathering regulations were enforced in some places. In James Town private small gathering of up to 10 people were allowed for focus group discussions. As a result of the COVID-19 pandemic, a lot of work and social related activities went online, thereby placing a lot of demand on internet bandwidth, this prevented a continuous listening in into data collection interviews. Lead Research Assistant initially was sceptical about going into a populated area like James Town during the pandemic, however, with the necessary precautions of wearing of nose mask and the use of hand sanitiser, data collection went on smoothly.

### 3. 2. Study Area

Figure 2 Map of James Town



Source: Google Maps, 2020

James Town, Accra, the study area of this research is within the catchment area (2.7 km) of Korle Bu Teaching Hospital (KBTH), where the study of maternal deaths, that featured malnutrition during pregnancy was conducted. Difficult cases from health facilities in James Town are referred to KBTH for remedy, some of these cases mentioned in the study could well be from the James Town community, since the origins of the cases were not disclosed in the report. A second reason for choosing James Town was because it is in the urban area and dominated by the Ga tribe, and has its ethnicity quite intact and assumed to have its beliefs system intact too. Lastly, because WIAD, my commissioner has a nutrition intervention in the district.

James Town, located in Asheidu Keteke sub metropolitan (AKSM) area of the Accra Metropolitan Assembly (AMA), has an estimated population of 15,771 (Leketey, et al., 2017), also known as British Accra, James Town has a long history of colonial occupation by the Portuguese, the Dutch and the British. It is home for the Usher Fort, a trading fort which was originally built as a trading port to protect the interest of the Dutch against other rival European traders. A lighthouse was built near the James fort and later followed by a breakwater at the beginning of the 20<sup>th</sup> century. The breakwater and lighthouse on the shores of the Atlantic Ocean in James Town, formed the first man-made harbour on the coast. James Town therefore became an important export centre (Nuno-Amarteifio, 2015). Despite disasters of earthquakes, wars and fire outbreaks in the 1900s, the people of James Town have stayed together till date despite urbanisation all around, and have maintained their ethnicity, mainly with a shared culture and tradition (ibid).

The two communities of James Town and Usher Town are referred together as Ga Mashie, [...] *Ga Mashie, also referred to as Ga and Old Accra, is part of indigenous Accra, consisting of James Town and Ussher Town. Ga Mashie is home to the Ga people (who speak the Ga language). The major economic activity in Ga Mashie is small-scale fishing and petty trading in the informal sector [...]* (Mahama, et al., 2011).

The AKSM where James Town is situated has an estimated population of 143,768 as at 2018 and currently has seventeen (17) health facilities, both public and private. The government health facility that mainly serves the people of James Town is the Ussher Polyclinic, of which the James Town Maternity is a part of.

*Figure 3 James Town township*



*Source: Fieldwork 2020*

### **3.3 Research Assistants**

The engagement of Research Assistants was necessitated by the inability of the researcher to travel into Ghana during the period of research. Written notes, audio recordings of interviews, pictures of environment, telephone discussions and WhatsApp chats with Research Assistants were regular engagements during the research period.

The Research Assistants worked together but had their unique roles in this research.

- The lead Research Assistant is a staff of SRID for the past 18 years and has been involved in Urban Poverty researches, Household Economy Approach researches, Baseline and Outcome Analysis researches, and at the time of research was involved in Multi Round Annual Crops and Livestock Survey. He has skills in interviewing, focus group dynamics and trains enumerators for national surveys. He understands and speaks the language of the study area fluently.
- The second Research Assistant is an Agricultural Economist, who is also a staff of SRID. He was responsible for organising meetings and mainly taking notes whilst the main Research Assistant facilitates interviews and focus group discussions in the community. He also took pictures, recorded proceedings where practicable, wrote down observations of the surrounding and practices of pregnant women and the community at large.

- The third Research Assistant is a female nutritionist, with the Ussher Polyclinic and as part of her duties, is responsible for the counselling of pregnant women on nutrition issues. She led the access to pregnant women who fitted the respondent requirements. She also led in the technical nutrition measurements (Mid Upper Arm Circumference) and was also a key informant too.
- A fourth Assistant is a documentary film producer, who produces a weekly TV comedy series “James Town Fisherman”, depicting the everyday life of the fishing community of James Town.

### 3. 3. Sampling Methods

The primary target population of this research were pregnant women in James Town, Accra. A purposive sampling was done with the assistance of the Nutritionist at the Ussher Polyclinic who introduced Lead Research Assistant to a pregnant woman she knew and who comes from James Town. *“Purposive samples are more likely to be appropriate to qualitative approaches”* (Laws, et al., 2013: 181). Snowballing was then used as the first pregnant woman recommend other pregnant women who fitted the criteria. The criteria were; currently pregnant, comes from and lives in James Town. They should be of varying ages and at varying stages of pregnancy to cover all possible perspectives. A mix of adolescents (13 – 19 years) and adults (20 – 49 years) and be willing to be interviewed. We finally interviewed 10 pregnant women.

Purposive sampling was used to find key informants in the community. Because the study had to do with beliefs, the target was to interview either a traditional religious leader or the Chief of James Town. The chief was finally chosen, because the research period coincided with the preparation of the annual Homowo festival of the Gas of which the people of James Town were cardinal, and getting a traditional priest to interview was not possible at that period. Leaders of the other two dominant religions (Christianity and Islam) were selected for interviewing too. These were all aided the film producer who is also an indigene of James Town.

For key informants outside the community, who had adequate knowledge and interacted with pregnant women, a Nutritionist, a Midwife and a Community Health Nurse were purposively chosen for interview. All three worked with the Ussher Polyclinic in James town and have varied interaction with the pregnant women and had worked between 3 and 15 years in James Town.

Two informants at the policy and governmental level were contacted by researcher for a key informant interview. The Director of SRID and the Director of WIAD, both of the Ministry of Food and Agriculture (MoFA).

Researcher also interviewed two Ghanaian elderly women living in Netherlands who come from James Town and currently residing in Netherlands and the film director, who produces a weekly TV comedy series “James Town Fisherman” as key informants. The final respondent was a pregnant African woman of Togolese decent living in the Netherlands. This enabled other perspectives and afforded researcher to directly interview respondents.

Total respondents comprised of 10 pregnant women for in-depth one-on-one semi structured interviews. A focus group of 6 adolescent pregnant women and a second focus group of 6 (2 mothers, 1 mother in law and 3 husbands), 3 community-based key informants (The Chief of James Town, a Christian religious Leader, a Muslim religious leader), 3 non-community-based key informants (A Nutritionist, Midwife and Community Health Nurse, 2 Government officials (Director of WIAD and Director of SRID), 2 Women who come from James Town and living in Netherlands, a film producer and a Togolese pregnant woman.

### 3. 4. Research Methods

To encourage maximum participation, dialogue was in the Ga language as much as possible. That is the language spoken by respondents in the community. Various methods and tools were used to solicit responses.

Table 1 Methods and tools for data collection

Sub Question	Method	Tool	Objective	Outcome	Respondents
What are the Food Choices	One-on-one Interviews, Focus Group, Key informants	Checklist, Semi Structured Interview, Photo elicitation Ranking Timeline	Gain in-depth information on personal experiences with food choices and dietary practice. Get a general understanding of them in focus groups for triangulation. Receive expert knowledge from key informants	List of foods eaten and foods added on during pregnancy and reasons.	Pregnant women, mothers, mothers in-laws, Health workers, Husbands, WIAD, leaders in the community.
What are the Dietary Practices	One-on-one Interviews, Focus Group, Key informants Interviews, Observations.	Checklist, Semi Structured Interviews, Ranking, Observation. Timeline		List of dietary practices and why the practices.	
What are the Beliefs (Cultural, Religious, Traditional)	Individual one-on-one in-depth interviews, Focus group discussions.	Semi structured Ranking, Timeline, Journaling	Understand convictions that are practiced in study area, what is fading and what is entrenched	Beliefs and convictions that influence the food choices and dietary practices	Pregnant women, mothers, mothers in-laws older women, Community leaders
Sources of Information of various beliefs regarding choices and practices.	Individual one-on-one in-depth interviews, Focus group discussions.	Semi structured, Timelines	To identify the sources information of pregnancy related beliefs come from.	List of sources and the linked to type of practice and choices	Pregnant women, mothers, Religious and traditional leaders, Health workers
What are the Agreements and Contractions	Key informant interviews, Desk Study	WhatsApp, Semi structured interviews, telephone chats	To identify which beliefs, dietary practices and food choices conform to or diverge from standard scientific knowledge.	Standard specifications and areas of convergence and contradictions	Nutritionist, Health Workers, Interventionist, Policy makers

Source: Author, 2020

Explanations of local terminologies and jargons were sought and clarified. Assumptions, doubts and ambiguities were addressed during the interaction with respondents. The research method employed the use of one on one in-depth interviews, focus group discussion, key informant interviews, photo elicitation, observation of both respondents and environment and the analysis of researchers journals These enabled data to be triangulated on the field.

### 3. 5. Data Sources

Two main sources of information were used; secondary data cataloguing the concepts and their working definitions, giving background and purpose of the study and secondly data collected during field work.



### **3.5.1. Secondary Data**

#### **Desk Study:**

To find answers related to pregnancy, beliefs, malnutrition, food choices, dietary practices, food taboos, I did a desk study by searching books, journals, scientific articles, online documents, reports, policy documents, electronic libraries, websites.

Policy documents, guidelines on conventional scientific nutrition from various UN bodies and specialist sources were also consulted. Country level policy and interventions on pregnancy, nutrition and dietary practices were also searched. Information about study area and its beliefs was also looked for. Various media like Google scholar, Science Direct, academic databases were used. Ghana Demographic and Health Survey, research articles on James Town and similar urban areas were also accessed in this study. Desk study also provided additional information on areas of agreements and contradictions with conventional scientific knowledge and how food choices and dietary practices of the pregnant women in James Town may be impacted nutritionally. The results of that are presented in chapters one and two of this report. Secondary data through desk study were also used in the discussion sections of this study.

### **3.5.2. Primary Data**

Various methods for fieldwork data collections were used to elicit information. These are discussed below.

**In-depth one-on-one interviews** were held with ten pregnant women, who talked freely but were guided by the researchers list of topics that should be covered. These provided rich understanding of the topic on the list, as the pregnant women talked about their personal experiences with food choices and dietary practices and beliefs that influenced those choices. Personal preference of food, how often, which form food is taken (liquid, solid, hot, cold, cooked, fried, natural, processed), types of food categories (carbohydrates, protein etc.), snacking. Other information was on hygiene and care practices (handwashing, toilet, and bath facilities, refuse disposal, kitchen and cooking utensils, ventilation of sleeping place etc.), and food supplementation. The questions of why (underlying beliefs and convictions) and the recording of Mid Upper Arm Circumference(MUAC) was done. The MUAC measurement of individual pregnant women was used as proxy to establish the nutrition status of the respondent at the time of research (Mother and Child Nutrition, 2020).

Figure 4 One-on-one in-depth interview with a pregnant woman



Source: Fieldwork 2020

### 3.5.3 Focus Group Meeting

Focus group enabled the research to get in-depth information about how people think about issues (Laws, et al., 2013). There were two focus group discussion of 6 members each. One group was for pregnant adolescents living in James Town. Questions about food choices for pregnant women in the community, beliefs and convictions that influence food choices and dietary practices and a ranking of the most preferred food and practices were discussed. The various sources of beliefs regarding pregnancy and what has changed over time were identified. These meetings were also for confirming data from the individual interviews. This group was to inform the perspective of which beliefs may prevail or wane away.

A second focus group meeting involved adults in the community (mothers, mothers in laws and husbands) to the pregnant women. This group influences the food choices made by pregnant women they live with or actively interact with on daily basis. The focus group discussion was also to tap into their feelings, beliefs, experiences and reactions to food choices and dietary practices of pregnant women. This group compared events of the past to what prevails now in relation to food using the timeline tool. A timeline promotes participatory reflection of trends and highlights historical milestones (Brouwer & Brouwers, 2015). The timeline was to track the trend of events that related to food in James Town over the period the group discussion could remember. A topic guide (checklist) was used to facilitate the session.

#### **3.5.4 Key Informant Interview**

There were three groups of key informants interviewed. Key informants of the community in this context are those who have over 5 years in the community, have knowledge of the beliefs, and issues relating to, myths, beliefs and stories of pregnancies. A Traditional Leader and Religious Leaders, who are not just opinion leaders, but indigenes of James Town were interviewed. A checklist was used to source information on beliefs that have faded away and which is still prevailing and why from their perspective.

Outside the community, key Informant interviews involved, a community health worker, a nutritionist and a midwife. These interviews also pointed out the contractions and areas on convergence with conventional scientific knowledge. What is being done by the Health sector and what is suggested as a way forward.

The second set of key informant interview was with those in policy and interventions. The directors of SRID and WIAD were interviewed on current interventions, responses, results, successes, challenges and way forward.

Another group of key informants were two elderly women in their late fifties, living in Netherland and come from James Town. Both had a child each in Ghana in the 1980 and gave their perspective of how it used to be in the past. Finally, a film producer working with the community and a Togolese pregnant woman was interviewed.

These interviews revealed the food types consumed and dietary practices prevailing among pregnant women of James Town and if choices are based on beliefs or not, sources of those beliefs (religion, tradition, or culture), whether the choices agreed or contradicted conventional scientific knowledge, what prevailed in the past, the way forward and what is being done currently.

#### **3.5.5. Researchers Journals and photo elicitation**

Pictures of environment, toilet and water facilities, refuse disposal, cooking and living areas were to enhance the study. "One picture says more than a thousand words." Journals recordings of observations and occurrences like interruption and disturbances by non-respondents, confrontations and delays encountered, receptions received, community entry protocols followed, and personalities involved were noted. Experiences about COVID-19 and precautions observed, sensitivity of the topics under discussion, weather, festivals were recorded in a journal

### 3. 6. Ethical consideration

Only willing pregnant women were interviewed on their food choices and dietary practices. This was after the mission of the study was explained to them. Consents of respondents were sought before the administration of the interviews about their willingness to be part of the research. Assurances were given as to the anonymity of respondents. Where pictures of respondents and their environment were taken, researcher assured respondents about the anonymity of its use. Respondents were made to understand that their story may be published but without their names and pictures, unless they consented to it. No one objected to it. This was explained in the Ga language they understood. Little incentives like the provisions of sanitisers and nose mask were given out after the interviews as gestures in a COVID -19 pandemic era and to compensate for the time spent with researcher.

### 3. 7. Time Scheduling

Table 2 Time Schedule

Time	Stage	Activity	Output
May to June 20	Research designing	Finalized research problems and questions	Research problem/questions
		Developed a good research design	Draft research design section for final report
		Prepared research proposal	Research proposal write up
	Literature review	Scoping of relevant literature, updated all through research life cycle	Key concepts and other output from the review process
		Prepare draft literature review	Draft literature review section for final report
June 26 to August 16	Data collection	Finalise sampling plan	Sampling plan
		Develop data collection instrument of methods and tools.	Draft data collection instruments
		Carry out data collection	Raw data from all respondents
		Write up data collection	Draft data collection section for final report upgraded
August 1 to September 7	Data analysis	Prepare data for analysis	Data ready (e.g. interview transcripts) for analysis
		Analyse data	Notes and other output from analysis
		Draw conclusions/ recommendations	Draft data analysis and findings section final report
Aug 25 to September 7	Writing up	Draft report	Final draft
		Review draft with supervisor	Notes of feedback
		Final editing	Final report
		Printing, binding and final submission	Final submission of report

Source: Author, 2020

### **3. 8 Limitations**

There were limitations of this research.

Doing research away from the field posed a limitation on the extent of probing that could have been done, had I done it myself in the field. There are observations that could have led to more probing questions by looking around in the environment.

The research period also coincided with the annual Breast-Feeding week celebration in Ghana, this affected scheduled meetings with key informants from the Health sector. More community visits in the company of the community health nurse could have enhanced the depth of information found in James Town. This however was not possible.

Another limitation was the inability to maintain sustained telephone chats with respondent within the country, due to poor network connectivity. Telephone chats truncated and taken over by research assistant in some cases.

An extended time on the field would have made it possible to observe the Homowo festival celebration with the people of James Town. Homowo, which literally means “Hunger, go and sleep”, would have enable the research to observe in reanactment how hunger and malnutrition was handled traditionally and the stories surrounding them.

Finally, sample size in this case study cannot be representative of the whole of James town. It only found information with respondents that were interviewed and their views about what pertains in James Town among pregnant women.

### 3. 9. Data Analysis

#### Quantitative data

These were mainly of the demographic profile of all pregnant women respondents were summarised by sex, age, religion, marital status, period of pregnancy, whether that was the first pregnancy or not. This data was used in the tables that described the pregnant women as a group, and uniquely as individual when their responses were quoted in the report. Record of trends of HB status among pregnant women was also captured from the District Health Information Management System (DHMIS) to enhance analysis

Figure 5 Summaries of responses

	PW05	PW06	PW07	PW08	PW09	PW10	Summaries
Location	Korle Wokro	Bukom	Ussher	Amanto	Manhean	IT Police Station	
Age	28	30	20	26	35	19	
Religion	Christian	Christian	Christianity	Islam	Christian	Christian	9 christians, 1 moslem
Trimester	3	2	3	2	2	3	5 2nd trimester and
Gravida	1	4	1	3	5	1	Gravida range: 1-5
Ethnicity	Ga	Ga	Ga	Gruni	Akan	Ga-Adangbe	7 Gas, 3 Non Gas
Marital Status	Single	Married	Single	Single	Separated	Single	7 Singles, 2 Married, separated
Educational status	Tertiary	JSS	SHS	SHS	JHS	JHS	5 JHS, 4 SSS, 1 Tertiary
Household composition	0, 2	2, 3	1, 2	1, 2	4, 2	1, 1	8 mixed, 2 Female
Relations	Sister	Husband, Sons, Daughter	Uncle, Mother-in-law, Uncle's wife	Boy friend, daughter	Boy friend, 3 sons, daughter	friend	Boyfriends, siblings, mother-in-laws
Occupation	Unemployment	Porter (Cleaner)		Petty Trader	Petty Trader	Beautician	Self employed petty traders, vocational, cleaner, unemployed
1. Are you particular about food you eat during pregnancy? If yes, if No jump to Q.3	no too particular	Yes	Yes	Yes	No	No	4 Nos, 6 yes, some r is change in appetite, love for fruits now

Source: Author, 2020

#### Qualitative data

Audio recordings of respondents were transcribed, after that the coding was done by commenting on the transcribed documents. Themes that were emerging were noted. Responses according to the various themes were then categorised and organised by themes of food choices and dietary practices, beliefs that influenced the choices, the sources of the information and finally by whether responses agreed or contradicted conventional scientific

Researchers' journal and pictures cataloguing issues of the environment (hygiene at home and surroundings, existence of toilets and hand washing facilities, cooking sources and utensils, disposals of liquid waste, exposure of food to flies, open drains, clearing of refuse etc.) were coded and labelled under personal hygiene and environmental hygiene. This informed researcher about the adequacy and use of facilities that had to do with personal and environmental hygiene that may impact malnutrition of pregnant women in the community. Synthesis of the various themes and information of quantitative and qualitative outcomes were done to present one coherent information as findings and recommendations of the reports.



## CHAPTER 4 PRESENTATION OF FINDINGS

This research set out to find answers to the question, “What beliefs influences food choices and dietary practices made by pregnant women in James Town, Accra?”

This question was however aided by a series of sub-questions to answer the main question. These are;

- What are the food choices made by pregnant women?
- What are the dietary practices of pregnant women relating to pregnancy?
- What are the cultural, religious, and traditional beliefs regarding nutrition during pregnancy?
- What are the sources of information of various beliefs concerning food choices and dietary practices regarding pregnancy?
- What are the areas of agreements and contradictions with conventional scientific knowledge and how it affects the nutrition status of pregnant women?

This chapter is structured into six sections, starting with the profile of the primary respondents interviewed, food choices found, dietary practices engaged in by respondents, beliefs that influence their choices of food, the sources of the information on beliefs of food choices and which of those practices agreed or contradict conventional scientific knowledge. This then leads into the chapter on discussion.

### 4.1 Profile of primary respondents

#### *a. In-depth Interviews*

There were in-depth one-on-one interviews with 10 pregnant women, ages ranging between 19 and 35 years. Two been 19 years. five of them in their 2<sup>nd</sup> trimester and five in their 3<sup>rd</sup> trimester. Nine were of the Christian faith and one a Muslim. They have had pregnancy experiences ranging from one to five, with five of them as first timers. Seven of them were single, two are married and one separated. None of them lived alone, they lived either with their boyfriends, siblings, mothers or mothers in law. Two lived with their husbands.

*Table 3 Profile of Pregnant Women respondents*

Respondents	Location	Age	Religion	Trimester	Gravida	Ethnicity	Marital Status	Educational status	Household composition (inclusive)	Relatives	Occupation
PW01	James Town	26	Christian	2	2	Frafra	Married	JSS	1M, 1F	Husband	Seamstress
PW02	Paladium	21	Christian	3	1	Ga	Single	SHS	0M, 3F	Mother, Sister	Trader
PW03	Bukom	19	Christian	2	1	Ga	Single	SHS	0M, 2F	Mother, Daughter	Student
PW04	Akoto Lante	20	Christian	3	2	Ga	Single	JHS	2M, 1F	Son, Husband	Trader
PW05	Korle Worko	28	Christian	3	1	Ga	Single	Tertiary	0M, 2F	Sister	Unemployed
PW06	Bukom	30	Christian	2	4	Ga	Married	JSS	2M, 3F	Husband, Sons, Daughter	Porter (Cleaner)
PW07	Ussher	20	Christian	3	1	Ga	Single	SHS	1M, 2F	Uncle, Mother-in-law, Uncle's wife	
PW08	Amamo	26	Islam	2	3	Gruni	Single	SHS	1M, 2F	Boy friend, daughter	Petty Trader
PW09	Manhean	35	Christian	2	5	Akan	Separated	JHS	4M, 2F	Boy friend, 3 sons, daughter	Petty Trader
PW10	JT Police Station	19	Christian	3	1	Ga-Adangbe	Single	JHS	1M, 1F	Friend	Beautician

**Source: Author, 2020**

## 4.2 Food choices made by pregnant women

This section presents the findings of the food choices made during pregnancy by pregnant women in James Town. Food Choices for this research are, the choice of foods pregnant women eats and why they chose those foods.

In responding to the question of what was typically consumed by women in James Town, researcher also sought to know what was added or taken out because of pregnancy. What is consumed more and what is consumed less, the reasons for the change, and finally a focus group ranking of food preferences of pregnant women. Information was also sought from stakeholders who had something to do with the nutrition of pregnant women of James Town, like a nutritionist, midwife and community health nurse working with the people of James Town, on food choices. The results are presented below;

### 4.2.1 Typical Foods of James Towners

Banku and okro stew, kenkey and fish, Rice and tomato stew, Jollof rice, Porridge, Fruits, Fried plantain with beans (red red), Fufu and palm nut soup. As per the advice from the Polyclinic, most of the pregnant women aimed to eat what is termed the four-star diet foods. One food item should at least come from each group of foods eaten by them. The groups are as follows: Staples, Animal source foods, Legumes and Vitamin rich foods of fruits and vegetables. WIAD had a mantra for that.

Table 4 Food Groups of James Towners

Food Group	Food	Purpose	Mantra
Staples	Banku, Kenkey, Rice, Plantain, Wakye, Fufu, Yam	For Energy	Go
Animal Source Foods	Fish, Eggs	For Growth	Grow
Legumes	Beans		
Vitamin Rich Food, Fruits and Vegetables	Okro, Cabbage, pepper, tomato, kotomire, Watermelon, Banana, Mango, Orange	For Protection	Glow
Others	Palmnut soups, tea, jam, bread		

Source: Fieldwork, 2020

What was common in the list of foods talked about with the various groupings were Banku and Kenkey. These are maize based foods prepared commonly by people of the Ga ethnic grouping. All respondent pregnant women either also increased or introduced fruits and vegetables into their list of foods consumed in addition to the staples of Banku and Kenkey when they got pregnant.

The Chief of James Town recounted a brief history about the origin of the Gas, which can be traced to ancient Israel and the story of biblical Joseph in Genesis 41: 46-49 of the Old Testament of the Bible. The Gas are believed to have migrated from Israel and had grains (maize) as a staple food.

*[...] Joseph found himself in Egypt and helped in the conservation of a bumper harvest of maize, that lasted over seven years to feed the people of the then world. Maize has therefore been our ancestral crop all through migration to where we are now [...] (KI01, 2020)*



The local name for kenkey among the Gas is Kormi, and the Pastor of Seed and Harvest Chapel International, an indigene living in the community explained how the name came about;

*[...] Kormi is the corrupted version of the word Corn mill.*

*The cornmill was introduced during the colonial era of the 15<sup>th</sup> century to aid in the grinding of the maize in preparation of Banku and Kenkey.*

*Because the locals couldn't pronounce Corn mill well, it became Kormi to signify, that the preparation starts by paying a visit to the Corn mill, so anybody that went to the corn mill, was cooking "Kormi" [...] (KIO2, 2020)*

In describing food frequency in the community, the District Chief Imam, an indigene and residing in the community, had this to say;

*[...] Some pregnant women eat Banku thrice a day, only changing what it is eaten with; either with stew, with raw pepper or with soup [...] (KIO3, 2020)*

The Focus Group 1, made up of adolescent pregnant women, ranked the 6 most preferred foods eaten in James Town, with this result.

#### **Focus Group 1 Food Ranking**

- 1<sup>st</sup> – Banku
- 2<sup>nd</sup> – Fruits
- 3<sup>rd</sup> – Fufu
- 4<sup>th</sup> – Kokontey
- 5<sup>th</sup> – Kenkey
- 6<sup>th</sup> – Rice

Figure 6 Group one Food preference ranking



Source: Fieldwork 2020

**Focus Group 2 Food Ranking** (made up of two mothers, one mother in law and three husbands, these are relatives that may influence daily food choices and consumptions of pregnant women)

Figure 7 Focus group two ranking process



- 1<sup>st</sup> – Fruits
- 2<sup>nd</sup> - Yam/Plantain
- 3<sup>rd</sup> – Beans
- 4<sup>th</sup> – Tuo Zaafi
- 5<sup>th</sup> – Kokontey
- 6<sup>th</sup> – Banku
- 7<sup>th</sup> - Kenkey

Source: Fieldwork 2020

Figure 8 Focus group two food preference ranked



#### **4.2.2 Changes as a result of pregnancy**

The research found changes in the foods eaten when women became pregnant in addition to what was their typical foods. Eating more fruits like watermelons, mangoes, oranges, and vegetables like kotommire, ademe, gboma, okro, tomatoes and pepper, were either increased or introduced into the list of foods eaten. These food items were typically added as a result of advice from health workers, and in some cases out of personal craving for them, as in the case of coca cola. The nearness of the vibrant foodstuff market, that sell a lot of fruits and vegetables also enable accessibility and increase the consumptions of fruits and vegetable. One out of ten each had fufu and soft drink (Coca Cola) respectively added on.

PW09, a 30-year-old pregnant woman who has had five children put it this way,  
*[...] As for me the Banku and okro stew is what I typically eat,  
but fruits and vegetables are demanded by my babies in my tummy.  
Agboglobhie market is close so at times  
we get our fruits cheaper [...]* (PW09, 2020)

*[...] I am eating more fruits and vegetables now.  
This is a fruits baby [...]* (Pregnant Woman, (PW06, 2020)

The Nutritionist of Ussher Polyclinic had this to say.

*[...] We hold regular pregnancy school at the clinic and  
emphasise the need to eat more fruits and leafy vegetables  
in addition to their regular foods.  
Fortunately, Agboglobhie market is close by and  
in fruit season its cheaper for them [...]* (KI04, 2020)

#### **4.2.3 Reasons these foods are preferred during pregnancy**

Reasons for consuming these foods during pregnancy were given as, for taste, to make baby strong, to make the medicines they take work (absorption of medications), and for energy for baby and mother

*[...] I eat more fruits and vegetables for the baby  
to be strong and so that the medicines  
given me at hospital will work well. Is just that at times fruits are expensive when you don't go to  
Agboglobhie [...]* (PW02, 2020)

Madam Vivian a 58-year-old Ghanaian mother of two and resident in Netherlands (NL02) and had her first daughter in Ghana 32 years ago, had this to say about why she ate, what she ate during pregnancy in Ghana in those days.

*[...] At times it's the good taste that makes me eat during pregnancy  
and at times I just crave for some foods.  
I ate normal but craved for waakye (rice and beans) during pregnancy [...]* (NL02, 2020)

#### 4.2.4 Foods pregnant women are encouraged to eat:

Pregnant women in James town were encouraged to eat more fruits, vegetables, beans, kotombire, palm soup, mashed kenkey with milk, plantain, leafy vegetables. Most of the information came from health workers, mothers and friends. Some encouragement came from husbands and fathers occasionally as well.

*[...] I get a lot knowledge about what to eat  
from the Nurses, my parents and grandparents [...]* (PW01, 2020)

Eventhough fruits, and to a lesser extent, vegetables are seasonal crops and therefore gets expensive during the off season periods, the desire to get and eat them has been high among pregnant women in James Town.

The Director of WIAD, admitted that “Household storage of fruits and vegetable is a challenge ” but “We promote the consumption of fruits in their season” (KI07, 2020). She also explained that quality of fruits and vegetables are influenced by temperature changes when they are harvested and one could wash off nutrients in dirty fruits and vegetables when they are stored wrongly. This is collaborated in a study on post harvest quality of fruits and vegetabbles (Lara, 2018).

Common fruits consumed are watermelon, oranges, banana, mangoes, pineapple and avocado. Vegetables mainly consumed are okro, egg plants and leafy vegetables like ademe, kotonmire and ayoyo.

The Nutritionist stresses “the leafy vegetables are rich in iron and the citrus fruits aids in the absorption of iron”.

Table 5 Foods added on to list of foods during pregnancy

Typical foods eaten in James Town	Added on by Pregnancy	Reasons
Banku and okro Stew or soup Kenkey with fish, Wakye, eggs and cabbage, Rice and stew or soup Fufu with palmnut soup, Indomie Tea with jam and omelet, Yam with kotommire stew Plantain Watermelon, Banana, Tea and bread,	Fruits, Vegetables, Indomine	Taste as appetite demands Energy for Mother and Child To utilize medicines well (absorption of medicines), Good development of baby

Source: Fieldwork, 2020

Nutritionist and the Director of WIAD, briefed researcher on their efforts in promoting the consumption of fruits and vegetables

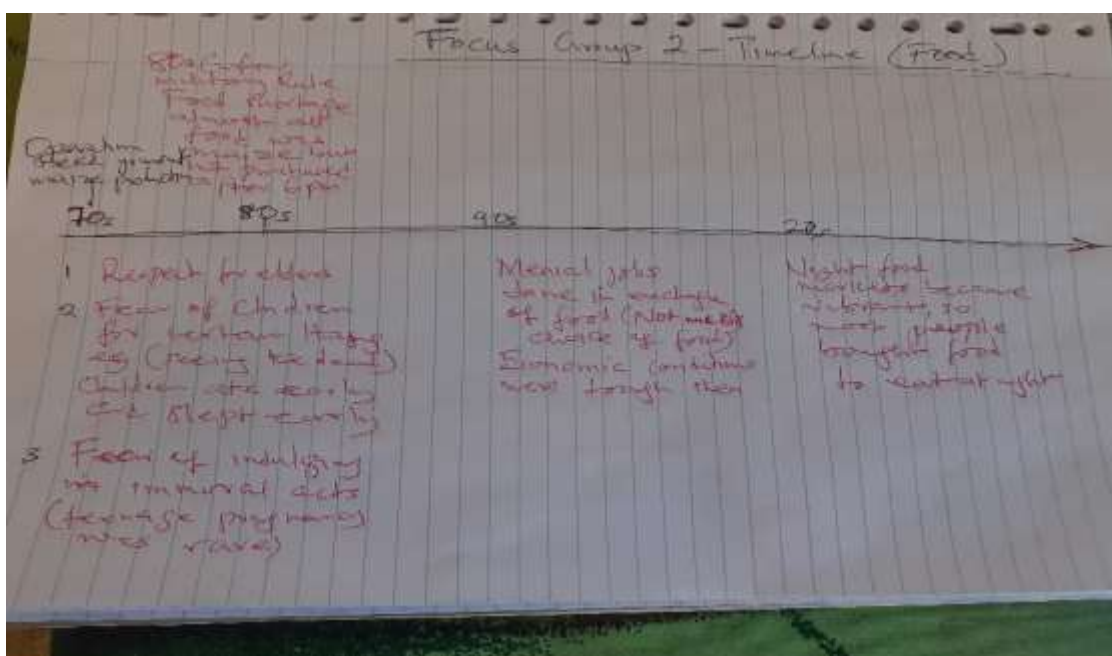
*[...] We are rigorous in the promotion of fruits and vegetable especially in their seasons.*

*We do this because firstly it is beneficial to the pregnant women. We have the 4-star diets with our slogan. **Go** for the energy foods, **Grow** for the protein foods and **Glow** for the protective foods, mainly fruits and vegetables. Secondly, as a measure to reduce post-harvest loses when consumed by humans and not left to rot away [...]* (KI04, 2020) and (KI07, 2020)

### **Focus Group 2 – Timeline of events relating to food**

Focus group 2 was made up of two mothers, one mother in law and three husbands after a long deliberation drew out this timeline to represent events relating to food over the years in James Town.

Figure 9 Food events timeline



Source: Fieldwork, 2020

A timeline promotes participatory reflection of trends and highlights historical milestones (Brouwer & Brouwers, 2015). It was intended for the trend of beliefs in James Town, but in the absence of those beliefs they created one for food availability milestones. Highlights of the timeline are as follows; In the 1970s backyard farming was encouraged; In the 1980s there was food shortage from drought. In the 1990s community worked menial jobs in exchange for food. In the 2000s, upsurge of night food markets.

### 4.3 Dietary practices of pregnant women in James Town

Dietary practices in this research refer to how foods are utilised (do they want them fresh, boiled, fried, hot, cold, spicy, bought, self-cooked, snacks between meals, times they eat etc.) and why?

The findings are presented below.

#### 4.3.1 Time not supposed to eat

4 out of 10 pregnant women interviewed will not like to eat after 8pm, 3 will like to have their last meal by 10pm and yet 3 will eat anytime they felt hungry. Reasons given for time of eating last meal was discomfort at night. As put by one.

*[...] I do not like to eat after 10 pm otherwise I can't sleep  
and the food wont digest well [...]* (PW02, 2020)

And yet there was another respondent who felt differently  
*[...]it is not about time,  
if am hungry I go and eat. [...]* (PW05, 2020)

The midwife of the James Town Maternity was surprised when she knew about some responses from the pregnant women in the community

*[...] Late eating was surprising to me,  
if the pregnant women were still eating late.  
Late eating for pregnant women makes them gain too much weight,  
which is not too good during pregnancy. Because that is what we ask them not to do,  
I know generally the community eats late [...]* (KI05,2020)

#### 4.3.2 Number of times they eat in a day

All the pregnant women interviewed ate at least three times a day and as often as their appetite could handle and there was food available.

*[...] I eat about 3 to 4 times daily,  
if I don't eat that often the baby kicks a lot.  
I think this baby will like food a lot [...]* (PW03, 2020)

#### 4.3.3 How they like their foods

Generally, James Towners like eating food hot and served straight from the cooking place. These habits may not have any thing direct to do with pregnancy. The Nutritionist had a cause to worry because soups were constantly on fire for as long as it is been sold, thereby, as she put it

*[...] they end up destroying all the nutrients in the food. [...]* (KI04, 2020)

*[...] I Like my foods boiled for taste,  
fried foods, and very hot, I cannot eat cold food [...]* (PW06, 2020).

#### 4.3.4 Snacking between meals

[...] Yes, I take snacks in between meals,  
3 - 5 times daily and its good  
for the body and causes free bowels.  
I was advised by the doctor for healthy living.  
My snacks are nmedan (corn drink),  
atsormor (flour pastry), fruits, and when the season comes,  
I eat a lot of watermelons [...] (PW10, 2020)

The common snacks they consume by pregnant women interviewed at James Town were; roasted groundnut and maize mixture, cooked groundnut and maize wrapped in corn husk, biscuits, corn drink (nmedan), soft drinks, fried doughnuts(bofloat). Others are Atsɔmɔ (pastry), soboro (hissop drink), burkina (millet/milk shake) Some also consider fruits between meals as snacks

#### 4.3.5 Who prepares their foods

[...] I live in a crowed compound so when I start a fire to cook,  
the whole compound or house get interested and  
I cannot say no, so I prefer buying,  
because nobody likes to eat someone's bought food" [...] (PW06, 2020)

4 out of 10 respondents said, when they get pregnant, they prefer cooking themselves. The others eat food cooked by mothers and mother – in laws. Some reasons been, taste, parents are more trustworthy than rivals or enemies and for some the smell of food irritates them or they are simply too tired to cook.

[...] Yes, my mother cooks most of the time,  
because when I cook the smell irritates me and am not able to it.  
I think am reacting to the pregnancy [...] (PW09, 2020)

[...] I get tired so people I know cook for me at times [...] (PW10, 2020)

The Middle Upper Arm Circumference was used as a proxy to determine nutritional status. MUAC reading of the range 21 to 23 cm is used as a guideline to admit pregnant women into a feeding programme (Field Exchange, 2014). All passed, PW05 was on borderline.

Table 6 Mid Upper Arm Circumference

Mid Upper Arm Circumference (MUAC) reading for Pregnant Women										
	PW01	PW02	PW03	PW04	PW05	PW06	PW07	PW08	PW09	PW10
Age	26	21	19	20	28	30	20	26	35	19
Trimester	2	3	2	3	3	2	3	2	2	3
Gravida	2	1	1	2	1	4	1	3	5	1
MUAC Reading in cm	28.2	25.5	34.4	26.7	23.2	30	26.7	28.4	31.5	31

Source: Fieldwork 2020

Figure 12 Nutritionist taking MUAC reading



Figure 11 MUAC Reading



Source: Author, 2020

#### 4.3.1 Hygiene and observation of environment and amenities

Under dietary practices the research also captured the personal and environment hygiene of the pregnant women. Personal and environmental hygiene has impact on the utilization of the food eaten. It is evidence that availability and accessibility of food does not guarantee food and nutrition security (FAO World Summit, 1996). For the body to fully utilise food, it must be healthy and personal and environment hygiene enhances that.

#### Toilet facilities

Figure 13 Toilet share wall with residence



Source: Fieldwork 2020

Generally, most homes in James Town have no toilet and bath facilities within. The people of James Town patronize public toilet and bath houses located at vantage points within the community. The community has several public toilets and bath facilities, and these are located 10 to 50 meters from residential facilities. The facility is paid for as and when one wants to use it. Some of these facilities are owned by the local authority whilst some are owned by private individuals and groups.



### *Water facilities*

About one in every 10 people have water facilities in their homes. The other majority get access to water at vantage points within the James Town community. Distances to water facility ranges from 50 to 100 meters. Residents pay for fetching water for their domestic use. The facility doesn't flow regularly but residents get water regularly due to the use of large polyvinyl tanks for water storage.

*Figure 14 Water accessibility in James Town*



**Source: Fieldwork 2020**

*Figure 15 Female public toilet*



### *Sanitary conditions of pregnant women*

The pregnant women have access to toilet rolls and water at the various toilet facility whenever they visit. Before one enters the facility, she pays for toilet roll and right after using the facility there is water and soap to wash hands.



***Solid waste disposal***

Most residents have solid waste disposed from their homes. This is done periodically (every 3 to 5 days interval). However, some of these wastes are found in gutters as a result of intense littering within the community and ends up being piled for weeks, choking the drains and causing stench within the community.

*Figure 16 Choked gutter*

***Liquid waste disposal***

Liquid waste is disposed into drains within the community. However, most drains are choked with solid waste, making it impossible for easy flow through the drains. Most drains are open and exposed.

***Food Hygiene***

Food prepared at home is usually covered and kept away from flies in a room (kitchen or sleeping space) when not consumed immediately. Food vendors have food covered in mesh cases on tables to avoid contamination from flies and other micro particles.

***Housing environment***

Generally, the community is densely populated with 20 to 30 people living within 20-meter square compound leading to an overcrowded community. Some homes appear to be smoky due to activities of food vendors (corn mill and Kenkey factories etc.) The community is dust free; almost all the floors are cemented and covered with floor bricks with tarred roads.

***Personal hygiene***

Pregnant women in James town and in other hot and crowded areas in the country habitually bath in the morning and evening. However, in between the morning and evening, some may not be able to wash off sweat, because a lot more effort is needed to make a 50 to 100-meter walk in the sun to a public bath house to shower.

***Sleeping place and ventilation***

Most pregnant women have their sleeping rooms ventilated with at least a window and a standing fan to generate fresh air. James Town is mostly hot. The windows and doors have curtains and netted mesh to provide privacy and prevent flies and mosquitoes.

#### 4.4 Beliefs regarding nutrition in pregnancy

This section presents the finding on the belief systems that influence the food choices and dietary practices of pregnant women in James Town, Accra.

Three cardinal beliefs were the guide for the research in the community.

- a. Religion - what people say and do in **relation to religious texts** (scriptures, instructions, or creeds) they hold sacred. Example could be (*according to the pastor, wulomei – a traditional religious leader - says, according to koran ..... etc.*)
- b. Culture - refers to **the observable behaviour** of a group of people that is unique to them, and this behaviour is dynamic with time. Example could be (*never give up spirit of a Ga man for instance: even when he has been beaten on the floor will say, when I get up, I will beat you, if I don't eat kenkey in a day, I have not eaten .....).*
- c. Tradition - borders around the relationships between the living and the environment, passed on over a long time through culture and folklore **and may carry some perceived consequences** if violated. Example could be (*food taboos, some tribes don't eat snails, mushrooms, or there is some history that prevents cooking at night*).

To fully answer the question; What are the cultural, religious, traditional beliefs regarding nutrition during pregnancy, the researcher engaged three main groups of respondents:

- a. In-depth one-on-one interview with 10 pregnant women, ages ranging between 19 and 35. Two been 19 years. 5 of them in their 2<sup>nd</sup> trimester and 5 in their 3<sup>rd</sup> trimester. Nine were of the Christian faith and one was a Muslim. They have had pregnancy experiences ranging from one to five, with five of them as first timers. Seven of them are single, two married and one separated.
- b. Two Focus Group Discussions. The first with six adolescent pregnant women of 18 and 19 years of age. The second were adults, two mothers, one mother in law and three husbands.
- c. Key informants who are indigenes and currently living in James Town. These key informants within the James Town community were the Chief of James Town (traditional leader), The pastor of Seed and Harvest Chapel International (a Christian Religious Leader) and the District Chief Imam (an Islamic Religious Leader). All are indigenes of James Town
- d. Two women in their late 50s, currently living in the Netherlands, but hails from James Town in Accra. They both had one child each in Ghana in the 1980s and occasionally visits Ghana.
- e. A film producer who also is an indigene was also interviewed on issues about beliefs.

Questions to that effect were asked then researcher could appropriately place them in each category.

The findings are presented below;

What are the cultural, religious, traditional beliefs regarding nutrition during pregnancy?

The answers to the question, - 8. Are there foods you are not allowed to eat during pregnancy?, yielded the following answers from the pregnant women during the in-depth; No food forbidden; Yes; No, I don't know any; yes; oh no; yes; yes; no; no; no. (A total of 6 Nos and 4 Yeses), upon further probing, those who responded Yes, all attributed reasons to restrictions of foods prescribed by health workers and not in the categories of religion, culture nor tradition

The Chief of James Town, was rather definite in his answer (*probably he has been asked before*)

Figure 17 Chief of James Town

[...] No forbidden foods of any kind  
for pregnant women exist in James Town,  
rather food that should be encouraged are  
fruits and vegetables, and these should be  
eaten a lot by pregnant women [...] (KI01, 2020)

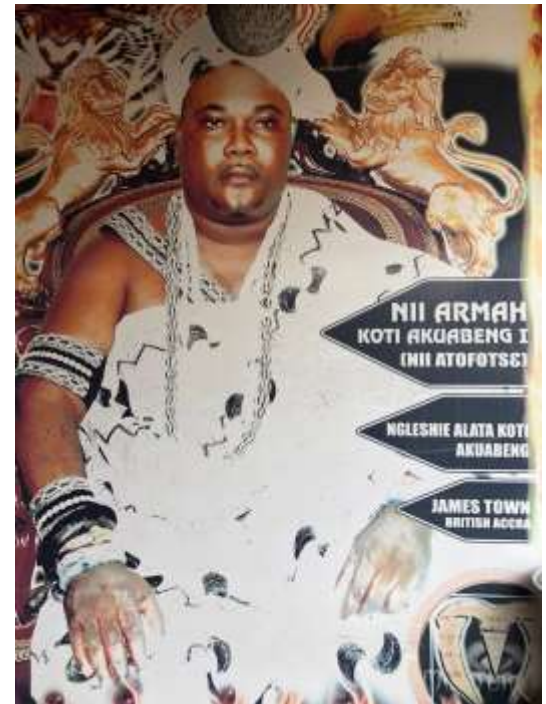
In answering the same question, the pastor who comes from and  
resides in James Town had this to say

[...] *No, nothing like that. The whole thing is  
if you are lucky to have your mum or  
any elderly woman around during pregnancy, she will direct you  
about the food choices in addition to what the nurses say [...]*  
(KI02, 2020)

The district chief Imam and an indigene of James Town also said;

[...] *Religiously, we Moslems don't eat pork  
and animals that were strangled to death with blood within,  
but there are other alternatives.  
You know this is a fishing town,  
so, there is a lot of fish and beef is also available.*

*As to traditionally,  
I am a Ga person, and do not know about any food that  
should not be eaten by pregnant women.  
It is the nurses who determine that for them [...]* (KI03, 2020)



NL02, A 58-year-old Ghanaian woman living in The Netherlands and had a Child in Ghana in the 1980s  
responded

[...] *Oh no, you mean like for traditional reasons.  
there were no restricted foods,  
no one instructs you not to eat this or that food.  
You are only told to eat good food, not don't eat [...]* (NL02, 2020)

From NL01 Ghanaian woman in her late 50s residing in the Netherlands responded thus;

[...] *As for me there was no restriction  
I was not restricted in any form, fortunately too,  
I was working and had enough to eat what I wanted.  
I really didn't know of any restrictions,  
you only listen to your mother and nurses, that's all. You understand? [...]* (NL01, 2020)

Response from the nutritionist at James Town Polyclinic

*[...] For here, I don't really know of any beliefs  
for pregnant women concerning their food intake, like in other areas.  
You know this place in quite urban.  
The only thing is with Pica – is like craving for substances that are not food per se  
Their bodies dictate it, or they take advice from friends  
and other pregnant colleagues [...]* (KI04, 2020)

The midwife at the James town maternity was concerned about the cultural dietary habit of eating late:

*[...] Not really, I don't know of any food taboos for pregnant women here,  
like I said, the community generally eat late,  
but we advise the pregnant women to eat early so that the food will digest and be utilized well,  
so they don't become over weight at delivery [...]* (KI05, 2020)

The Community Health Nurse does a lot of home visits with the Nutritionist to inform and educate pregnant women in the community as part of their outreach duties. She had this to say about beliefs;

*[...] Oh no, not like food taboos. I don't know of  
any food forbidden to pregnant women. But you can't know,  
James Town is still a traditional area,  
even though it is in the urban area. [...]* (NL06, 2020)

Figure 19 Interview with a Muslim Leader



Figure 18 Interview with Christian Leader



Source: Fieldwork 2020

#### 4.5 Sources of information of beliefs

This question that sought to elicit data on the source of the information about beliefs on food choices, resulted in responses such as, I get a lot of knowledge about what to eat from the nurses, nutritionist, parents, grandparents, friends and even according to the dictates of the body. Three out of ten mainly got their information from parents, one from friends, one as her body dictate and 5 from sources related to the health facility.

Because most of the pregnant women were not aware of any beliefs that influences food choices and dietary practices in James Town, most respondents related the answers to wherever they received information regarding their food choices and dietary practices from.

Various sources include grandparents for respondent PW01

*[...] I get a lot knowledge about what to eat  
from the Nurses, my parents and grandparents [...]* (PW01, 2020)

A 21-year-old pregnant respondent (PW02) got her information on what to eat or not to eat from friends

*[...] I get my information parents and friends [...]* (PW02, 2020)

A 28-year-old single first timer was sure her parents will inform her, if there was any restriction

*[...] if there were any food restrictions, my parents will inform me [...]* (PW05, 2020)

PW06, a 30-year-old mother of 3, listens to the needs of the body to determine what to eat and what not to eat

*[...]my body reacts to what I don't have to eat,  
so that is where my information comes from [...]* (PW06, 2020)

PW10, is 19 years and this is her first pregnancy, but has the privilege of having information from her mother and mother in law, even though she lives with her friend.

*[...] My Mother and mother in-law are around  
to guide me in my food choices, so long as I have appetite [...]* (PW10, 2020)

## 4.6 Agreements and contradictions

This section compares practices of the pregnant women in James Town that agrees and those that contradict the conventional scientific knowledge promoted from the Health facilities working in the James Town community.

### 4.6.1 Agreement

Every pregnant woman interviewed acknowledged fruits and vegetables were good for them.

The focus group 1 of the adolescent pregnant women ranked fruits, second (2<sup>nd</sup>), among a group of six most important foods they are eating during pregnancy, and this agreed with what is promoted from the health facility that serves the community.

Figure 20 Food rank positions

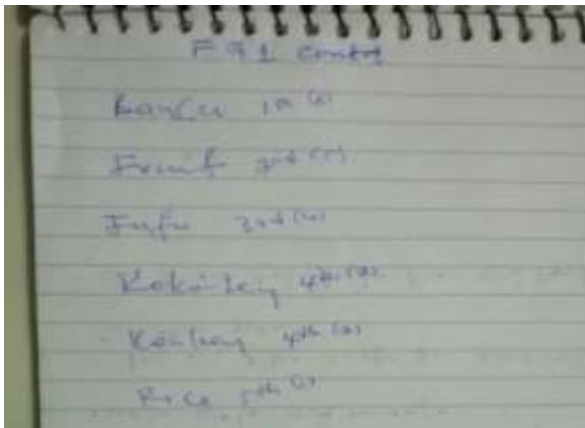


Figure 21 Food ranking exercise



Source: Fieldwork 2020

A 28-year-old unemployed pregnant woman, said in an answer to the reason why she chose the food she eats during pregnancy;

*[...] I like vegetable now and I eat a lot of fruits whenever I can afford, because it gives me vitamins and I don't become hungry early when I eat them [...]* (PW05, 2020).

PW04 who is also a trader realized her food consumption had changed with pregnancy and has added fruits to her food list

*[...] Yes, initially I wasn't taking much food, but since pregnancy my appetite has increased and now I eat a lot of fruits too [...]* (PW04, 2020).

The Nutritionist of the Ussher Polyclinic that serves the James Town community, was impressed at the progress they have made so far, howbeit slowly, with the food durbars and bazaar that is organized every three months.

*[...] Daily talk session is a regular thing we do before we go to our offices. The desire to eat fruits that are rich in vitamins is been accepted well with the pregnant women. Unfortunately, fruits are seasonal and expensive in the off season. [...]* (KI04, 2020)



Another area that agrees with conventional scientific knowledge is the non-existence of any edible forbidden foods in the James Town community.

The Nutritionist in explaining, highlighted the quarterly food durbars that are organized to inform pregnant women of what could be done with food items they have in the community.

[...] during the food bazaar/durbar,  
we use food items that can be found in the community as  
examples of how to prepare nutritious four-star dishes.  
Almost every ingredient comes from the locality [...] (KI04, 2020)

Figure 23 Talk at Food Bazaar



Figure 22 Daily talk with Pregnant women at the ANC



Source: Fieldwork 2020

[...] We do focus counselling, but we get most of the pregnant women  
attending the food bazaars [...] (KI06, 2020)

The acceptance of food supplement is another area of agreement with conventional scientific knowledge

The Midwife informed the researcher that there is a free supply of Iron tablets for the pregnant women, even those some react to it, most of the know it is good for them and accepts it.

[...] Pregnant women also receive folate tablets for free. We make them take it right before us, Some of them say it makes them want to vomit, but they know its good for them, so we now as them to take what they have to take right here[...] (KI05, 2020)

#### 4.6.2 Contradictions:

The dietary practice of Pica is a contradiction to what is promoted by the health service - Pica is a condition in which pregnant women compulsively eat non-food items that do not have any nutritional value, like dirt and clay.

For the case in James Town the commonest one is Ayilo, as called in the local dialect. The practice was not admitted by any of the pregnant women, but other informants agree it is being used;

*[...] Ayilo is still been eaten by pregnant women.  
It is no longer open,  
It is in their purse in a polythene.  
I was called after one of my “daughters” – church member,  
had given birth, when I got there and saw the baby,  
it was so full of “mud”, but thankfully, the baby was not affected.  
The mother use to eat the ayilo “too much”,  
but thankfully the Baby was not affected, it was washed off [...]* (KI02, 2020)

NL02 gave her opinion of what the effects may be

*[...] I know some women like ayilo a lot,  
even when the nurses say they shouldn't eat.  
And I think one of the reasons is because  
it becomes very difficult for you to go to toilet,  
but as a pregnant woman, you need to have free bowels [...]* Pregnant Woman - (NL02, 2020)

Figure 24 Ayilo on sale - Practice of Pica



The Nutritionist in her interactions with pregnant women explained to the researcher the issue of ayilo in the James Town community

*[...] Ayilo, particularly as part of pica, are inhibitants.  
If you take vitamin C rich foods after your iron foods,  
Iron absorption speeds up, however,  
when you take ayilo after eating those foods,  
absorption of iron is inhibited.  
They do not always admit it to us,  
but when they complain about low HB  
and we point out to them the effect of Ayilo,  
they admit it to their colleagues later [...]* (KI04, 2020).

The pastor in narrating an interaction with a pregnant woman had this to tell the researcher

*[...] Some women buy and  
rebake the ayillor to their taste.  
I know someone who takes as  
many as six of them a day [...]* (KI02, 2020)



The Community Health Nurse, pointing at the entrance of the polyclinic said it is even sold at the entrance there.

*[...] Oh yes, they take it against our advice,  
but for those marketing we cannot stop them,  
we only need to educate our women.  
I have not done any research on it, but it is clay,  
so can harbour worms and even give kidney stones to the mothers.  
It is hormonal so we can't be harsh with our pregnant women,  
but we show them pictures of the effect on the babies.  
Babies are covered all over and the deposits can be seen after they are bathed.  
They also do that to stop spitting so we counsel  
that they could use dry biscuits instead.  
Some of those biscuits are salty and can curb the saliva.  
Cream cracker, King cracker, Soda biscuit are examples [...]  
(Community Health Nurse – KI06, 2020)*

Another contradiction to dietary practice is eating late. That was the concern of the Midwife

*[...] Late eating for pregnant women makes them  
gain too much weight, which is not too good during pregnancy.  
Because that is what we ask them not to do,  
I know generally the community like to eat late [...] (KI05, 2020)*

## Chapter 5 DISCUSSION OF FINDINGS

This research was partly premised on the publication as reported in the Ghana Medical Journal that among other statistics, 2.8% of deaths associated with pregnancy in Korle Bu Teaching Hospital (KBTH) were nutrition related and these deaths were also preventable (Der EM, et al., 2013). A very common malnutrition problem in pregnancy is anaemia. (Sahin, et al., 2015), and it is preventable if the right information is realised. Der EM, et al, however concluded in his study [...] *Community based studies on maternal mortality are urgently needed in Ghana [ibid]*.

James Town, Accra, the study area of this research was chosen because the community is within the catchment area (2.7 km) of KBTH, where the above study referred to, was conducted. Difficult cases from health facilities in James Town are referred to the KBTH for remedy, some of these cases mentioned in the study could well be from the James Town community, as their sources were not captured in the study.

In doing the sampling, I had hope to have a fair representation of well and malnourished pregnant women, I only found out after taking the MUAC readings, that all respondents but one, (PW05) were well above the lower limit. Pregnant woman (PW05), was in her third trimester and on the borderline of malnutrition (she read 23.2 and 23 was the borderline). I then checked the literature again and found out that the study was reported in 2013, making it seven-year-old. A lot could have happened within that duration.

This chapter discusses the findings from the fieldwork, and it is structured in eighth sections.

- i Food choices and how they impact malnutrition in James Town.
- li Dietary practices and how they impact malnutrition
- iii What beliefs influence these choices.
- iv What are the sources of the information influencing food choices and dietary practices
- v. What agrees with and what contradicts scientific knowledge and impacts malnutrition
- vi. Researcher's Journal
- vii Reflection on Reliability and Validity
- viii Reflections on the research

## 5. 1 Food choices and how they impact malnutrition.

The nutritional demands in a woman's life are greatest during pregnancy (Demilew, et al., 2018) as cited in (Goldberg, 2002) and food choices made by pregnant women have consequences for both mother and babies yet to be born. This research found that whilst the respondents maintained their staples of Banku and kenkey, fruits and vegetables consumption was increased by all respondents. There were few reasons for that.

The Agboghloshie market in Accra, is arguably the largest and most vibrant fruits, vegetables and food stuff market in the Greater Accra region of Ghana and is 3 km from James Town (Google maps. 2020). This makes it possible for pregnant women from nearby James Town to have access to a wide array of these food items if they can afford and have the appetite for them.

Figure 25 Fruits & Vegetables pavement display: Agboghloshie Market



Figure 26 Truck off-loading vegetables in Agboghloshie Market



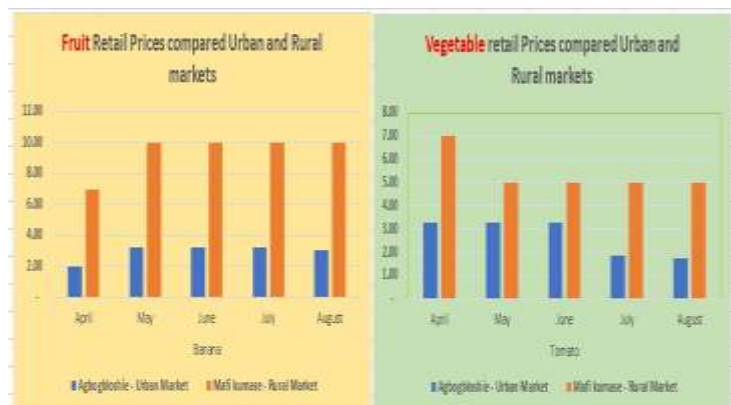
Source: fieldwork, 2020

In a study that confirms that observation, researchers found that greater variety of fruits and vegetables and of lower prices were associated with markets in urban centres (Dean & Sharkey, 2011). Prices were also relatively better in the urban markets (ibid). Table 8 below compares prices of two markets.

Table 7 Fruits and Vegetable Prices: Urban vs. Rural Market

Prices in local currency cedis compared			
Fruits and Vegetables	Months	Agboghloshie - Urban Market	Mafi kumase - Rural Market
Banana	April	1.94	7.00
	May	3.21	10.00
	June	3.21	10.00
	July	3.21	10.00
	August	3.07	10.00
Cabbage	April	1.03	8.00
	May	1.99	7.00
	June	5.19	7.00
	July	5.19	7.00
	August	4.38	7.00
Tomato	April	3.26	7.00
	May	3.26	5.00
	June	3.26	5.00
	July	1.84	5.00
	August	1.72	5.00

Figure 27 Fruits and vegetable prices in Urban and Rural Markets



Source: Marketing Services Unit of SRID

Snippets of price data on Table 8 confirms that between the months of April and August 2019, prices of banana, cabbage and tomatoes were cheaper in the Agbogbloshie market than a rural market of Mafi-Kumase. Even though James Town is less endowed economically, pregnant women still had a better opportunity to buy a variety of fruits and vegetables for consumption that are relatively low priced, than most locations in the rural area. It is therefore not surprising that fruits and vegetable consumption is high.

Won, et al, (2018) in his study of fruit and vegetable intake of pregnant women in South Korea, associated, increase intake of fruits and vegetables to increase availability of Vitamin C which has been shown to have a positive bearing on birth weight of the baby, and also prevented pre term delivery. There is a positive association of food security status of low income pregnant women with the availability and intake of fruits and vegetables at home (Nunnery , et al., 2018). As food security worsened, the available variety of fresh fruit and vegetables decreased, which was associated with lower intake (ibid).

From the statements above, a low-priced fruits and vegetables need to be available and eaten at home to impact nutrition of pregnant women, not only when it is low priced in the market. The Nutritionist (KIO4) explained that, vitamin C increased the absorption and utilisation of iron in the pregnant women. This situation therefore prevented anaemia which is a threat to pregnancy and childbirth. She was however, concerned about the exposure of fruits and vegetables to the sun and kept on the floor, that eventually destroys the nutrients. There is need for increased effort, not only to lower the cost of fruits and vegetables, but to have them at the homes and eaten fresh by pregnant women, if the benefits of fruits and vegetables will be sustained.

After the first set of interviews with the pregnant women and the focus group discussions, it was obvious that there were no belief systems that were influencing food choices and dietary practices of the respondents interviewed. A request was then made for any current report on the status of malnutrition among pregnant women in James Town. Because the report was still in the process of been written at the Ussher Polyclinic, the database that had daily records of activities at the health facility was the only option left to have a very current data on the malnutrition status of pregnant women who visit the facility. The result of the request is what is produced below.

*Table 8 Data on HB Status of pregnant women*

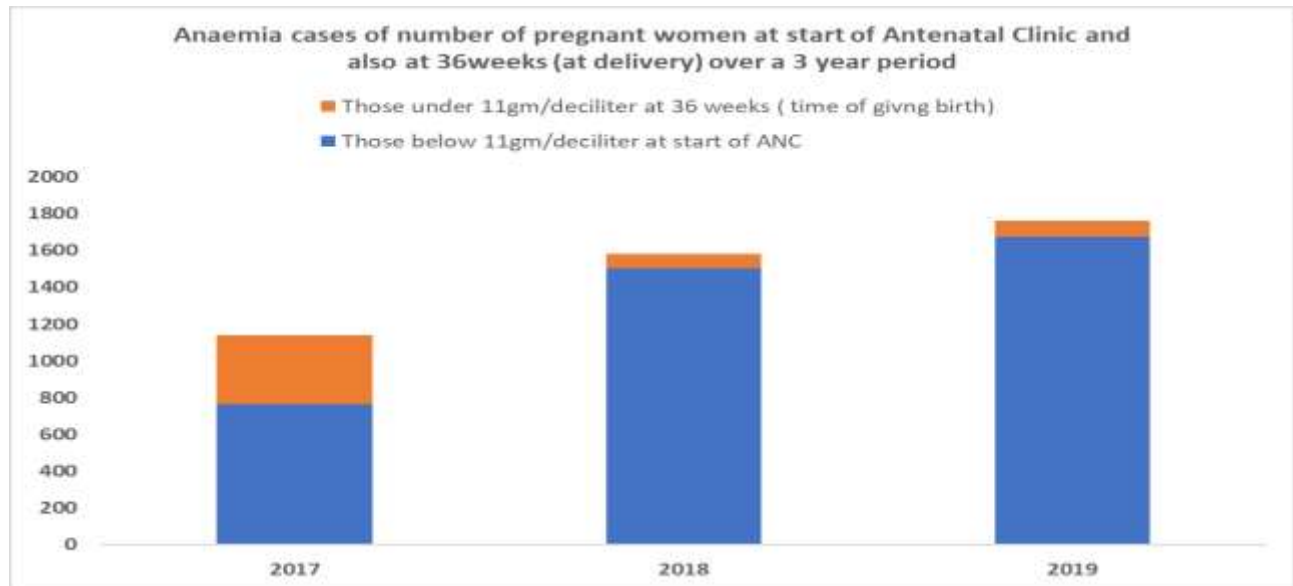
<b>Year</b>	<b>Total registrants</b>	<b>Registrants who checked for HB</b>	<b>Those below 11gm/deciliter at start of ANC</b>	<b>Those under 11gm/deciliter at 36 weeks ( time of givng birth)</b>
2017	1808	1078	764	375
2018	3375	2523	1501	81
2019	3352	2552	1674	85

**Source: District Health Information Management System (DHIMS)**

Registrants are those who report at the health facility the first time as pregnant women. They are required to take a Haemoglobin (HB) test. An HB count of less than 11grams/decilitre is considered too low for a healthy pregnancy term. That is an anaemia case. Pregnant women are therefore counselled on how to improve on their HB status till delivery, usually around 36 weeks. Most of the effort depends on good nutrition. At 36 weeks cases of HB levels of 11 and below, are treated with caution, and in most cases

pregnant women are referred to the KBTH for delivery when their HB is below 7. The more referrals cases from other health facilities, the higher the burden on Korle Bu, which could result in higher maternal death rates.

Figure 28 Trends of pregnancy anaemia cases in James Town



**Source: District Health Information Management System (DHIMS)**

In 2017, almost half (50%) of those who started as anaemic pregnant women recovered before delivery and in 2019, 95% of those who reported anaemic at registration had recovered by the time of delivery in 36 weeks according to the data above. Everything cannot be attributed to nutrition, but a significant increase in the consumption of fruits and vegetables contributed to that, because fruits such as oranges are high in vitamin C which also enhances the absorption of iron to prevent anaemia in pregnancy (Healthline, 2016).

This desire to eat well by the pregnant women themselves and do what they are required of by the health workers was observed. Nine out of ten respondents were taking folic acid supplements, two also had malaria tablets and blood tonic in addition to the supplements. All these coupled with encouragement of the community leaders in James Town, has probably led to the improvement of the overall nutritional status in the last three years of 2017 to 2019 as shown in the Table 10 above.

Fruits and vegetables are however seasonal, but the working strategy of WIAD, is to promote the consumption of these fruits and vegetables as much as possible in their seasons.

*Table 9 Seasonality of Fruits and Vegetables*

Seasonal availability of some fruits and vegetables		
Fruits	Seasonal Period (months)	Comments
Oranges (Valentina)	April – June	
	August – November	
Banana	August – February	
Watermelon	July to October	
Pineapple	May – June	
	August – October	
Mangoes	March – June	Women fear diarrhoea
	October – December	
Alasa or white Star Apple	November - February	
Yooyi (velvet)	April - June	Powdery favourite for pregnant women
<b>Vegetables</b>	All year round	Prices vary by supply
Tomatoes	July – November	Irrigated
	February – Early April	
Leafy Vegetables	All year round	Scarce December to may
Hog plum (Aadon)	July - October	Rare, Orange coloured
Vitex (shon)		

**Source: (WIAD, 2020)**

The fact that pregnant women in James Town did not depart from their normal energy giving foods like banku and kenkey, but added on a lot more fruits, could be a result also of the various programs undertaken by the nutrition division, antenatal clinic of Usher Clinic and other collaborating organisations like the WIAD, and like most government run programmes, the strengthening and intensifying of the already running programmes with support from non-governmental organisations could further enhance nutrition and maternal health of pregnant women in James town.

Table 10 Nutrition Programmes in James Town

Nutrition programs aimed at improving HB counts/level of pregnant women		
Program	Target	Frequency
Daily Talk on nutrition in facility	All pregnant women	Weekly (5 days a week)
Food Bazaar/Durbar in community	All pregnant women	Every 3 months
Nutrition Clinic held in facility	Focused on all groups, but particularly those with HB 11 and below	Every day and as needs arises
Home Visits within community	Pregnant women who may not come to Clinic for some reasons	Weekly, 3 days a week?
Pregnancy School at facility	Level 100 representing 1 <sup>st</sup> trimester and Level 200 representing 2 <sup>nd</sup> and 3rd trimester pregnant women,	Two times a month during pregnancy and certificated
Nutrition Rehabilitation Center in the district	Children and Mothers who are severely malnourished	Continuous programme

Source: Ussher Polyclinic and WIAD

There are several things that may have directly or indirectly contributed to the improvement of the nutrition status of pregnant women seen in their MUAC reading and improvement in HB status. Fruits and vegetable which are a rich source of iron and vitamins are relatively cheap and are been eaten a lot by the pregnant women, nutrition programmes have been ongoing on daily and weekly basis, there are visits by community health nurses to the community to service those who could not get to the hospital, community leaders have been supportive toward nutrition of pregnant women and lastly, the pregnant women themselves have been eager to eat well. These observations are however limited to the respondents interviewed, but it is also worth noting that James Town is quite homogenous, and small sample may be a good representation (Glen, 2015).



## 5.2 Dietary Practices and how they impact malnutrition

Talking about dietary practices, fruits are seasonal, and there are several types that are available at different times of the year. Since some pregnant women see and consume fruits as snacks, making efforts at simple home processing and preservation of fruits will give them access to the benefits all year round. The healthier the pregnant women, the lower the risk of maternal mortality, thereby gradually achieving the WHO target of Ending Preventable Maternal Mortality by 2030

The time of the day food is eaten could influence the body's ability to utilise it. Late eating was described as a bad dietary practice by the midwife at the health facility. This is collaborated in a study that late night eating was linked to a greater risk of gestational diabetes (Kroeger, et al., 2019), even though all respondents agreed that late eating was not good, what however is early enough remains subjective. Whilst three respondents said by 8pm, others (2 out of 10) believed by 10pm they should have finished with all their days meals. Whichever way it is, a good enough time to rest is also needed for the food to digest well. If curbing this practice could improve the health of pregnant women, then early supper must be encouraged, or further research is needed to find out real reasons why some pregnant women eat late. Most pregnant women avoided too much oily foods and like their meals cooked and served hot. Hot food was a remedy for contamination from germs as explained by a respondent, as having heard that from the clinic. The clinic may not have all the answers to nutrition in pregnancy but pregnant women having the desire to follow instructions from the clinic was a good sign, a lot more nutrition related programmes can be channelled through the clinic to enhance healthy pregnancy.

### **Hygiene**

Personal and environmental hygiene, by the UNICEF framework, could be an underlying cause for malnutrition, and this is crucial in the case of a pregnant woman. [...] *Due to hormonal changes, pregnant women sweat more and may have more vaginal discharges than do non-pregnant women* [...] (The Open University, 2020) the study also recommended that if it was possible, a pregnant woman should bath at least once in a day (ibid). The availability of public toilets and bath houses may have improved the personal hygiene of pregnant women in the community. Even though there are enough water points to get water from, the sale of water on a cash down basis, could also be a hindrance to the poorer pregnant women and may affect their personal hygiene. Bathing in the morning and in the evening, however, was normal for pregnant woman interviewed. Overall, and through subjective observation by researcher, sanitation and hygiene were relatively better within the community and therefore nutrition may not be adversely affected.

## 5. 3 What beliefs influence food choices and dietary practices.

The cardinal objective of this study was to find out whether religious, traditional and cultural beliefs influence food choices and its accompanying dietary practices made by pregnant women in James Town. The strategy to find that out, involved talking to the primary respondents first, since they are the ones who make the decisions, then to buttress or otherwise whatever they say about that with other respondents who have personal experiences, and those who have some influences on their decisions. Researcher further approached the leaders and custodians of those beliefs; the chief been a traditional, Imam, been a religious leader of the Islamic faith and a Reverend Minister been a religious leader of the Christian faith. These were not just leaders but indigenes who live in the community.

Both religious leaders occasionally, invited health and nutrition specialist to talk to their congregants on nutrition and other health related issues, and if they represented those two faiths which are dominant in James Town, then it was not surprising that pregnant women adopted conventional nutrition knowledge



in addition to whatever spiritual assistance they could receive from such faith gatherings. The extent to which that impacted the whole of James town is beyond the scope of this study, but it could inform about the trend of beliefs and its impact on food choices.

Listening to the audio recordings of his interview with the research assistant I guess the chief, has been asked before or probably on several occasions about the existence of food restrictions, to be that blunt and definite. His suggestion of staying away from fertiliser laden foods, however, suggests he may still have reservations on wholly accepting conventional scientific promoted issues. The two Ghanaian women in Netherlands during the interview sounded quite embracing of western culture when they were in Ghana and may not usually succumb to food restriction if there were any. I expected the film director to have known of any, judging from his interaction with traditional events like chieftaincy rites and the annual homowo festivals in James Town, he only knew of an alley connected to the movement of pregnant women. There is high level of reliability in the information received from them in my opinion, eventhough that is still a small group of respondents.

#### 5.4 Source of Information on beliefs

Situating the source of information of beliefs that influenced the choice of food and dietary practices was a problem to both researcher and respondents because an earlier question to identify the existence of influencing beliefs in the categories of religion, culture and tradition did not result in answers that could fit the categories expected. The existence of so many health facilities in James town could have had influence on where information came from. An earlier study by de Graft, et, al (2014), showed there were 12 health facilities in James town of a current population 15,453, that offered services based on conventional scientific knowledge and could be the source of influence on choices for pregnant women in James town as well.

*[..]Interviews with people with diabetes and hypertension suggest that all the services, except for traditional shrines, are perceived as legitimate providers of care for diabetes and hypertension and are regularly used[...]* (de-Graft Aikins, et al., 2014)

Table 11 Health facilities in James Town

Health facilities in James Town	
Health Centres	Numbers
Churches	14
Clinics (private)	2
Mosques	8
Poly Clinic (public)	1
Pharmacies (private)	6
Chemical shops	3
Traditional Shrines	27

*source: used (de-Graft Aikins, et al., 2014, p 7*

The faith-based facilities of churches and mosques, by our interviews did not have any unique beliefs that influence food choices for the pregnant women, if traditional shrines are also not perceived to be legitimate for some health services, then the most likely source of legitimate services may come from the facilities that apply conventional scientific knowledge and is likely to be the most influential source of information for the pregnant women of James Town. It agrees with the findings from interviews of ten respondents whose sources of information were 3 from parents, 1 from friend, 1 as her body dictates and 5 from sources related to Health facility. A ranking of the sources of information could have given a clearer understanding upon hindsight.

## **5. 5 Agreements and Contradiction with conventional scientific knowledge**

The number of health and nutrition facilities makes accessibility to maternal and other medical services quite easy, and that could have influence on how much of advices or services are adopted.

### **5.5.1 Agreements**

Increase consumption of fruits and vegetable no doubt is good for pregnant women (Won, et al., 2018). This agrees with conventional scientific. Another agreement is food supplementation tablets accepted by the pregnant women, even though some react and will not normally take them, they still agree it is good. Food bazaars according to the nutritionist use mostly all items found in the community to cook. The existence of such food items could even be an agreement.

### **5.5.2 Contradictions:**

The dietary practice of Pica (*white bentonite clay, also known as ayilo in James Town*) is a contradiction to what is taught at the antenatal clinics - The cravings which is a natural phenomenon can at best be managed during pregnancy. There is, however, not a straight answer to the dangers or otherwise of ayilo. It is a detoxifier (BusinessGhana, 2017) as of talking about benefits and also it may have parasites, heavy metal poisoning, may give gastrointestinal problems (Raypole, 2019) for the negative. There is need for a comprehensive research into ayilo, to establish its real net effect on pregnancy.

## **5.6 Researcher's Journal**

### *Poverty in James Town*

James Town, Accra has for a long time been identified among the poor communities in Accra (GhanaWeb, 2010), (Sewidan, 2015). This could have manifested in the difference between the figures of those who report for the first time as pregnant women (registrants) at the clinic, and those who did the HB test, even though it is a requirement for first timers. The explanation from the nurses in most cases is lack of money. The health insurance covers about half the cost of the HB test, but some of them do not have health insurance. In 2017 40% of registrants at the antenatal clinic did not take the HB test the first day, 25% in 2018 and 24% in 2019 (*analysed from Table 9*). Their anaemia status, therefore, could not be established on the first day to inform nutrition counselling.

### *Season of pregnancy*

The Homowo festival, is characterised by a lot of fun fare and excitement and a little lowering of morals. In an earlier conversation with an elderly pregnant woman, researcher was told that most of the adolescent girls get pregnant after the Homowo festival, which is normally in August. He would have met a lot more pregnant adolescent for interview, if the research was in December or thereafter. Timing could make impact.

### *Alcoholism*

Alcohol consumption among the adolescent was not uncommon in James Town ( Lekettey, et al., 2017), even though this was not admitted openly, it was confirmed by some health workers who occasionally smelt alcohol on both adults and adolescent pregnant women when they come closer. Some use alcohol as appetisers before eating. A health worker narrated her encounter with an alcoholic mother who had a severely malnourished child and had to do a lot of home visit to help.

### *Brothels*

There is also a springing up of slum brothels at the beach side. A respondent said, *“there are a lot of structures at the beach, that are being turned into brothels, and the fishermen do not even have spaces to keep their fishing gear”* (KI02, 2020). This could influence increased birth rate from poor parents soon.

### *Child Welfare Clinics (CWC)*

There are several CWCs in the community, some of them termed, non- static, which is simply, announcing a temporal hosting of the clinic in a designated place for easy access to children, the services are then provided when children are brought there. By this activity, a lot of children have been spotted that never attended the clinics and had to do all their immunisation through these visits.

In summary on the discussion, the absence of beliefs that influence food choices and dietary practices, to a large extent has enabled pregnant women in James Town, rely mainly on the advices of the health workers on issues of nutrition during pregnancy. This has probably led to adequate dietary intake by pregnant women. The MUAC reading of the respondents also show evidence of good nutritional status, even though it is used as proxy. Hygiene has not been all good but better off comparatively. It is, however, important to consolidate gains so far made in remotely combating maternal deaths. There are still potential threats according to the records. About 5% of pregnant women were anaemic at the time of delivery in 2019, and it is important to consciously deal with that. All lives really matter, especially that of a mother and child. More on that will be talked about in the recommendations.

*Figure 29 CWC services in James Town*



### 5.7 Reflection on Reliability and Validity

The research started with a rigorous search for a suitable study area. A place whose population has an ethnic domination by a tribe and have a shared culture and tradition, should be urban and poor. and James Town in Accra fitted that so well.

The strategy to seek for information started with those who really are at the centre of the decision on food choices and dietary practices, the pregnant women. Two distinct groups of adolescent and adults pregnant women were interviewed to triangulate information, followed by another group in a focus group discussion to authenticate what came from individuals, this was followed by talking to opinion leaders residing in the community and the same information was collaborated by others well vexed in issues of pregnancy and beliefs. All these groups yielded a unanimous outcome.

However, a longer stay in James Town could have given more depth to the information gathered. Researcher has confidence that the outcome reflects what pertains among pregnant women interviewed in James Town. There is, however, no known adverse influence on the outcome of the research, by personal biases.

### 5.8 Reflection on Research

The inability to do fieldwork myself has been very demanding, because I was assisted by someone who really did not own the research. Having reached this stage and producing a report is most satisfying. I did not just get data but friends alongside.

Settling on what to research on, has been shaped by my life events, born into a Christian home, raised in a Muslim community and have close relatives in Traditional religion, I was eager to know how these beliefs influenced choices in today's world.

Settling on the choice of a topic went through a lot, and thanks to my supervisor, it has been an eye-opening experience. I indeed needed to *stand on the shoulders of giants* to progress in life. Words like "Belief systems, convictions, core convictions, faiths etc." were clear in my mind, but had to be communicated with similar clarity to anyone that should read it.

Designing a whole research with identifying the real research problem and its owner was new to me. Back at work in agricultural information, we knew what our mandate was and what data we went out to look for on an annual basis (agricultural production and forecast data). Even though my assistant and I have done some household researches that put people rather than their produce at the centre of the research, we have had methods and tools already spelt out and only had to be applied.

What the objective was and framing the correct research questions to meet the objective were the toughest in this research. Taking away what will not answer the questions on beliefs but will give enough detailed information to be able to recommend solutions was exacting.

I was aware that COVID will place a limitation on the fieldwork; my study area was a crowded community, social distancing was not adhered to and it had often been reported among them that COVID did not exist and that no one was affected in James Town, and often said it was a "rich man's sickness". Some were sure they could control COVID with drinking alcohol and bathing in the sea. My assistant told me about this, and he was skeptical in going into the community, that was my first worry about the fieldwork. Secondly, my Research Assistant was going to be away on official work duty for the first two weeks of fieldwork. When he finally returned, we had to sort out permission issues to be able to do research on

nutrition in James Town. One of the Research Assistants was a woman and a nutritionist who worked in James Town, her presence made it easy for the team to be accepted for interview both with respondents and the health authorities, this was however after the initial hold up from the health authority in the study area. Opposition to surveys were not entirely new to me but coming from administrative authority was. I learnt later that the health director was apprehensive, because there have been cases of researches, he felt were for parochial interest and people just said anything in the report to attract funding.

Having cleared this barrier, getting the pregnant women and organising the in-depth and focus group meetings were relatively easy, courtesy the nutritionist who worked with pregnant women in James Town. I knew the burden on network and internet in a COVID era, so decided I was going to listen in to interviews and participate if feasible. I went over the checklist with my three research assistants and acted out the roles of researcher and respondents, we had to practice the way to express especially the word forbidden in the Ga language. A phrase was needed to clarify who “forbids” what, among other questions to be asked. For the first week of fieldwork, I did not receive audio recordings of the interviews and my listening in was constantly interrupted because the place was noisy. Finally, written notes were scanned and sent, and I was surprised at the contents. My expectations were high at the start and I was full of excitement that I was going to come out with a list of weird beliefs that I hadn’t discovered was in James Town. Findings however was surprising, we did not find evidence of beliefs system like religion, culture and tradition influencing food choices and dietary practices of pregnant women in James Town.

I had to talk on phone almost a whole night with my Research Assistant to emphasise the difference between quantitative and qualitative research, and the fact that asking and clarifying the “whys” were more important for this research than the mainly figures, we both were used to.

Reorienting to qualitative research was however the biggest adjustment in this research. How much details can you give on a checklist to my Research Assistants, and not make it a structured questionnaire was a challenge, we eventually overcame that hurdle by “whying” every answer. Some respondents were just used to questionnaire, when I introduced my research to one government key informant, the response was “ok, send the questionnaire for me to answer”. My strategy was to have in-depth interviews with primary respondent, then based on answers, I will enrich the topics in focus group discussions and with key informants, I felt disappointed at not finding any beliefs that influenced choices.

What I also realized after questions to my Research Assistant was that there were things said that Research Assistants did not think were necessary, so didn’t write down. After questioning why some pregnant women prefer to cook themselves or allow their mothers only, the answers were immediately explained. Some did not trust others to cook for them, they could be enemies, and some because of feeling nausea at the smell of the dish when cooking. These were not written down, so we had to find another pregnant woman to do it right. We still did not have any belief system influencing food choices and dietary practices. I called two Ga friends of mine (father and mother) in Ghana and they also said, if it existed would have been long ago.

I had not planned for such an outcome, so I quickly arranged to interview a Ghanaian woman from James Town living in Netherlands who had been pregnant in Ghana to have her story about beliefs influencing food choices and dietary practices. I had two of them through referrals. After interviewing, the results were same, they did not know of any such beliefs twenty or more years ago. Further interviews with key informants in the community also confirmed that pregnant women did not have such beliefs influencing

their food choices and dietary practices, but were concerned about pregnant women not eating well, adolescent pregnancy and poverty in James Town.

I then arranged to have the latest reports from the health facility on pregnancy related malnutrition issues.

When I finally had opportunity to access a database at the health facility, I noticed nutritional status of pregnant women had consistently improved over the last three years of 2017 to 2019. Going back to the problem I started with, I realized it was based on a 2013 publication that showed there were a lot of maternal deaths then, but seven years was a long time for things to change with nutrition of pregnant women. The lesson I learnt is that for nutritional issues time is sensitive.

My attention at this point was shifted to what were the reasons for the improvement and had hope the upcoming Homowo festival could throw some more light on the traditions and beliefs of the James Towners concerning food choices, since the festival literally means “Hunger, go and sleep”. Field work was however over before the climax of the festival.

There were also the issues of people not admitting to some dietary practices because they were contrary to conventional scientific knowledge. Typical example was the practice of pica – the act of eating non-food substances-, that was not admitted by any pregnant woman, but evidently been used by pregnant women, because it was even sold outside the gate of the health facility pregnant women patronise. In the case of James Town, it was *white bentonite clay, also known as ayilo in James Town*.

I also found that after the MUAC readings only one out of the ten pregnant women interviewed was malnourished, her count was 23.2 cm and the cut off was 23. I had wish to have more malnourished respondents, their experiences probably could be different. A surprised discovery too was the increase intake of fruits and vegetables among the pregnant women.

This research was on an unfamiliar ground for me and has been very educative. There were things I could have done differently though, had I been there for fieldwork. I would have like to peep into kitchens and bedrooms to confirm the existence of alcohol and ayilo use by pregnant women, probably participated in some social activities like card games to build confidence as part of the community for more information. I would probably have had a longer session with the documentary film producer for more insight into the economy of James Town, that may affect their belief system and food choices.

Overall, respondents were receptive and allowed pictures to be taken and their voices recorded. Few pregnant women were camera shy though.

I have however known a lot about pregnancy and nutrition and have appreciated very much that nine months of a new life on earth. I salute all mothers.

Even though malnutrition among pregnant women have consistently been better over the last 3 years, enhancing economic resources for pregnant women and further research into the practice of pica is recommended among other things to further improve nutrition.

## CHAPTER 6 CONCLUSION AND RECOMMENDATIONS

### 6.1 Conclusion

This study set out to answer the question What beliefs influences food choices and dietary practices made by pregnant women in James Town, Accra?

- After engaging the various respondents in individual and group interviews, this research concluded that food choices and dietary practices of pregnant women were influenced by their interactions with the health system that served the community rather than beliefs of religion, tradition or culture. Other influences came from parents, friends, husbands and community leaders who have encouraged and shown interest in the nutrition of pregnant women
- It was further observed that, while the pregnant women maintained their normal maize based staples of Banku and Kenkey, there was an increase consumption of fruits and vegetables. This was partly because of low priced fruits and vegetable were available in a wide variety in a big market close to James Town and its consumption has also been rigorously promoted by both WIAD and the GHS.
- The consumption of fruits and vegetables which are rich in vitamins and other essential nutrients, has resulted in improved nutritional status of the pregnant women. This is evidenced in the reduction of anaemic cases at the time of delivery in the preceding 3 years of 2017 to 2019.
- Hygiene that could also affect the utilisation of food for pregnant women was relatively good and probably resulted in the improvement of individual nutritional status of the women interviewed, judging by their MUAC reading results.
- There is therefore need to sustain the gains made so far in the improvement of the status of nutrition of pregnant women. A threat to that has been identified as the practice of pica, which is the consumption of non-food substances during pregnancy. In the case of James Town, it is the consumption of *white bentonite clay, also known as" ayilo"*. Even though there is no clear information of its effect on mother and child, it is seen as a practice that should be discouraged.

### 6.2 Recommendations:

The objective of this study was to recommend ways of improving the nutrition intervention to pregnant women in James Town.

- To gain optimum benefits from the fruits and vegetables, it should be consumed fresh, because fruits and vegetable turn to lose nutrients after harvest and when stored wrongly. It is therefore recommended that WIAD through MoFA introduce urban home gardening to James Town to assure the fresh supply of fruits to pregnant women from their homes. Sacks and other containers filled with the right kind of soil could replicate a farm in the mostly cemented areas of James Town. This form of farming is already been practiced in other urban areas and advantage can be taking of the availability of water in the James Town for that.
- WIAD should facilitate and promote simple home processing and preservation of fruits and vegetables, that can be done by pregnant women and their care givers. Tomatoes for instance

could be preserved by boiling to reduce water for longer shelf life. This will take advantage of low-price during periods of abundance.

- GHS and WIAD should periodically, like half yearly orient James Town opinion and traditional leaders, especially the males, on issues of nutrition and wellbeing of pregnant women to sustain their care and interest.
- GHS and WIAD should collaborate to engage food vendors in basic nutrition, especially in the area of overcooking and overheating of soups that eventually destroys all nutrients. They should be participants at the food durbars alongside the pregnant women, these periods could also involve visits to Nutrition Rehabilitation Centres to appreciate efforts at treating malnourishment
- WIAD, with Research organisations and in collaboration with GHS, should rigorously promote bio-fortified maize varieties around that are targeted at pregnant women, since the main staple (banku and kenkey) of the people of James Town are maize based.
- Advocate and promote further research into the pros and cons of Ayilo and vigorously promote any alternative to ayilor now.



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## Appendix

### *Participants in study*

<b>Name</b>	<b>Representation</b>	<b>Code</b>
Nii Armah Koti Akuabeng I	Chief of James Town	KI01
Mac-Henry Lamptey	Reverend Minister, Christian Religious Leader	KI02
Okotah Badoo	District Chief Imam, James Town	KI03
Mariam Abdul-Rahman	Nutritionist, Ussher Polyclinic	KI04
Giftly Abban	Midwife, James Town Maternity	KI05
Christiana Bopere	Community Health Nurse	KI06
Paulina S. Addy	Director, WIAD	KI07
George H Opoku	Director, SRID	KI08
Daniel Kofi Ewusie	Film Producer, CEO- PHILMTOOLS	KI09
Madam Idda	Interviewee, Netherlands	NL01
Madam Vivian	Interviewee, Netherlands	NL02
Sister Akweley	Pregnant Woman, Togolese in Netherlands	NL03
Benjamin Adadewo	Lead Research Assistant	RA01
Benjamin Patterson	Research Assistant	RA02

## Checklists

### Checklist for Semi Structured Interview for Research – Food Choices and Dietary Practices of Pregnant Women in James Town, Accra.

*(instruction to the interviewer in italics)*

#### Pregnant Woman

#### Section A – Profile

**Location** ..... **Age**..... **Religion:** ..... **Trimester:** ..... **Gravida:** .....

**Ethnicity** ..... **Marital Status** ..... **Educational Status** .....

**Household Composition Male** ..... **Females** ..... **List Relations (eg. Husband, Mother, Children etc.)**

**Occupation:** .....

*(Introduce her mission and seek her consent to be interviewed)*

#### Section B Food Choices- General knowledge about what to eat or not to eat in times of pregnancy (preferences and practices)

1. Is she particular about food she eats during pregnancy? If yes, if No jump to Qu.3
2. Why does she choose these foods (*anything beyond, taste, affordability*)
3. List of typical foods she eat during pregnancy
4. Has her food consumption changed with pregnancy? (*how? Why????*)
5. Has her food list changed during pregnancy? (*What has been added, what is out?*)
6. Which foods does she normally eat? (*focus on the day before if need be*)
7. Why does she prefer the foods she is eating now?
8. Are there foods she is not eating during pregnancy?
  - a. Which foods are those?
  - b. Why not?
  - c. Why is she not allowed to eat them?
9. How does she know about the foods she is not allowed to eat? (*who informs them*)
10. Are the reasons for not eating because of her religion? (*refer to her profile religion, are there instructions, text etc. referred to?*)
  - a. What does her religion say about that?
11. Are the reasons for not eating traditional (e.g. *she must perform some ritual, if she eat*)?
  - a. Does she know the explanation for that?
12. Are the reasons for not eating cultural? (*e.g. Our tribe people don't eat these, sense of belonging, it is not a common thing here*)?
  - a. What is/are the explanation for that
  - b. Is it recent, or use to be like that?
13. Is there anyone who is concerned or sees to it that she doesn't eat the foods? (*If no what does she do?*)

- a. Who?
  - b. Does the person explain why?
  - c. Is the explanation different from what she knows or hear?
14. Does she know of any consequences for eating foods that are not to be eaten by pregnant women?
  - a. Has she heard any stories about the consequences of eating foods that should not to be eaten?
  - b. Does the story tell why the person ate?
15. Are there any foods that pregnant women are encouraged to eat?
  - a. What are the reasons?
  - b. Why are these foods encouraged?
  - c. How did she know about these foods?
  - d. Who is concerned that she eats it/them?
  - e. Any stories about the results (*remotely connected or so*)

### ***Dietary Practices***

1. Is there any time she is not supposed to eat?
2. How many times does she normally eat in a day and why????
3. How does she like her food (boiled, fried, hot, cold)? Why????
4. Does she take snacks between meals? How many and why????
5. Does she prefer some particular people to prepare her food? Why????
6. Is any of these associated with religious, cultural or traditional beliefs????
7. Is she currently taking any supplements from Ante-natal care????
8. Is she currently avoiding the other foods she is not supposed to eat? (*use discretion to ask, checking if she still practices or disobeys*)

(Explain what MUAC is about)

***May I take the MUAC now?***

### ***Section C – Hygiene***

1. Does she have regular flowing running water? (*did she have it yesterday and observe*)?
2. Is the bath and toilet facilities home or outside the home?
3. Approximately, how many people use the facilities with her?
4. Is household waste cleared regularly and at short periods? (*checking if it piles up and invites flies*)
5. Is the ventilation where she sleeps adequate? (*Observe the presence of smoke, dust, too much heat*)

**Checklist for Research – Food Choices and Dietary Practices of Pregnant Women  
in James Town, Accra. (*instruction to the interviewer in italics*)  
Focus Group Discussion**

**Group 1** – Adolescent pregnant women (no. of participants - minimum 6)

**Group 2** – Mothers, mother in laws, husbands (no. of participants - minimum <6)

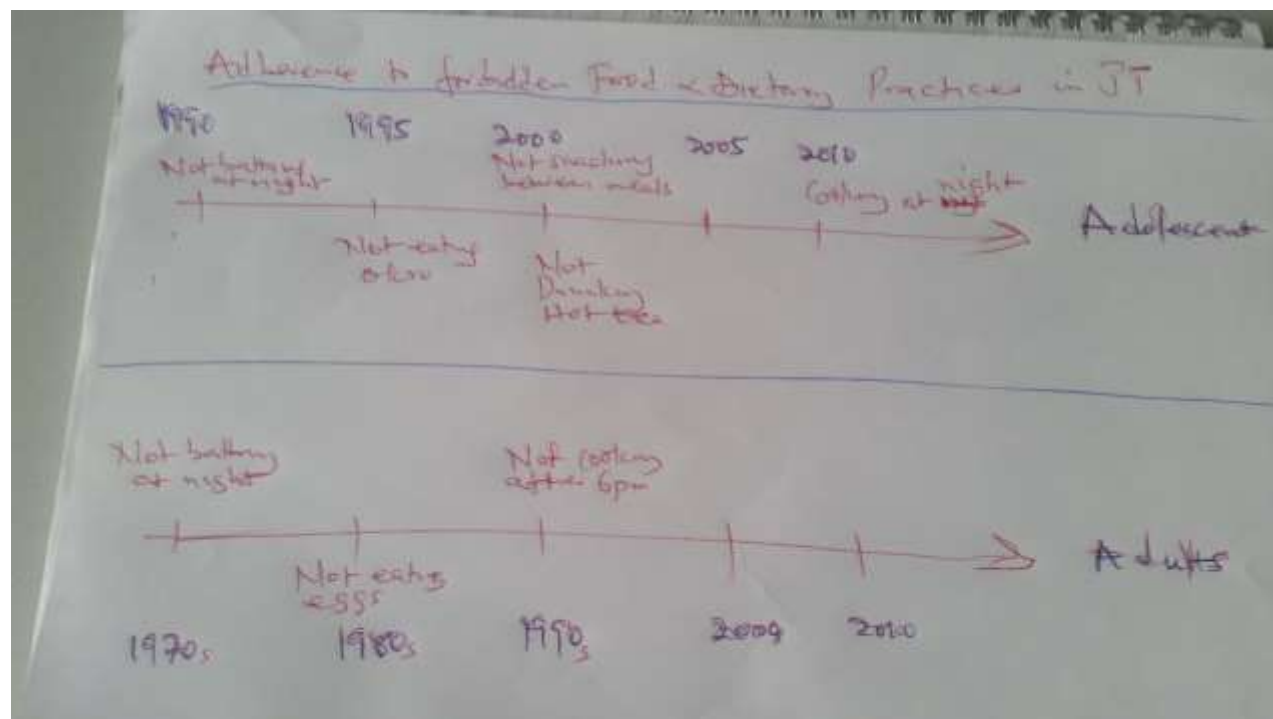
**Location:** ..... **Time: from** ..... **to** ..... **No. of Participants:** .....

**Age range:** .....

1. What are the typical foods of James Town people and how is that different from other Gas or tribes?
  - a. Any history to foods typical of James Town?
2. What foods do pregnant women consume most and what influences those choices
3. Which foods are not supposed to be eaten by pregnant women?
  - a. Why not, origins or story behind it (religious, traditional, cultural)
  - b. Are there alternatives to that (if its okra, are there other vegetables, cereals, roots?)
  - c. Are there known consequences for eating?
  - d. Who typically enforces or encourages adherence?
  - e. Are pregnant women eating the foods that are not to be eaten? If yes why, if no why?
4. Foods encouraged
  - a. Reasons, sources of that information, who normally encourages
  - b. Are pregnant women eating foods that are encouraged by non-health staff

Ranking of foods eaten by pregnant women. (List the foods and give 10 or 20 stones to share over the foods that are listed, the most prominent, takes more stones. After deliberation, let them count and announce results for all to hear. (*seek reasons why the most prominent had so much, example 2 times more than the least one*))

5. Which dietary practices are common in James Town (times of eating, cooking food or buying food, spicy, oily, foods, hot, cold, snacking, fruits)? And why?
6. and dietary practices not encouraged.
7. In their views are the adherence to the forbidden foods and practices becoming more relevant or less relevant in James Town? (e.g. not eating at night, not eating particular foods)
8. Timeline of when which forbidden foods and practices were most adhered to and which one is being adhered to now. Why is this so?



## Checklist for Research – Food Choices and Dietary Practices of Pregnant Women in James Town, Accra. (*instruction to the interviewer in italics*)

### Key informants

*Within Community* - Religious leaders (Christian, Islam, Traditional) and or Traditional Birth Attendant/Opinion Leader

History of food choices and dietary practices in James Town and Gas in general

- Confirm list of foods from previous interviews, the reasons given and what are their views?
- Any experience with the consequences of not adhering
- Are there foods that are encouraged and who is to encourage or enforce adherence?
- Which food choices and dietary practices are likely to fade away and which ones will persist?
- What has changed about food and pregnancy over the years? (*e.g. Value and care for pregnant women*)
- In their opinion what should change and what should be encouraged

*Outside community* (Community Health Worker, Midwife, Nutritionist, Pediatricians,)

- Statistics and trends of pre-natal nutrition among James Town pregnant women and why
- What are the programs on nutrition and pregnancy in general? (*separate general from pregnancy ones*)
- Is the food list and dietary practices familiar? (*read out ones from previous interviews*)
- Do these food choices and practices deviate from conventional scientific knowledge? (*which and how*)
- Highlight on consequences of pre-natal nutrition and why (*in Ghana and worldwide*)
- What are the possible consequences if nothing is done?
- What is currently being done in James Town?
- Any proposed intervention (*what to avoid and what to enhance – by individual and governance*)

**Government Staff (MoFA) – (Directors of SRID and WIAD and any other)**

- Relevance of nutrition in MoFA
- Activities directed at nutrition for pregnant women
- Level of support and funding
- Expectations and way forward
- Any other information to throw more light on the research (staff availability, collaborations)
- Opinions on the outcome of interviews in the community

### Checklist of Observation

1. Existence of toilet facility and how far from resident
2. Existence of water facility (*is it accessible, distance from residence, to be paid for, how regular is the flow*)
3. Does she wash after toilet and how about other household members? (*don't ask, just observe*)
4. Solid waste disposal (*piled up with flies, how close to residence, how regular is disposals*)

5. Liquid waste disposal (*on floor, drained away, open or closed drains*)
6. Is food covered away from dust, flies etc.
7. Is house crowded, dusty and smoky
8. Personal hygiene (*can she afford to wash sweat off at any time*)
9. Sleeping place ventilation (*is it aerated well or there are items hanged all over the window*)



## Supplementary Photos

<p><b>Chief of James Town, Accra</b></p> 	<p><b>District Chief Imam, James Town, Accra</b></p> 
<p><b>Pastor, Seed and Harvest Chapel Int. James Town</b></p> 	<p><b>Midwife, James Town Maternity</b></p> 
<p><b>Community Health Nurse</b></p> 	<p><b>Director of SRID</b></p> 
<p><b>Nutrition Food Bazaar</b></p>	<p><b>Pica - Ayilor</b></p>



