



The Effect of Dietary Habits and Taboos on Pregnancy Outcomes among Women in Mafinga Town Council

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Abstract: This study investigates the impact of dietary habits and taboos on pregnancy outcomes among women attending antenatal care (ANC) services at Mafinga Town Council. A case study design was employed, targeting a sample of 181 pregnant women, simple random and purposive sampling methods were used. Data were collected using survey questionnaires and focus group discussions and analyzed using SPSS software version 25.0. The results indicate that certain culturally ingrained dietary restrictions, though significant, prevent the consumption of foods rich in essential micronutrients critical for maternal health and fetal development. Notably, 66.85% of respondents reported that their dietary habits and food restrictions affected their pregnancy outcomes. The study further revealed that maize was the most frequently consumed staple, reported by 85% of participants, while 65% regularly consumed rice. In contrast, only 14% of respondents consumed periodically meat, and a mere 9% consumed milk. Financial constraints were a significant factor, with 52% of participants unable to afford their preferred foods, and 54% identifying cost as a major barrier to a balanced diet. Although 69% of participants had consumed vitamin A-rich fruits and vegetables the day before the survey, 31% had not. The study found factors were found to influence food choices, leading to suboptimal dietary intake among pregnant women. The study concluded that local dietary customs, coupled with economic constraints, contribute to the habitual consumption of starchy foods, thereby impacting the nutritional status of pregnant women in Mafinga Town Council.

Keywords: Tanzania, Food taboos, Malnutrition, Dietary Habits, Pregnancy outcomes

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1. Introduction

Food taboos exist in one form or another in every society on Earth. Nowhere in the world do people, a tribe, or an ethnic group exploit the full potential of edible resources in their surroundings. For example, the hunters and gatherers of the Paraguayan jungle (the Ache people) are believed to exploit only 50 of the several hundred edible

mammalian, avian, reptilian, amphibian, and piscine species found in the tropical forest. (Mohamad and Ling, 2016). In developing countries, the practice of food taboos is widespread.

The type of food considered taboo and the reasons attached to the taboos vary from society to society. In most settings, food taboos often target pregnant women to prevent what is perceived as harmful effects of these foods on the newborn. For example, in some societies

within sub-Saharan Africa, women and young children are strictly prohibited from eating certain foods due to ethnic or cultural beliefs and taboos, although some of them may include micronutrient-rich foods (Chakona & Shackleton, 2024).

For instance, a study in South Africa revealed that foods such as meat, fish, potatoes, fruits, beans, eggs, butternut, and pumpkin, which are good sources of essential nutrients, are avoided (Alderman et al., 2017). In Ethiopia, food items such as linseed, honey, sugarcane, milk, yogurt, cheese, fatty meat, eggs, fruits, and vegetables are excluded from the diet (Khan et al., 2017). In Gambia, Nigeria, Gabon, the Democratic Republic of Congo, and Asia, pregnant women are usually forbidden from consuming the richest food sources of iron, carbohydrates, animal proteins, and micronutrients (Kebbe et al. 2021).

In Tanzania, a study conducted by Biza (2019) in rural Tanzania found that 65% of pregnant women refrained from consuming certain foods due to dietary taboos. The most commonly avoided food items included linseed, honey, milk and milk products, meat, eggs, fruits, and vegetables. These meals were thought to potentially result in the fetus being covered, contribute to the birth of overweight infants, lead to complications during delivery, induce spontaneous abortion or miscarriage, suggest the presence of an evil eye, and lead to fetal abnormalities.

Pregnancy is a crucial time when the food habits of the mother significantly impact the health of both the mother and the child. Therefore, dietary restrictions that prohibit pregnant women from consuming certain nutrient-rich foods have significant negative effects on the health of the mother and the child expected to be born (Procter and Campbell, 2014). Since, malnourished women have higher risks of maternal mortality, preterm birth, and delivering underweight kids due to food habits and cultural restrictions, therefore, the nutritional state of a pregnant woman determines not only her health, but also pregnancy outcomes, and the development of fetal health (Makoka, 2013).

Studies have also shown that pregnant women in low- and middle-income countries do not consume enough vegetables, meat, dairy products, and fruits to meet their energy and nutrient needs, hence resulting in various nutritional deficits. For instance, Makoka (2013) reported that maternal undernutrition impacts almost 40% of women in sub-Saharan African countries. Similarly, it has been also reported that. Maternal malnutrition has intergenerational consequences and raises the likelihood of adverse pregnancy outcomes such as premature or low-birth-weight (LBW) infants, obstructed labor, and postpartum hemorrhage (Khan et al., 2017).

Globally, over 155 million children under five suffer from stunting, and it is responsible for over one million deaths and 54.9 million Disability Adjusted Life Years (DALYS) of under-five children worldwide, contributed by poor nutrition. These predominantly occurred in low-and middle-income countries like sub-Saharan Africa (Takele, Gezie, & Alamneh, 2022). Stunted children begin their lives at a marked disadvantage. Some of these are: poor cognition and educational performance, low adult wages, lost productivity and, when accompanied by excessive weight gain later in childhood, an increased risk of nutrition-related chronic diseases in adult life, and the devastating effects of stunting can last a lifetime and even affect the next generation (Takele, Gezie, & Alamneh, 2022). Malnutrition, which manifests in various forms, is a significant issue affecting many Tanzanians and is indicative of nutrition insecurity (Alderman et al., 2017). Alderman et al. (2017) suggest that maternal and child malnutrition can be identified by three anthropometric indices: Common micronutrient deficiencies include anemia, as well as deficiencies in vitamin A and iodine (Alderman et al., 2017). Anemia in pregnant women in Tanzania is often linked to insufficient dietary variety, poor daily food consumption, and illnesses such as malaria and parasitic worms (WHO, 2015).

1.2 Statement of the problem

Improving pregnancy outcomes has been a longstanding national goal. This contributed to enhancing the well-being of moms and their newborn offspring. Tanzania has achieved substantial advancements in enhancing nutrition for moms and children. From 1992 to 2015, there was a noticeable decrease in premature deaths, maternal mortality, stunting, wasting, and underweight among pregnant women and individuals with chronic malnutrition. The government's priority was on enhancing food production, providing nutritional education, safeguarding and promoting diets, practices, and services, and supplying clean and drinkable water. Nevertheless, despite deliberate efforts undertaken by the Government of Tanzania and its development partners, the country continues to experience a high prevalence of malnutrition among children and women, despite notable efforts and advancements (Sablah, 2019). For instance, some Tanzanian regions have recorded the greatest rates of maternal micronutrient insufficiency. These regions include Iringa (47%), Rukwa (48%), Njombe (54%), Songwe (43%), Kigoma (42%), and Ruvuma (41%). However, based on the Tanzania Demographic and Health Surveys (2016), there is less knowledge about the impact of food habits and taboos on pregnancy outcomes in women (Ayusa, 2020). Moreover, there is a significant dearth of studies regarding food habits and taboos that focused specifically on pregnant women in the Iringa

Region, Tanzania, which became an impetus for the current researcher to investigate this subject matter with a focus on the chosen study location.

2. Literature Review

2.1 Theoretical reviews

2.1.1 Theory of Planned Behavior (TPB)

The Theory of Planned Behaviour (TPB) (Ajzen, 1991), which was developed from the Theory of Reasoned Action in 1980, served as the basis for this study. The theory was purposefully designed to predict an individual's intention to engage in a specific behavior at a specific time and location. Its primary objective is to explain behaviors that fall within the scope of human self-regulation. A key element of this theory is behavioral intention, which is influenced by an individual's attitude toward the possibility of the behavior leading to a desired outcome as well as the subjective evaluation of the accompanying risks and benefits (LaMorte, 2022).

2.2 Empirical review

Poor nutrition during pregnancy is a worldwide problem that negatively affects both the health of the expectant mother and the unborn child. Consequences of insufficient nutrition comprise anemia, increased fetal and maternal mortality, diminished lactation efficiency, as well as fatigue and exhaustion in pregnant women (Hamdalat & Ogechi, 2017). Different factors contribute to these conditions in different countries. Loenen (2018) categorized these factors into inner individual, outer individual, inner collective, and outer collective categories.

Factors associated with the inner individual consist of the baby's health, attitudes toward nutrition, psychological states of an individual, knowledge, control over food preparation, acquaintance with food, comparisons with other mothers, and self-efficacy (Mary & Frances, 2020). These women often tend to prioritize their unborn baby's health, leading them to adopt healthier eating habits owing to the sense of accountability they feel for their children's well-being. They may also believe that consuming large quantities of food is crucial for the baby's health (Burton et al., 2017).

Deriba et al. (2020) discovered that pregnant women often consumed tea or coffee directly after meals.

Besides, environmental support is another central aspect of the inner collective category. The social environment plays an important role in influencing pregnant women's nutritional intake.

Studies have indicated that social interactions with friends and relatives can also influence dietary choices, with such events often leading to behaviors like mirroring, perceived scrutiny, or seeking approval from others (Jelsma et al., 2016; O'Brien et al., 2017). Pregnant women collect information from their social environments, which can positively or negatively influence their dietary habits. Jelsman et al. (2016) observed that social knowledge helps women in creating healthier eating patterns.

However, social standards around nutrition can be complicated or hard to abide by, leading women to stray from them at times. The living environment also influences an individual's nutritional consumption. For instance, living in urban areas can impede healthy eating habits. In an obesogenic atmosphere, where food is readily available at both home and outside locations, unhealthy options are often more accessible compared to nutritious ones, which can lead to poor dietary habits (O'Brien et al., 2017). Research has also shown that factors like nearness to shopping malls also affect and influence pregnant women's food intake (O'Brien et al., 2017). The environment can impact pregnant women's dietary consumption in different ways (Northstone et al., 2008), with greater distance from stores being related to inferior diet quality (Laraia et al., 2004). However, Nash et al. (2013) contended that the food environment has only a limited impact on pregnant women's dietary intake.

In rural areas, economic power has been cited as a key factor affecting food Behaviour and preferences. Due to scarce resources, inadequate micronutrient intake often excessively affects pregnant women in rural, especially from low-income households (Carolan-Olah, 2021). A lack of micronutrients intensifies the risk of deficiencies, which can have severe repercussions for both the mother and child (Felesia & Daka, 2018). A balanced diet is crucial for sustaining excellent health and optimal function for both mother and child, especially during pregnancy.

Akhter (2014) conducted a predictive cross-sectional study in Bangladesh to examine the influence of family wealth, perceived benefits of healthy eating, perceived barriers, and dietary self-efficacy on the eating behaviors of pregnant women in Rangpur, Bangladesh. The study randomly chose eighty-two pregnant mothers from a prenatal care clinic in Rangpur and gathered data through structured interview surveys. These surveys consisted of

demographic and pregnancy history questionnaires, the Healthy Eating Benefits Scale, the Barriers to Healthy Eating Scale, the Perceived Dietary Self-Efficacy Questionnaire, and dietary evaluations. The study recommended that nurses should develop interventions to augment perceived self-efficacy and minimize perceived barriers to improving dietary habits among pregnant women in Bangladesh.

In Mexico, Sámano et al. (2022) conducted longitudinal research by involving 530 respondents to assess food intake, nutritional intake, and eating behaviors among pregnant adolescents. The study recorded the birth weights of their children and revealed that pregnant teenagers with low legume consumption were more likely to encounter excessive gestational weight gain (PR 1.86, 95% CI 1.00–3.44). The study found the existence of a positive correlation between GWG and grain and cereal consumption, with a prevalence ratio of 1.65 (95% CI 1.18–2.29). Nevertheless, it was found that GWG was not related to calorie intake, macronutrient consumption, or general eating habits. It discovered that pregnant teenagers who consumed fewer sugar-sweetened beverages and spent more time watching television had children with shorter gestational ages.

Alison et al. (2021) reviewed studies regarding the impact of a maternal diet during pregnancy and lactation on child food preferences, dietary habits, and weight outcomes in the United States of America. The findings of the study showed that there is a strong link between a mother's nutrition during pregnancy and breastfeeding and the development of taste preferences in newborns. While this research focused on the U.S. context, the current study aimed to explore the influence of food preferences on pregnant women in Mafinga Town Council.

Hamdalat and Ogechi (2017) examined factors influencing the nutritional habits of pregnant women attending prenatal clinics in a state hospital in Ogun State, in Nigeria. The study sample consisted of 210 pregnant women selected through non-probability convenience sampling, and guided by a descriptive, non-experimental research design. The researchers distributed questionnaires after obtaining ethical approval and informed consent. The study found that 52.9% of respondents ate whenever they wanted, 29.8% practiced moderate, balanced eating, and 43.4% of them consumed fruits and vegetables daily. Additionally, 82.2% of the respondents reported evading certain foods during pregnancy. Factors limiting suitable nutritional habits included low socioeconomic status (42.4%), limited food knowledge (20.4%), ignorance (13.1%), lack of spousal support (12.6%), and forgetfulness (11.5%).

The study identified health education as a crucial step in improving the dietary habits among pregnant women in the area.

3. Methodology

This research has employed a mixed methods approach, incorporating both qualitative and quantitative methodologies to investigate the effects of dietary practices and taboos on pregnancy outcomes among pregnant women in the Mafinga Town Council.

The case study design was employed for a close examination of data at both surface and deep levels, focusing on pregnant women over 18 years old who receive Antenatal Care (ANC) services at Mafinga District Hospital. The study population included key informants who are responsible for the health of maternal mothers and their unborn babies. The sample size was determined using the Yamane (1967) formula, with a selected standard error of 5%. Purposive sampling was utilized for choosing key informants from the group of clinical officers, while simple random sampling ensured a representative sample was obtained for the study. Validity and reliability were ensured through content validity, while reliability was ensured by carefully crafting each question with precise language to reduce ambiguity and avoid leading respondents to a particular answer.

The study utilized questionnaires, an interview checklist, and focus group discussions as tools to gather data on the subject matter investigated, by involving 181 pregnant women in antenatal care and postnatal clinics. The questionnaires used open-ended and closed-ended questions, and respondents were given comprehensive research information in their local language. Interviews were conducted with nurse officers using open-ended questions to comprehend the study's context and gather comprehensive data on dietary practices and taboos. Focus group discussions were conducted involving 18 pregnant women, divided into three groups of six participants each. The well-structured FGDs fostered openness and enhanced the quality of information collected. All data collection tools were pretested to guarantee clarity and alignment with the study's objectives. Data entry was done using SPSS version 25 software.

4. Results and Discussion

4.1 Effect of dietary habits and taboos on pregnancy outcomes among women

Poor birth outcome and development

The study conducted at Mafinga town council found that a significant majority (66.85%) of pregnant women engaged in this study agreed that their adherence to

customary food taboos and dietary habits during their pregnancy while a minority of the respondents (33.15%) reported to have experienced no negative impact on their pregnancy outcomes as a result of their adherence to customary food taboos or their dietary habits during their pregnancy.

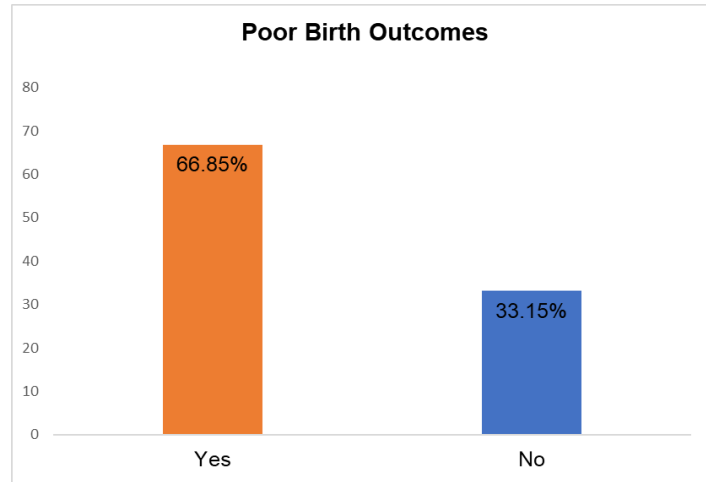


Figure 1: Poor birth outcome and development

The researcher observed that there is the existence of various barriers that hinder adequate dietary intake among pregnant women, which included certain highly nutritious foods being considered taboo for pregnant women in the study area. For instance, strong misconception that consuming meals such as maize meal (ugali) and rice leads to larger babies, hence potentially complicating the delivery process. This is evidenced by the statement provided by one of the respondents who stated the following:

"Following the prevalence of certain food taboos and the medical advice I received to avoid certain foods during my pregnancy, I often found myself being overlooked during meal time for the mere reason that the local taboos don't allow me to take the served foods. There were occasions when I found myself starving or without eating enough food due to such limitations which significantly affected my maternal health. Unfortunately, I was unable to change such a situation due to strong cultural customs that support such beliefs."
(Interview with a pregnant woman in Mafinga TC, June 2023).

The study findings in Figure 1 above indicated that pregnant women in the study area continue to have difficulties in achieving favorable delivery outcomes and optimal development for their infants. It is worrisome that certain taboos are enforced on particularly susceptible individuals, such as pregnant women. Generally, the study observed that the prevailing food taboos in the

investigated area are commonly seen as a form of protection for those who follow or uphold them. Consequently, the majority of pregnant women are quite conscious of the cultural consequences that come with not following food taboos. However, they are unaware of the potential adverse health effects that can arise from observing certain food taboos and dietary habits. Hence, refraining from consuming nourishing food items like meat, eggs, dairy, certain fruits, and vegetables while pregnant could lead to insufficient intake of essential nutrients and micronutrients. Pregnant women who have the latter condition may be more likely to experience negative outcomes related to maternal health and nutrition.

The findings quite resonate with the study done by Oniang'o et al., (2019) which revealed that food taboos commonly revolve around meals that come from animals, which are typically excellent sources of protein. The study observed that pregnant women in the study area avoided some foods like milk, red meat, and eggs even though such limitations make pregnant women more prone to jeopardize the well-being of themselves and their infants. They are also supported by the study undertaken by Cherkos et al., (2018), which also reported that food taboos are closely connected to the nutritional state of pregnant women and, hence have a direct impact on their health as well as the health of their infants. Substantial food taboos and poor dietary habits can lead to malnutrition which has a substantial impact on pregnant women and severe implications for both pregnancy and delivery outcomes.

This finding is also consistent with data from Ethiopia's Afar, Hadya zone, and Shashemene area, as well as South Eastern Nigeria, which revealed women's claims of difficult delivery as a result of the fetus's increased size as a result of consuming healthy foods (Ugwa, 2016). This could be due to a lack of understanding about the importance of weight gain during pregnancy for both the fetus and the mother's health.

4.1.1 Poor maternal health

Respondents were asked to provide their opinions regarding the association between poor maternal health during pregnancy and the dietary habits and food taboos

based on their experience. This study revealed that more than half (55.80%) of the respondents reported having experienced a high extent of poor maternal health contributed by their adherence to food taboos and their dietary habits. Another portion of respondents (16.02%) along with a similar number of the respondents (16.02%) reported having experienced low and moderate levels of poor maternal health, respectively, due to food taboos and poor dietary habits. Moreover, a smaller proportion of the respondents (12.15%) were unsure of the association between poor maternal health and their adherence to food taboos and dietary habits, as indicated in Figure 2 below.

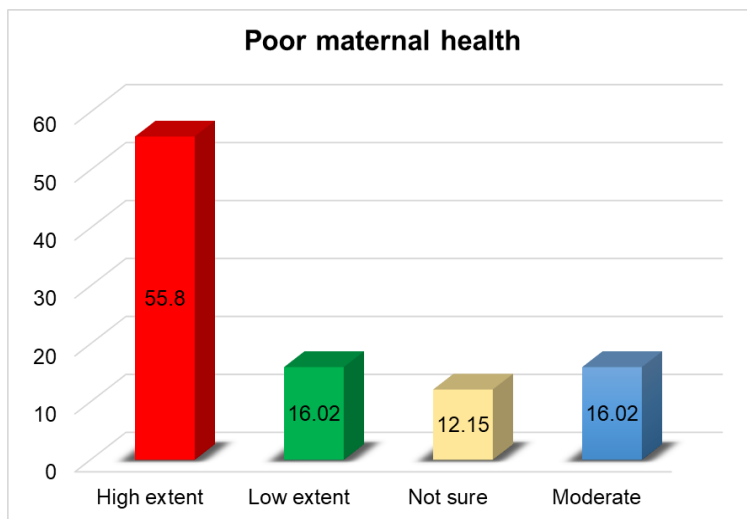


Figure 2: Poor maternal health

Dietary habits during pregnancy are crucial for the health of both the mother and the developing fetus. Nutritional requirements increase during pregnancy due to the demands of fetal growth and development. A balanced diet rich in essential nutrients such as proteins, vitamins, and minerals is vital for preventing complications such as anemia, low birth weight, and preterm births. In many communities, including those in Mafinga Town Council, traditional diets may lack diversity or be deficient in key nutrients. For instance, reliance on staple foods like maize or cassava without adequate supplementation from fruits, vegetables, and protein sources can lead to nutritional deficiencies. Moreover, socioeconomic factors often limit access to a variety of foods necessary for optimal maternal nutrition. The study observed that many of them simply consumed foods based on perceived taste or compatibility with other dishes, without comprehending their specific roles in supporting maternal health. Notably, these misconceptions were often attributed to the sources from which women gathered their information about food and maternal health, as well as the existing food taboos and local customs.

In Gedeo zone, good foods, especially those which have higher nutritional value like Animal-based foods, such as meat, milk, and milk products, were stated to be off-limits to pregnant women because of their content, which could cause the fetus to grow too large. and milk product specially called ARERA and hot milk and the fear that this milk product might stick on the body of the fetus and make it dirty. Similar reports were made in Hadya zone and Aballa district, which demonstrated that milk and cheese are the most commonly avoided foods by pregnant mothers, with over half of the women avoiding them (Prata et al., 2019). Milk and fatty meat were also tabooed for pregnant women in a study from Shahsemene, Sudan, and Nigeria (Zepro, 2022). However, this finding was at odds with a study conducted in Kenya that states mothers promoted eating foods like meat, milk and milk products (Tsegaye *et al.*, 2020). Sweet foods are restricted in this area, for example, the pregnant mother is restricted from taking sugarcane this sugary food is believed to make the baby messy by encouraging saliva overproduction and hence drooling and the other honey is believed to prevent

baby speech development. This finding aligns with a study in Kenya (Tsegaye *et al.*, 2020). The other food group that were taboo during pregnancy was spicy foods, the reason raised here is that this type of foods could cause pain to the baby and hurt its stomach and causes baldness of the hair and this finding inline with the study done in Nepal (Regassa *et al.*, 2021).

4.2 Impacts of dietary habits and food taboos on miscarriage

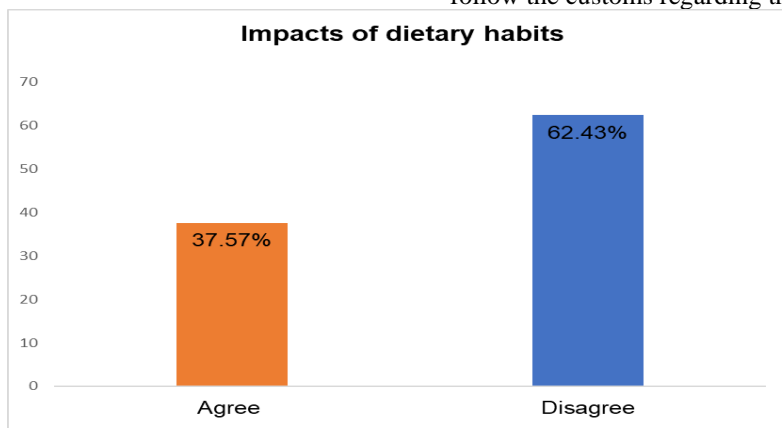


Figure 3: Impacts of dietary habits and food taboos on miscarriage

This phenomenon can be attributed to the correlation between a pregnant woman's level of food knowledge and her heightened awareness and implementation of excellent eating practices (Kariuki *et al.*, 2017). Conversely, inadequate nutrients and an imbalanced diet typically lead to unhealthy eating patterns, which are factors that influence optimal health and can ultimately contribute to miscarriage.

It is obvious that observance of food taboos and adhering to related misconceptions about dietary prohibitions can negatively affect the nutrition and health status of pregnant women as well as the health, development, and life-long wellbeing of their growing babies (Pitale, 2018). In this study, some pregnant mothers were prohibited from consuming food items such as whole grains in the form of “kollo”, and legumes such as beans and chickpeas because they were believed to cause abdominal cramps during labor, to prolong labor, and to cause abdominal cramps to the newborn. Avoidance of such whole grains and legumes may negatively affect the dietary intakes of these women, whereas dietary diversity recommendations for pregnant women emphasize the need for pregnant women to eat diverse foods with adequate energy, protein, fat, fiber, and micronutrients (FAO and AO, 2016). Notably, whole grains, wheat bran, and other high fiber foods are used to relieve constipation, a common source of discomfort in pregnancy, and legumes can provide high quality protein when they are complemented by whole grain-containing foods.

Regarding the impact of dietary habits and food taboos on miscarriage the study found that a significant proportion of surveyed pregnant women (62.43%) disagreed with the opinions that their dietary habits during pregnancy and prevailing food taboos do not hasten the occurrence of miscarriage, whereas 37.57% of the respondents were agree about the statement. Should be emphasized that all residents of the Mafinga town council do not generally follow the customs regarding these dietary restrictions.

5. Conclusion and Recommendations

5.1 Conclusion

The dietary habits and taboos surrounding pregnancy play a significant role in influencing maternal and fetal health outcomes. In Mafinga Town Council, various cultural beliefs and practices shape the nutritional choices of pregnant women, which can either support or hinder their health during this critical period. The findings indicate that certain traditional foods are highly valued for their perceived benefits, while other foods are avoided due to cultural taboos. These dietary practices can lead to both positive and negative health outcomes, affecting not only the mother’s well-being but also the growth and development of the fetus. The analysis reveals that inadequate intake of essential nutrients, often due to adherence to restrictive dietary taboos, may contribute to adverse pregnancy outcomes such as low birth weight, preterm births, and increased maternal morbidity. Conversely, women who embrace a balanced diet rich in fruits, vegetables, proteins, and whole grains tend to experience healthier pregnancies. Furthermore, education regarding nutrition during pregnancy is crucial; many women lack awareness of the importance of certain food groups that are vital for fetal development.

5.2 Recommendations

From the findings, this study makes the following recommendations:

1. **Nutritional Education Programs:** Implement community-based nutritional education programs aimed at pregnant women and their families. These programs should focus on dispelling myths related to dietary taboos while promoting the consumption of a balanced diet rich in essential nutrients.
2. **Collaboration with Healthcare Providers:** Encourage collaboration between local healthcare providers and nutritionists to develop culturally sensitive dietary guidelines tailored for pregnant women in Mafinga Town Council. This partnership can help ensure that women receive accurate information about healthy eating practices during pregnancy.
3. **Involvement of Community Leaders:** Engage community leaders and influencers in discussions about the importance of proper nutrition during pregnancy. Their involvement can help shift cultural perceptions around certain foods and encourage more inclusive dietary practices.
4. **Support Groups for Pregnant Women:** Establish support groups where pregnant women can share experiences related to dietary habits and challenges they face due to cultural beliefs. Such groups can foster a sense of community while providing a platform for sharing knowledge about healthy eating.
5. **Research on Local Foods:** Conduct further research on local foods that are traditionally consumed during pregnancy to identify those that provide nutritional benefits as well as those that may be harmful when consumed excessively or avoided altogether due to taboos.

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