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# Impact of household food insecurity on the use of maternal health services in the Savanes region, Togo: a qualitative study

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## Abstract

**Background** Food insecurity is a major public health challenge in many parts of the world, especially in sub-Saharan Africa. It affects the health and well-being of vulnerable populations, particularly women of reproductive age in their use of maternal health services. This study explores the impact of food insecurity on the use of maternal health services among Togolese women in the Savanes region, aged between 18 and 49 years.

**Methods** This qualitative study was carried out using both focus group discussions (FGD) and in-depth interviews (IDI), which were conducted from March 14th to May 20th, 2022 in three different rural areas of the Savanes region in Togo. Firstly, we conducted twelve in-depth interviews with health professionals in three community health centers. In addition, we conducted three FGDs with 8 participants each in three different rural areas. For analysis, all the data collected were transcribed verbatim, and themes were coded using Nvivo14.

**Results** Household food insecurity is perceived as a significant threat and barrier to maternal healthcare utilization. Women experiencing food insecurity are less likely to seek maternal health services, as their limited financial resources are prioritized for food rather than healthcare. In contexts of poverty where finances are already precarious, food insecurity further diverts funds that could otherwise be used for medical care. As a result food and financial insecurity intersect influencing women's decisions on whether to access maternal health services. Additionally, the majority of participants identified the COVID-19 pandemic as a factor that seriously exacerbated household food insecurity and consequently further reduced access to maternal healthcare in the region. Enhancing women's socio-economic empowerment and promoting food self-sufficiency were highlighted as potential solutions to improve access to maternal healthcare services while ensuring food security.

**Conclusions** Findings from this study highlight the link between food insecurity and maternal healthcare utilization, emphasizing the need to address food insecurity at its root in programs aiming to improve maternal health. Prioritizing poverty reduction through education, income, women's socioeconomic empowerment and food self-sufficiency is crucial. Hence, intersectoral interventions including prenatal nutrition programs are essential to improving access to maternal healthcare.

**Keywords** Food insecurity, Maternal health services utilization, Qualitative study, Togo, Rural areas

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## Background

Maternal health remains a pressing concern in many countries across sub-Saharan Africa (SSA), where the risk of women dying as a result of pregnancy or childbirth-related complications remains unacceptably high [1, 2]. In this region, Togo has one of the highest rate of maternal mortality. In 2020, Togo's maternal mortality rate was estimated as 399 deaths per 100,000 live births, a slight decrease from 418 in 2019 [3, 4]. Despite this modest improvement, these figures remain far from the Sustainable Development Goal (SDGs) 3.1 target of fewer than 70 deaths per 100,000 live births by 2030 [2, 5, 6].

Addressing this alarming situation requires urgent action to prevent avoidable maternal deaths and improve maternal health outcomes. This includes strengthening access to, and the effective use of, essential services such as antenatal care (ANC) [7–9], skilled birth attendance [10, 11], facility-based deliveries [12, 13], postnatal care (PNC) [14, 15], and family planning services [16, 17].

However, the uptake of these services remains suboptimal in Togo, particularly in rural areas. Socio-economic inequalities and sociocultural factors - including poverty, limited education, social norms, ethnicity, traditional practices and restricted autonomy of women in decision-making - are consistently identified as major barriers to utilization of maternal healthcare services [18–21]. In addition, geographic barriers, logistical constraints, climate change and armed conflicts further compound these barriers [4, 22]. The COVID-19 pandemic has also disrupted health systems and exacerbated the disengagement of pregnant women from essential healthcare services [23–25].

Within this already complex landscape, food insecurity is emerging as an increasingly important, yet underexplored, determinant in the dynamics of maternal healthcare access [26, 27]. Studies have shown that food insecurity is associated with poor maternal and child health outcomes including malnutrition, anemia, and low birth weight [28–32].

However, little is known about its role as a potential barrier to the utilization of maternal health services in the Togolese context. In 2022, for instance, more than half of Togo's population (57%) experienced moderate or severe food insecurity, up slightly from 56% in 2021 [33]. It is estimated that nearly 500,000 people were directly affected, while another 1.4 million were at risk [34]. This situation is particularly concerning in rural areas, where pregnant women and children are disproportionately exposed to hunger and malnutrition, further deepening existing social and health inequities [35, 36].

In such a context of widespread deprivation, low-income households are often compelled to allocate the majority of their limited financial resources to food, relegating healthcare spending to a secondary priority. This

budgetary imbalance contributes to delays in - or complete avoidance of - essential maternal health services [37–41]. As a result, food insecurity becomes a structural barrier to the continuity and effective use of maternal health services, disproportionately impacting women living in economically vulnerable conditions.

This reality raises a critical question: how do women of reproductive age living in highly food-insecure environments navigate the competing demands of meeting nutritional needs while accessing maternal health services?

Although the literature identifies several mechanisms through which food insecurity may hinder healthcare service utilization—such as financial constraints, competing priorities within household resource management, social stigma, or marginalization—most available studies are quantitative in nature [42, 43]. While such studies offer useful statistical associations, they can't provide valuable insights into women's lived experiences, perceptions and subjective trade-offs in navigating care-seeking decisions. For instance, some studies reveal that women who experience food insecurity may be more prone to avoid or delay the use of maternal healthcare services than food-secure women [27].

Moreover, growing evidence highlights the psychological toll of food insecurity on women's mental health, including chronic stress, anxiety, depression, and even suicidal ideation [44]. These mental health challenges may diminish motivation, impair decision-making autonomy, and hinder timely access to appropriate care—ultimately undermining safe deliveries and postpartum follow-up [45–47].

In this context, the present qualitative study aims to explore how food insecurity influences the utilization of maternal health services among women of reproductive age living in rural areas in the Savanes region of Togo. The findings are expected to yield valuable empirical insights to inform the design of targeted policies and effective programs that simultaneously address food insecurity and promote equitable access to vital maternal health services in Togo.

## Methods

### Study settings

The study was conducted in three rural areas (Bombouaka, Bogou and Tanabe) of the Tandjouaré district, in the Savanes region of Togo. The choice of this area was motivated by three main reasons: (i) the Savanes region is one of the six regions that make up Togo, hosting the largest number of people living in poverty. For example, in 2019, more than 65.1% of the population in the Savanes region lived below the poverty line, and therefore had no access to healthcare services, compared to 22.3% in the greater Lomé area [48]; (ii) this region, compared to other regions of Togo, is the most affected by food insecurity.

In 2023, according to the World Food Programme, nearly 460,000 people in the Savanes region were facing insufficient food consumption, and about 260,000 adopted crisis-level food coping mechanisms compared to other regions of Togo [49]; (iii) the Tandjouaré district was chosen due to the security situation [50].

### Sampling

For this qualitative study, we conducted individual in-depth interviews and FGDs using a purposive sampling approach to recruit women of reproductive age in the communities (aged 18 to 49 years) and health professionals. We used purposive sampling, specifically maximum variation sampling, to ensure a diverse sample and capture a range of opinions. Data collection for focus groups and interviews across the three study areas continued until thematic saturation was reached, considering insights from all sites together [51].

### Data collection and procedure

Data were collected between March 14th to May 20th, 2022, through semi-structured in-depth interviews and FGDs guides, with open-ended questions. The questionnaires were developed for the study and are provided in the supplementary files (Additional file 1 to 2).

We used an interview and discussion guide developed by the research team and based on the literature to facilitate the data collection. This permitted eliciting detailed information from the participants about their perceptions and behaviour concerning the issues of household food insecurity and the use of maternal health services.

The in-depth interviews with healthcare professionals were conducted by the principal investigator who has a background in epidemiology and biostatistics and has good experience with data collection techniques in rural areas for more than 5 years. Also, he had training on how to conduct qualitative research methodology by an expert in the field before data collection.

The FGDs took place outside the homes to limit possible transmission of the virus by aerosols and were conducted between one to one and a half hours in the local language (Moba) by two female research assistants. These researchers were recruited based on their experience in qualitative data collection, linguistic skills (Moba and French), and ability to transcribe qualitative data. They lived in the study areas for more than 8 years and had a good theoretical knowledge of qualitative studies and relevant previous experience of qualitative data collection techniques in rural areas. They were trained for one week on the objectives of the study, the data collection tools and techniques, and the interview guide developed by the research team. In total, three FGDs were conducted, each of which comprised a maximum of 8 participants.

The study was conducted amidst the COVID-19 pandemic, so all the participants were set up in compliance with the sanitary measures introduced by the Togolese government to curb the spread of the COVID-19 virus, such as the wearing of masks and maintaining a distance of 2 m. Also, the participants were provided with hand washing liquid to maintain sanitation standards during the group discussions and interviews.

All the interviews and focus group discussions were audio-recorded, transcribed, and saved on a computer in a password-protected folder. As compensation for the time devoted to data collection, each participant received a sum of 5,000 CFA francs (approximately 12 CAD) to cover the cost of a meal, transportation, and the loss of earnings for the day. In addition, before data collection, the semi-structured interview and FGD guide was pilot tested on participants in Kamina and Awoyo, rural areas of the Atakpame region to ensure the understanding, comprehensiveness, and validity of the questionnaire. Following that, adjustments were made to improve the questionnaire: the number of items was reduced, words were changed for clarity, comprehension and contextual relevance; lengthy questions were subdivided. These modifications led to a finalized version of the questionnaire (or interview guide) that is more concise, user-friendly, and better suited to the study setting.

### Study participants and recruitment

The study population included healthcare professionals, as well as women not involved in health-related services, aged 18 to 49 years and living in the community for more than 12 months. To align with participants' preferences and ensure meaningful engagement, we conducted focus groups with women and individual interviews with healthcare professionals. We recruited healthcare workers and professionals (nurses, midwives, and physicians) from community health centers for the in-depth interviews, after agreement with each manager of the health centers. Inclusion criteria for healthcare workers or professionals were: experience in the health center, number of years of experience in maternal and child healthcare, and living in the health center areas. We randomly selected healthcare workers or professionals with the same level of experience. The in-depth interviews were done for those who met the inclusion criteria and agreed to participate in the study at a convenient time. The interviews of 45 to 60 min duration took place in the health center staff meeting room. All healthcare professionals gave written informed consent before starting their interviews and were assured of the confidentiality and privacy of their statements.

Authorization from community leaders was obtained prior to the commencement of the study. These leaders facilitated access to the study sites by connecting the

research team with community health workers and local statistical office personnel, who were familiar with the area and had prior experience in data collection. These actors supported the identification and recruitment of eligible participants based on predefined inclusion criteria established by the research team. Participants were eligible if they met the following criteria: identified as a woman; were aged 18 years or older; had a least one child; were married, cohabiting, single parent or divorced; had been living in the study area for at least 12 months; were not involved in any health-related services. This distinction was made based on two main points: (i) women who are healthcare workers or professionals will have more knowledge on the issues of household food insecurity and the use of maternal healthcare services, and therefore their knowledge might be richer than those of other women; (ii) there might be an “authority (superiority)” relationship between female healthcare workers and other women in the village, which may prevent other women from expressing themselves freely. In addition, random selection was also used when the number of women identified exceeded the number we needed. Due to the low level of education for women in rural settings and for cultural reasons, verbal consent was obtained from all eligible participants.

#### Data management and analysis

In line with the study objectives, a deductive thematic analysis was conducted, following the six phase framework outlined by Braun and Clarke (2006) [52]. This approach allowed the research team to explore predefined analytical categories based on the interview guide, while remaining attentive to the emergence of additional themes from the participants’ discourse. To ensure the internal consistency and transcription reliability of the study, all the data recordings including interviews and FGDs were transcribed by three members of the research team. The first two members transcribed all the data recordings separately and independently, while the third member checked and compared all the transcriptions line by line, and validated up to 93% of the information transcribed by the first two. Any discrepancies were discussed and resolved through consensus among the coders. Each transcript was first read thoroughly to enable in-depth familiarization with the data.

Initial codes were then developed based on key themes defined in the interview guide and were entered into NVivo 14 software for structured content analysis. The coding framework was subsequently refined throughout the process, allowing for the identification of emerging themes, which led to the addition of subcodes, and secondary categories as needed. The analysis followed an iterative and reflexive process, involving repeated readings, axial coding, and category refinement. In the final phase, the research team re-examined the entire dataset to identify representative quotations for each thematic code, ensuring the diversity and authenticity of participants’ perspectives were reflected in the findings.

#### Ethical considerations

The study received ethical approval from both the National Health Research Bioethics Committee of Togo, Ref No. 022-2021-CBRS and the University of Ottawa Research Ethics Board, Canada, Ref No.H-07-21-6967. We also received written permission from the Scientific and Technical Research Department of Togo, Ref. No 086/MESR/SG/DRST/21. Before the data collection, the purpose of the study, the voluntary nature of participation and the possibility of withdrawing from the study at any time during the interview without suffering any negative consequences were explained to the participants. Confidentiality and anonymity of the data collected was emphasized. Informed consent was obtained in two formats: written consent was provided from healthcare professionals, while verbal consent was obtained from rural women, in line with the ethics committee’s guidelines and regulations. This approach was adopted to accommodate participants with limited literacy or facing language barriers. All research activities were conducted in accordance with the ethical principles outlined in the Declaration of Helsinki, as well as with the national guidelines and legal frameworks governing research involving human subjects in Togo.

#### Study results

##### Participant characteristics

In total, 36 participants (24 women and 12 healthcare workers or professionals) took part in this study as presented in Tables 1 and 2.

**Table 1** Focus group discussions (FGD): Participants' characteristics

Participants	Contact type	Number of participants	Age range (median) years	Education status	Number of children	Trade
Bombouaka Women	FGD	8	23–32 (27)	No education – Secondary school	3–5	7 Farmers-1 Reseller
Bogou Women	FGD	8	17–40 (28)	No education -Primary	1–8	7 Farmers-1 Weaver
Tanabe Women	FGD	8	19–44 (31)	No education -Primary	2–8	8 Farmers

**Table 2** In-depth interviews (IDI): Participants' characteristics

Participants	Contact type	Number of participants	Age range (median) years	Education status	Profession
Bombouaka HP	IDI	4	26–55 (40)	High school -University	Nurses-Midwives-Physicians
Bogou HP	IDI	4	31–52 (28)	High school -University	Nurses-Midwives
Tanabe HP	IDI	4	29–47 (38)	High school -University	Nurses-Midwives-Physicians

Table 1 provides a detailed demographic overview of the women participants in the FGDs across three rural areas: Bombouaka, Bogou, and Tanabe. Each focus group consisted of eight women, with their ages ranging from 17 to 44 years. The median ages were 27, 28, and 31 years, respectively. Educational backgrounds varied, predominantly showing limited access to formal education, with most having completed only primary or secondary schooling. The number of children per participant ranged widely, indicating diverse family sizes, while farming was the primary occupation.

Table 2 outlines the participants involved in the In-Depth Interviews with health professionals (HP) from the same regions. A total of 12 health professionals participated, with four professionals from each center. The age ranges of these individuals spanned from 26 to 55 years, with median ages of 40, 28, and 38 years for Bombouaka, Bogou, and Tanabe, respectively. All participants had at least a high school diploma, with many achieving a university-level education.

Analysis of the present study has enabled us to identify three main themes. The first shows the knowledge of food security and factors influencing food insecurity in Togo. The second illustrates the factors that contribute to the underutilization of maternal health services. The third theme highlights the relationship between household food insecurity and the use of maternal health services in Togo.

### The notion of food security

Most of the focus group participants defined food security as the accessibility of a variety of foods in sufficient quantity to meet the family's basic dietary needs. For some, food accessibility means having enough to eat and having food available to eat in the household. For others, food security means having enough food to eat regularly in terms of quantity and quality throughout the year.

In summary, participants defined food security as having enough food to eat all year round and being able to afford diverse, regular, and balanced daily meals. The following extracts illustrate the notion of household food security as perceived by the participants.

*“Food security is when all members of the household have food and eat till they are full”. (The majority of participants in FGD no. 3)*

*“It's when people manage to eat three times a day; in the morning, at midday and in the evening, that's*

*what we call food security “. (A participant in FGD no.1)*

*“Food security is having enough food to eat all year round and eating a well-balanced meal; you need to vary the foods you eat “. (A participant in FGD no. 2)*

### Contributing factors to household food insecurity

According to the participants, the main factors contributing to household food insecurity include poverty, climate change (drought and flood), poor harvests, lack of arable land, customs, and rural exodus. The COVID-19 pandemic is also considered an aggravating factor. These factors are ranked in order of importance and reflect the scale of the phenomenon in terms of household food availability and accessibility. Poverty, such as lack of financial means (lack of money) seems to be the fundamental factor.

*“Due to a lack of financial means, farmers often borrow money from maize, bean and mile resellers to meet their needs, such as saving the life of one of their children by taking him to hospital, preparing their children for the start of the school year and/or buying agricultural inputs to increase crop yields. However, as soon as the crops are ready, these resellers buy them at a very low price compared with the bowl price of the crop on the market, and in return they borrow money. Since an agreement on this price has been reached between the two parties from the outset, and this is poverty which is the fundamental reason” (Declared by health professional no. 6).*

*“Lack of fertile land in the savannah region, which makes agricultural production very difficult” (Declared by health professional no. 2).*

*“Poverty, lack of money, high number of children in the household, polygamy, lack of arable land, poor harvests are, in my opinion, the various factors that contribute to food insecurity in households” (Declared by health professional no. 7).*

*“Food insecurity is due to environmental poverty (including soil poverty), drought, flooding, the high price of fertilizers and, thus, the problem of sharing cultivable land according to the number of people in the household”. (Declared by the majority of participants in FGD no. 2)*

### Impact of the COVID-19 pandemic on household food insecurity

Participants reported that COVID-19 had exacerbated the problem of household food insecurity by reducing economic activities, notably by closing borders and markets, and by restricting travel and increasing fares. As a result, food prices rose. The following extracts illustrate this impact.

*“The government closed the borders because of COVID-19, and we ran out of fertilizer to enrich the soil for a good harvest. Also, the government has raised travel fares to discourage people from traveling. As a result, food is becoming scarce, and prices are rising” (Declared by the majority of participants in FGD no. 3).*

*“Because of COVID-19, everything became scarce and very expensive because the borders were closed (nothing goes out and nothing comes in). The markets aren’t as lively as they used to be because there’s a ban on gatherings. Here in the village, because of COVID-19, we couldn’t find NPK and urea fertilizers to enrich the soil, so our production wasn’t good, and this led to hunger in our households” (A participant in FGD no.1).*

*“This COVID-19 pandemic has brought us more hunger because we can’t do our shopping, nor meet up to do our fieldwork, which has reduced our agricultural production” (A participant in FGD no.2).*

*“Yes, it has aggravated food insecurity in households, because it is forbidden to group together, so there is no market, no community activity to earn money and buy food to eat” (Declared by health professional, no. 3).*

*“Yes, this has led to a reduction in the population’s economic activities” (Declared by health professional, no. 4).*

### Factors influencing the use of maternal health services

Participants revealed challenges related to access to maternal health care, including distance from home to the health center, high costs of care, wait times, availability of equipment and the unwelcoming nature of health care providers. These are described in detail together with extracts from participants as follows:

#### Geographical distance to health care services

Responses vary among participants. Women who live in the village where the health center is located believe the distance is very close. However, those living in surrounding villages feel that the distance to access the health centers is far, which is a major challenge when they are sick, especially in rural areas such as the study areas. Some

women have to walk 5 to 10 km before reaching the nearest healthcare facility.

*“The distance is not close. For each medical visit I make until today, if we talk about round trips, I travel 10 km per visit” (Declared by a woman from FGD 1).*

*“The distance to get to our health center is close,” says one woman. Another woman states that, for her, it is not close and adds, “I travel 4 to 6 km to get there” (Declared by participants from FGD 2).*

*“To get to the hospital, women travel a long distance. On top of that, the road is not so good. Women complain, and sometimes even give birth. Some of them, when they come to the health center, give birth on the way” (Declared by health professional, no. 7).*

*“The distance is too long for most women; many complain that they are given an appointment every time. Some have to travel more than 8 kilometres to get to the center. The Togolese government has stipulated that a health center must not be more than 5 km from the population. However, there is a shortage of health centers, which means that geographical accessibility is a problem” (Declared by health professional no. 2).*

#### Cost of maternal health care services

The cost of healthcare is a barrier for many women to seek maternal health services, especially in rural areas. Participants find healthcare services more expensive than they can afford.

*“Health care services are too expensive, and health professionals prescribe the same medicines every time you’re sick.”(A participant in FGD no.2).*

*“Health care is expensive, but now it’s much better because the government pays for part of it and we pay for the other part. “(Another participant in FGD no.2).*

*“Despite the WEZOU program, health care services are too expensive, especially the medical tests that health personnel ask us to do in the first 3 months of pregnancy and the medicines. Prenatal consultations are too expensive. It’s the combination of all these factors (reception, money problems, high costs of medical tests and medication) that discourages us from making sufficient use of healthcare services». (Stated by most of participants in FGD no. 3)*

#### Wait times

Wait times to see health personnel vary from one health center to another, depending on how busy they are. They are generally long on market days, which may discourage some women from attending health centers often. On

other days, they are reasonable. As for medical analyses, wait times are long and can take between one hour to one and a half hours especially if it's market day.

*"[...] , some women can be kept waiting for at least an hour or two or three. And this depends on how busy it is. For medical tests, when you drop them off, it's off to the next day to come and pick up the results of those tests" (Health professional, no. 9).*

*"The wait time to see a patient depends on how busy it is and the day the patient comes to the center" (Declared by health professional, no. 4).*

*"The wait time to see a health staff depends on how many patients are there before you [...]. It is usually long during the market day." (Stated by most of participants in FGD no. 2).*

### Equipment and resources

The lack of equipment and resources in health centers is a major barrier to seeking healthcare. Beds are available but they are not in good condition and are in insufficient quantities. Also, most health centers do not have an ambulance for medical emergencies.

*"The equipment is lacking, in poor condition and old. We're in the village and we're sorely lacking in infrastructure and equipment. The few we have are aids from our partners. [...] There aren't enough beds, and the few that do exist are not in good condition. I myself have tears in my eyes when I see pregnant women get on these beds to give birth ". (Declared by health professional, no 2)*

*"Our health center doesn't have an ambulance. In an emergency, we call the patient' parents to find a means of transport to evacuate the patient" (Declared by health professional, no 3).*

*"We don't have adequate technical facilities to provide our services, so everything is done with the means at hand"(Declared by health professional, no 8).*

*Most women say "no" and blame the political authorities as well as the healthcare providers. Another woman states, "It's the lack of financial resources" (Declared by participants of FGD 2).*

*"No, the center is not equipped with adequate technical equipment. That's why, in case of complications, the healthcare staff refer women to larger cities like Dapaong," affirmed by a woman from FGD 3. Another woman adds, saying, "The beds are in good condition but not enough to accommodate all the patients" Declared by a participant from FGD no. 3.*

### Reception

Patients' reception may influence the use of maternal healthcare services. Some women said that the way they are welcomed or received in the health care center can play an important role in their use of the services.

*"The welcome you receive depends on the health staff who received you. If you're lucky and you come across someone kind and compassionate, then you're saved. If not, you can expect all kinds of treatment-scolding and insults-such as "Shut up, I'm the one who advised you during your pregnancy and during your childbirth. (Declared by the majority of participants in FGD no1).*

### Relationship between food insecurity and maternal health services utilization

Household food insecurity has a strong impact on the use of maternal health services. It was identified as a major factor discouraging women from using maternal health services. Most women stressed that they often prefer to use their money to buy food rather than to seek health care when faced with food insecurity in their household. It seems more like competing interests– and faced with this choice they will choose food vs. healthcare services. In a poverty setting, food insecurity increases the barrier to accessing healthcare services. Participants also stated that a hungry woman is less likely to seek care, putting the health of mothers and their children at risk. Overall, participants reported that household food insecurity influences women's decision to use maternal health services. The following extracts better illustrate this link.

*"If we have money and a significant amount of food to eat in our household, we can go as many times as possible for pre/post-natal consultations. But if we don't know what we're going to eat because of financial resource constraints if we do find money, we'd rather use it to buy food to eat than go to a consultation, since without eating (hungry belly), we run the risk of feeling dizzy and falling on the floor or ground, as a result of taking the medication." (A participant in FGD no.1).*

*"[...] if you don't have food in the household, you're mentally ill and you do things in a hurry, and even if you're ill, the idea of the hospital doesn't come up" (Another participant in FGD no. 1).*

*"I know a woman who doesn't go for consultations because she has no food to eat. One day we did a job, and we earned some money. Instead of using the money to go to the hospital, she used it to buy food to eat. All she does is postpone her prenatal consultation until tomorrow when she gives birth at home". (Sharing by a participant in FGDno.2).*

*“It’s the rest of what you eat that you save to look after yourself if you’re ill, if you can’t eat enough, it’s not certain that you’ll be able to afford to look after yourself if you’re ill”. (A participant in FGD no.3)*

*“A woman who hasn’t eaten because of lack of money is often stressed and may forget that she has to come for a consultation” (Declared by health professional no.7).*

*“If women can’t find the money to buy food to eat, how can they come to the hospital? Sometimes others use tree roots and backs to alleviate the illness because there are no financial means to come to the hospital and the few financial means they have, only allow them to feed themselves in the household” (Declared by health professional no 5).*

### **The impact of COVID-19 on household food insecurity and the use of maternal health services**

The COVID-19 pandemic worsened the situation of household food insecurity by making food scarce and more expensive due to government restrictions to counter the spread of the virus. It has also reduced access to maternal health care due to routine vaccine stock-outs, fear of catching COVID-19 and fear of receiving the COVID-19 vaccine. The following extracts illustrate the impact of COVID-19.

*“Because of COVID-19, the government closed the borders, and we ran out of fertilizer to enrich the soil for a good harvest. [...]. Regarding maternal health care, services are less used, because as soon as we go for a consultation, the health personnel tell us that there are no routine vaccines, i.e. the vaccines are no longer in stock. On top of that, because of Covid, you can’t go to a consultation without wearing masks, which suffocates our breathing, so for this reason we prefer to stay at home”. (A participant in FGD no.1)*

*“Um, we don’t go to consultations anymore during this COVID-19 period because we’re afraid of catching COVID in the hospital, or afraid of confirming that we had Covid especially when we have a cough” (The majority of participants in FGD no. 2).*

*“I stopped going to the clinic to avoid receiving the COVID-19 vaccine” (A participant in FGD no. 3).*

*“Because of COVID-19, the government has closed the borders and raised the price of travel fares to discourage people from making the move. This has increased the price of food and life is becoming more and more expensive. As for the use of health services, because of COVID-19, there is no longer a stock of routine vaccines for children. This has discouraged some women from coming for consultations with their children. Women who are pregnant don’t come for fear of catching COVID-19. Still, others don’t*

*come because they don’t want to receive the COVID-19 vaccine” (Declared by health professional no. 1).*

### **Women’s socio-economic empowerment and these two scourges**

Socio-economic empowerment of women through economic agency was widely recognized by participants as a potential solution for improving both household food security and the utilization of maternal health services. Participants expressed the view that economic empowerment enables women to cover healthcare costs and purchase food thereby reducing their financial dependence on their husbands. This increased financial autonomy enhances their ability to make independent decisions regarding their health and that of their children.

*“A woman who is financially independent will not reach out to her husband before going to a health center. She’ll use her own money to go for a consultation because it’s in her interest and in the interest of her baby” (Declared by health professional no.10).*

*“[...], it would allow women to have economic freedom, to eat properly in their household, to take care of their health as well as that of their children” (Declared by health professional no.4).*

*“When a woman is autonomous, it means that she is no longer financially dependent on her husband. If the husband objects to her going to the hospital, she can go because she’s financially independent. In most cases, she doesn’t go because she doesn’t have the financial means, and it’s the husband who has to give her the money. And when the husband says no, she doesn’t have the financial means to go herself. So if we manage to empower them financially, I think the trick is done, they could go for consultations as they like and pay for prescriptions without any problem, and I think that would be a plus for our women in this community” (Declared by health professional no. 12).*

*“If a woman is economically independent, in case of illness or pregnancy, she can go directly to the hospital without waiting for her husband to give her money.” Another adds, saying, “A woman who is financially independent will be able to pay enough for food to feed her children in the household and can take her children to the hospital with her own savings because she knows the household will not suffer from hunger” (Declared by participants of FGD 2).*

*Yes, of course. A woman who is financially self-sufficient can fully use maternal health services by using her own money to pay for medication and take care of her children without the help of her husband’ (Declared by a participant of FGD 3).*

### Food self-sufficiency and use of maternal health services

Participants believe that food self-sufficiency can improve access to maternal health care, as they could use their savings for care rather than being financially dependent on their husbands. In other words, the women feel that when the household has enough food, the savings can be used for maternal healthcare.

*“As I just told you, the woman who is self-sufficient in food will have fewer worries and can go to the hospital, buy the medicines, then take them since she would have already eaten a few things” (Declared by health professional; no. 1).*

*“A woman who is self-sufficient in food can improve the use of maternal health services by using her own savings for health care services and will not seek help from her husband before going for consultation (A participant in FGDno.3).*

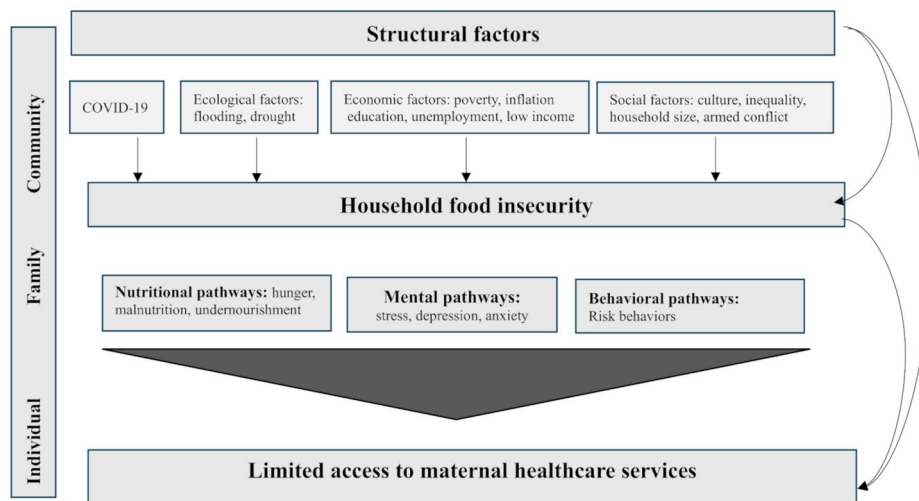
### Discussion

In this qualitative study, we aimed to explore the impact of household food insecurity on the use of maternal health services in the Savanes region of Togo. Food security and maternal health use are strongly associated. The findings revealed that household food insecurity is a serious concern among the women in the region. Various sociodemographic and environmental factors are potentially contributing to this situation, including poverty, financial constraints (worsened by the COVID pandemic), climate change, poor harvests, and lack of arable land.

To the best of our knowledge, this is one of the first qualitative studies highlighting the relationship between household food insecurity and maternal healthcare service utilization. Our results revealed that women who experience food insecurity are less likely to use maternal health services, as they have to spend their limited resources on purchasing food items, rather than seeking healthcare i.e. food insecure women are less likely to seek maternal health care than those who are not. This shows that in a context of poverty where financial resources are limited, the presence of food insecurity diverts money that could be used for healthcare— and that the choice towards the ability to feed oneself or one’s family will prevail. This therefore shows that food insecurity interferes with women’s decision-making. These findings are consistent with a previous cross-sectional study done in the United States, where food-insecure people were prone to receive health care later than those who were food-secure [53]. Also, evidence from cross-sectional studies conducted in Ethiopia [54] and Bangladesh [55] supports our findings, showing that food-insecure women are less likely to use maternal healthcare services such as ANC visits and health facility delivery than

food-secure women. This shows that household food insecurity influences women’s decision-making power in the use of maternal health services. Faced with this dilemma, women prefer to sacrifice their health at the expense of buying food for their household. Added to this, our results indicate that women experiencing household food insecurity were more likely to suffer from mental health issues such as stress, anxiety or depression. These conditions often manifested as feelings of shame and social withdrawal making them less likely to attend pre- and postnatal consultations. These findings support those of previous studies carried out in Ethiopia [56], Iran [57] and Afghanistan [58], where food insecure pregnant women were likely to suffer from stress, anxiety, depression, feelings of powerlessness, sadness, humiliation, partner violence, etc., and consequently, would find it difficult to attend healthcare services. This trade-off between maternal healthcare and food insecurity can have severe consequences, especially for the health of mothers and their children. Food insecurity has an amplifying effect on health outcomes, both in terms of lack of nutrients and reduced access to healthcare services.

Numerous studies have examined the relationship between food insecurity and the COVID-19 pandemic [59, 60] and still others have focused on the impact of COVID-19 on the use of maternal health services [61–63]. However, to the best of our knowledge, this is the first qualitative study to analyze the impact of the COVID-19 pandemic on both household food insecurity and the use of maternal health services. The restrictive measures implemented to contain the COVID-19 pandemic had significant direct and indirect impacts on access to and utilization of maternal health services, particularly in rural areas [64, 65]. Direct effects included the disruption of healthcare systems due to facility overload, the suspension of essential maternal and child health services, and limited access caused by staff reallocation, supply shortages, fear of infection, and lockdown measures [23, 64, 66–68]. Preventive services such as antenatal care, family planning, and immunization campaigns were also interrupted, contributing to a rise in unassisted home deliveries and increasing the risk of maternal complications and mortality [69–72]. Indirect effects were equally severe, with widespread economic hardship, job losses— especially among women in the informal sector—and market closures leading to reduced household income and limited care-seeking ability [73, 74]. Moreover, food insecurity worsened as a result of border closures, transportation restrictions, and fertilizer shortages that disrupted agricultural production [75, 76]. The resulting scarcity and rising cost of food intensified psychosocial stress among pregnant women, including anxiety, depression, and chronic stress—factors known to elevate the risk of pregnancy and childbirth complications [77–79].



**Fig. 1** Conceptual framework: Relationship between household food insecurity and the use of maternal healthcare services

We also explored the potential role of women’s socio-economic empowerment and food self-sufficiency in improving household food security and the use of maternal health services. These findings build on a prior systematic review that has documented the relationship between women’s economic empowerment and the high number of ANC visits [80]. Also, evidence from previous studies suggested that women’s empowerment contributed to higher use of maternal healthcare services [81–83]. Participants from this study reported that empowering women economically could help them pay for healthcare and access adequate food. This will improve their access to maternal health care and ensure food security at the same time. Similarly, food self-sufficiency is also identified as a potential solution for improving access to maternal health care, as women could use their savings for care rather than being financially dependent on their husbands.

To understand the concepts, a conceptual framework was developed to explain the complex relationship between food insecurity and the underutilization of maternal health services (Fig. 1).

This framework was inspired by the model proposed by Weiser and colleagues and adapted by Anema and teammates [84, 85].

**Strengths and limitations**

To the best of our knowledge, this study is one the first qualitative studies to explore in depth the relationship between household food insecurity and the use of maternal healthcare services in rural areas, resource-limited settings. A major strength of the study lies in the use of multiple data collection techniques, including in-depth interviews and FGDs, which enabled us to diversify the respondents’ responses. Furthermore, the study was

conducted across three different rural settings, allowing for different sources of information (triangulation) and contextual comparison, which strengthened the credibility and transferability of the findings. However, this study is not free from limitations. First, the study was carried out in rural areas, so the results may not be generalized to the urban areas of the country. Second, the risk of social desirability bias cannot be excluded, as some participants may have underreported experiences related to stigma or social exclusion. In addition, the study sample focuses only on women of childbearing age (18–49 years) who had at least one child and on healthcare professionals. The exclusion of women without children may have introduced a sampling bias, which limits the generalizability of our findings. Despite these limitations, the study provides valuable insights for policymakers, especially in designing interventions programs aimed at reducing food insecurity and improving access to the use of maternal health services in vulnerable rural communities. Future studies should be done in similar socioeconomic settings, including more diverse population groups, to confirm our results.

**Conclusion**

This study highlights the complexity of the relationship between household food insecurity and the utilization of maternal health services in rural areas of the Savanes region in Togo. Drawing on qualitative data collected from women of reproductive age and healthcare providers, the findings suggest that food insecurity, as perceived by participants, extends beyond mere nutritional deprivation. It acts as a structural barrier that significantly shapes health-seeking behaviours. As a result, it limits access to essential services—particularly antenatal and

postnatal care—and exacerbates the health and social vulnerability of pregnant women.

The disruption of health systems during the COVID-19 pandemic further deepened these inequalities, underscoring the profound interdependence between maternal health and food security, especially in low-resource settings where women are often forced to choose between securing food and accessing care.

In response to this situation, multisectoral interventions are urgently needed, structured around three complementary pillars:

- 1. Immediate nutritional support:** The provision of staple food items—such as rice, maize, oil, or vegetables—during antenatal and postnatal consultations could serve as an effective incentive, simultaneously addressing critical nutritional needs while encouraging greater adherence to maternal care pathways.
- 2. Socio-economic empowerment of rural women:** Investing in agricultural support programs (e.g. seed access, training in climate-resilient agriculture), microfinance initiatives, and financial literacy schemes could reduce women's economic dependency and strengthen their ability to cope with food insecurity.
- 3. Intersectoral coordination and integrated governance:** The development of coordinated policies involving ministries of health, agriculture, and social affairs is crucial to ensure coherence and maximize impact. A participatory monitoring and evaluation framework is essential to support local ownership and to adapt interventions to the realities on the ground.

This research makes a valuable contribution to understanding the structural determinants shaping the use of maternal health services in Togo. While the recommendations are grounded in the rural Togolese context, their implementation in other sub-Saharan African settings—or beyond—should be carefully adapted to the economic, geographical, and socio-cultural specificities of each context.

#### Abbreviations

ANC	Antenatal care
FGD	Focus group discussions
IDI	In-depth interviews
LMICs	Low - or Middle-Income Countries
PNC	Post-natal care
SDGs	Sustainable Development Goals
SSA	Sub-Saharan Africa

#### Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12889-025-23220-2>.

Supplementary Material 1

Supplementary Material 2

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#### Author contributions

KK and MHC contributed to the conception and designed of the original study. KK and MHC did the acquisition of data. KK, MHC and RP conducted, performed the analysis and drafted the manuscript. KK, MHC and RP, revised and edited the manuscript. KK had final responsibility to submit for publication. All authors critically reviewed, read, and approved the final manuscript.

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#### Data availability

This is a qualitative study.

#### Declarations

##### Ethics approval and consent to participate

The protocol received ethical approval from both the National Health Research Bioethics Committee of Togo, Ref No. 022-2021-CBR5 and the University of Ottawa Research Ethics Board, Canada, Ref No.H-07-21-6967, which conforms to the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans-TCPS2 (2022) [https://ethics.gc.ca/eng/policy-politique\\_tcps2-eptc2\\_2022.html](https://ethics.gc.ca/eng/policy-politique_tcps2-eptc2_2022.html) - based on the Declaration of Helsinki. We also received written permission from the Scientific and Technical Research Department of Togo, Ref. No 086/MESR/SG/DRST/21. Before data collection, all participants gave consent to take part in the interviews. Informed consent was obtained in writing from healthcare professionals, and verbally from rural women, in line with the ethics committee's guidelines and regulations, due to barriers related to language or literacy. All research activities were carried out in full compliance with the ethical principles outlined in the Declaration of Helsinki and complied with the national regulations governing research involving human participants.

##### Consent for publication

Not applicable.

##### Competing interests

The authors declare no competing interests.

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