Food taboos and nutrition-related pregnancy concerns among Ethiopian women

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1. Vidanka Vasilevski, PhD * **corresponding author**
Position: Research officer

Affiliation: Victoria University,

College of Health and Biomedicine,

St Alban's Campus,

PO Box 14228,

Melbourne 8001, Australia

Phone + 61 3 9919 2561

Fax + 61 3 9919 2832

Email: vidanka.vasilevski@vu.edu.au

2. Mary Carolan-Olah, PhD

Position: Professor Midwifery

Affiliation: Victoria University,
College of Health and Biomedicine,
St Alban's Campus,
PO Box 14228,
Melbourne 8001, Australia
Phone + 61 3 9919 2585
Fax + 61 3 9919 2832
Email: mary.carolan@vu.edu.au

ABSTRACT

Aims and objectives. To discuss Ethiopian food taboos during pregnancy and their relation to maternal nutritional status and pregnancy outcomes.

Background. Recent waves of migration have seen large groups of Ethiopian refugees moving to countries around the globe. This is of concern as Ethiopian women are at risk for a number of medical and pregnancy complications. Health is further compromised by poor diet and adherence to cultural food beliefs and taboos. In refugee women, many of these factors correspond with significantly higher rates of pregnancy complications and poor birth outcomes.

Design. This is a discussion paper informed by a literature review.

Methods. A search of the Scopus, PubMed, Web of Science and Academic Search Premier databases for the key words, *Ethiopian*, *pregnancy*, *food* and *taboos* was conducted in the research literature published from 1998 through to 2015. This time is contingent with migration trends.

Results. Ethiopian migrant women are at risk for inadequate nutrition during pregnancy. Risks include cultural factors associated with food taboos as well as issues associated with low socioeconomic status. Consequently, Ethiopian women are more likely to have nutritional deficiencies such as anaemia which have been associated with a range of pregnancy complications.

Conclusions. There are many serious consequences of poor diet during pregnancy, however most of these can be avoided by greater awareness about the role of nutrition during pregnancy and by adopting a balanced diet.

Relevance to clinical practice. There is an urgent unmet need for nutrition education among Ethiopian women. Research indicates that Ethiopian women are receptive to nutritional advice during pregnancy and also that pregnant women are generally motivated to act in the baby's interest. These factors suggest that this high risk group would be receptive to culturally appropriate nutrition education, which would provide much needed meaningful support in pregnancy.

Key words: Ethiopian, food taboos, pregnancy, nutrition, pregnancy outcomes.

SUMMARY BOX

What does the paper contribute to the wider global clinical community?

- Ethiopian migrant women are at high risk for poor diet during pregnancy due to socioeconomic disadvantage and cultural food taboos. Nutritional deficiencies give rise to complications such as anaemia, leading to poorer maternal and infant health.
- Understanding the cultural context of food consumed during pregnancy is an important first step in supporting pregnant Ethiopian women living in other countries.
- Health professionals have an important role in providing nutrition education to pregnant Ethiopian women

The effects of food taboos on pregnancy outcomes for migrant Ethiopian women: What is the evidence?

AIMS

This paper aimed to discuss the cultural and social factors associated with poor diet during pregnancy for Ethiopian women. In particular, the role of cultural food taboos during pregnancy and how they correspond with poor pregnancy outcomes in Ethiopian women will be investigated.

BACKGROUND

For many years, Ethiopian communities have been devastated by natural disaster, political oppression, war and famine. As a result, waves of migration to developed countries have included large groups of Ethiopians. The largest groups of Ethiopian refugees have settled in countries such as Australia, UK and the US since the 1990s (Commonwealth of Australia 2014, Migration Policy Institute 2014, Papadopoulous *et al.* 2004). In recent estimates, almost 8,500 Ethiopian-born people were living in Australia (Commonwealth of Australia 2014) and 30,000 in the UK (Papadopoulous *et al.* 2004). In the US, Ethiopian born people account for the second largest African immigrant community (Migration Policy Institute 2014). In all of these countries, Ethiopians are amongst the most socioeconomically disadvantaged, with low income, low education and high unemployment (Commonwealth of Australia 2014, Migration Policy Institute 2014, Papadopoulous *et al.* 2004).

Ethiopian migrants also represent some of the youngest groups in these countries, with an average age of approximately 35-37 years (Commonwealth of Australia 2014, Migration Policy Institute 2014). This indicates that large numbers of Ethiopian migrant

women are of child-bearing age. Nonetheless, despite the considerable representation of Ethiopian communities in the developed world, very little is known about the pregnancy outcomes of Ethiopian women once they resettle in new countries. This may result in missed opportunities for appropriate antenatal care of a potentially high-risk group in pregnancy.

Ethiopian women are at risk for a number of pregnancy complications due to significant socioeconomic disadvantage (Langley-Evans & McMullen 2010), poor prior health (Carolan 2010a), poor prior nutrition, being underweight (Tebekaw *et al.* 2014), related conditions such as anaemia (Abdelrahman *et al.* 2012, Terefe *et al.* 2015), high birth-rates (Correa-Velez & Ryan 2012) and difficulties accessing antenatal care (Correa-Velez & Ryan 2012). These difficulties are further compounded by poor diet, limited understanding of food values, problems sourcing usual foods (Southcombe 2008) and adherence to cultural food beliefs and taboos during pregnancy (Cherkos *et al.* 2013, Demissie *et al.* 1998, Zepro 2015). In refugee women, many of these factors have been shown to correspond with significantly higher rates of caesarean sections and pregnancy complications (Correa-Velez & Ryan 2012).

DESIGN AND METHODS

This discursive paper was informed by a search of Scopus, PubMed, Web of Science and Academic Search Premier Databases for the key words, *Ethiopian, pregnancy, food* and *taboos*. The search of the literature identified a limited number of relevant articles; therefore 14 papers published from 1998 through to 2015 were included in this review. This timeline also coincides with trends of Ethiopian resettlement globally. The research literature was also supported with other publications, including books and reports, related

to the topic. Only publications that were published in English were included. Reports and policy materials were included where they have addressed issues related to the Ethiopian community. Thorough review of the literature identified various factors related to the cultural food practices of Ethiopian women, and are discussed below.

RESULTS

The state of the literature on Ethiopian maternal nutrition

Overall, there is a dearth of literature focusing on the nutrition habits and understanding of Ethiopian pregnant women. This is an important lapse as maternal nutrition during pregnancy is critical in reducing pregnancy complications, maternal morbidity and infant morbidity and mortality. Nonetheless, to date, very little has been done to assess the general knowledge of Ethiopian women about nutrition during pregnancy (Cherkos *et al.* 2013, Daba *et al.* 2013). Understandings of food and nutrition practices of pregnant Ethiopian women living in other countries is even more dire, with minimal research published in this area. Current knowledge about the nutrition status and needs of Ethiopian women comes mainly from studies conducted in Ethiopia, and may not necessarily translate to populations of refugee women living outside of Ethiopia. Many of these publications are also limited in quality as they are sourced from grey literature or do not necessarily adhere to the high standards of research quality published in contemporary journals.

Nutrition knowledge in Ethiopian pregnant women

From the limited studies available, it is apparent that Ethiopian women are likely to have little awareness about the role of diet during pregnancy. Daba *et al.* (2013) for

example, found that more than half of Ethiopian pregnant women in their sample did not follow a balanced diet during pregnancy and over 70 percent did not know the main food groups. Knowledge about sources of specific nutrients, vitamins and minerals, such as protein, vitamin A and iron was even lower, with less than 30 percent of the sample reporting that they knew about vitamins or where to source these nutrients.

The dietary behaviours of pregnant Ethiopian women have also been examined, and that research further demonstrates the lack of nutrition knowledge during pregnancy. One study found that only a small proportion of women made dietary changes during pregnancy, and those that did only increased their frequency of meals and carbohydrate intake (Zepro 2015). Women have also reported that their serving sizes weren't adequate, that they were skipping meals due to poverty and poor education (Handiso 2015) and fasting for religious reasons whilst pregnant (Zepro 2015). Fasting involved not eating during the day at Ramadan for Muslim women and abstaining from animal products on Fridays and in the weeks prior to religious events, such as Easter and Christmas for Orthodox women (Zepro 2015). Lack of awareness about the consequences of poor diet during pregnancy was also a concern, with the vast majority of women not knowing that poor nutrition could affect the health of both mother and baby (Daba *et al.* 2013).

Cultural aspects of food in Ethiopia

Women and children are most likely to have poor nutritional status in Ethiopia (Oniang'o *et al.* 2003). This is often due to poor dietary intakes from inequitable distribution of food, inappropriate food storage and preparation and food taboos (Zepro 2015). Women are the main cooks of the household, however they are expected to serve the men first, followed by children, leaving what is left for themselves (Kifleyesus 2002). When food is

scarce, men continue to be favoured and these dynamics don't change even when a woman is pregnant (Oniang'o *et al.* 2003).

Food taboos

Food taboos refer to those foods which are strictly forbidden for health, cultural and religious reasons (Demissie *et al.* 1998, Meyer-Rochow 2009). It is concerning that many of these taboos are imposed on some of the most vulnerable individuals, including women and children, and are often centred around foods which are of animal origin (Oniang'o *et al.* 2003), which would ordinarily be good sources of protein. In Ethiopia, food taboos are thought to have been established during pregnancy as a means of protecting the health of women and their babies (Zepro 2015). It is however, quite obvious that the extensive food restrictions are more likely to put the health of both mother and baby at risk. Malnutrition is a significant health problem affecting pregnant women in Ethiopia and has serious consequences for pregnancy and birth outcomes (Zepro 2015). Food taboos are therefore inextricably linked to the nutrition status of Ethiopian pregnant women, impacting their health and the health of their babies (Cherkos *et al.* 2013).

Food taboos for Ethiopians

Ethiopian pregnant women avoid certain foods for a range of reasons, some of these relate to factors associated with pregnancy outcome and birthing process and others to avoid undesirable aesthetic features in the baby. In a recent study by Zepro (2015), the most frequently reported taboos during pregnancy included restrictions on the consumption of linseed, honey, milk and nuts which ordinarily are a good source of calories, protein and vitamins. Women avoided these foods from fear of; birthing a "fatty baby" (p. 415), having a

baby with discoloured skin, abortion and stillbirth. Fruits and vegetables which are highly nutrient dense are also limited. Fruits such as mango, orange, avocado, pineapple are not eaten (Zepro 2015) and this is so the baby doesn't contract worms, malaria and diarrhoea during childhood (Assefa *et al.* 2005). Many vegetables are also taboo (Zepro 2015), particularly those that are green in colour as it is thought that these cause the baby to be bald and are associated with bad odours in both baby and mother. Eating eggs and fruit together or meat with cheese was also considered harmful to mother and baby (Zepro 2015). In addition to these foods, other studies have reported avoidance of potatoes, sweet potato (Cherkos *et al.* 2013) and sugar cane (Hanlon *et al.* 2010) so the baby won't grow too big and lead to a difficult labour (Cherkos *et al.* 2013, Demissie *et al.* 1998, Zepro 2015). Furthermore, food items that are white in colour (e.g. milk, fatty meat, porridge, potato, banana) are not consumed (Assefa *et al.* 2005, Demissie *et al.* 1998) so that the baby is not "plastered" on the head with white patches (Zepro 2015, p.415).

Alarmingly, this level of food restriction eliminates entire food groups, where Ethiopian pregnant women have little diversity in their diets. As a consequence, the majority of foods consumed are limited to, teff injera (sourdough flat bread), shiro wot (chickpea flour stew), wheat bread and kocho (fermented enset flatbread), which are generally high in carbohydrates (Demissie *et al.* 1998) and devoid of other key nutrients such as proteins, fats, vitamins and minerals which are vital for optimal body function, and foetal growth and development during pregnancy.

The Ethiopians most likely to follow these taboos are young, poorly educated women who come from low socioeconomic backgrounds (Demissie *et al.* 1998). A number of studies have shown that age, education level and socioeconomic status are associated

with awareness about the importance of balanced diet during pregnancy (Daba *et al.* 2013, Demissie *et al.* 1998, Gebremedhin & Enquselassie 2011, Zepro 2015). As Ethiopian migrants are amongst the youngest and most socioeconomically disadvantaged, and are likely to be socially isolated and removed from traditional sources of information they are more prone to adhering to traditional food taboos which will result in poor pregnancy nutrition. This places migrant Ethiopian pregnant women at disproportionate risk for pregnancy complications and adverse birth outcomes.

Consequences of poor nutrition on pregnancy outcomes

Ethiopian women who follow traditional food taboos during pregnancy have an increased likelihood of developing a range of negative pregnancy outcomes. The vast restriction of food substantially impacts upon the intake of vital nutrients required for optimal maternal health and foetal development (Zepro 2015). As demonstrated in Figure 1, this corresponds with a vicious cycle of poor maternal nutrition, leading to poor pregnancy outcome and poor future health of the baby.

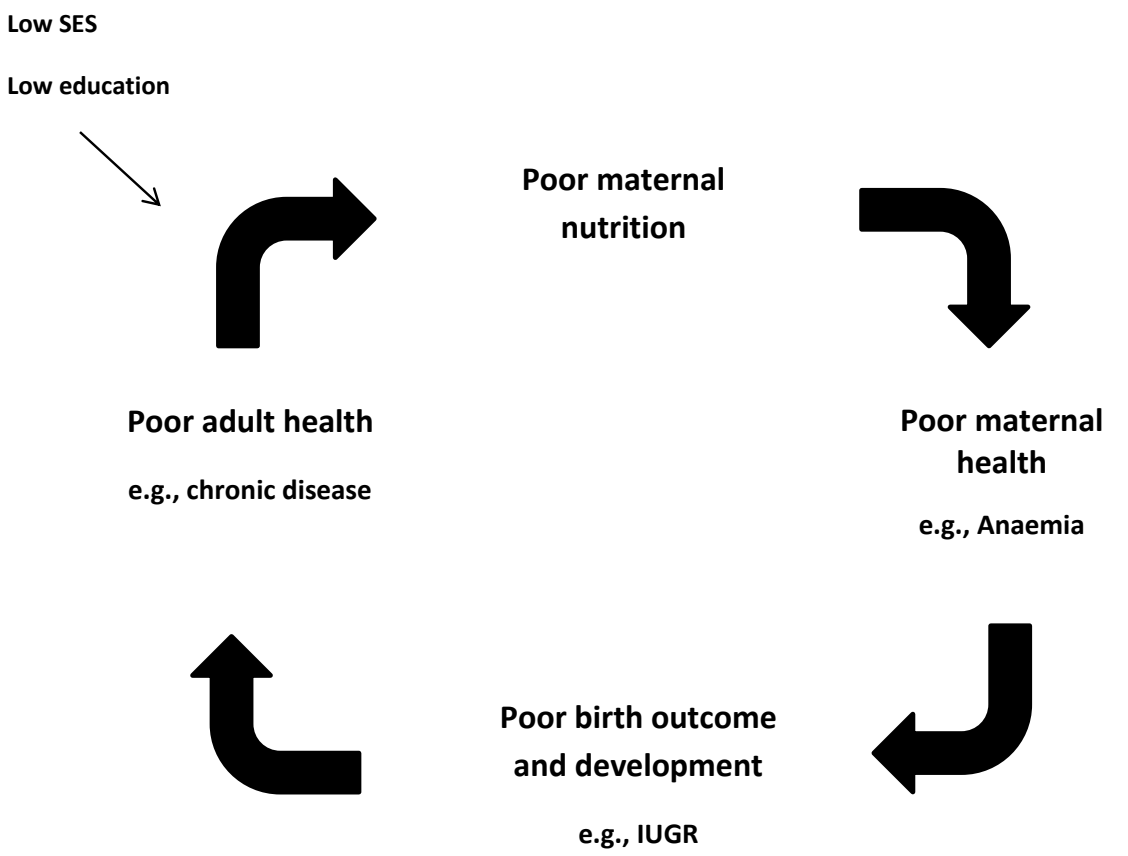

Figure 1. The negative cycle of poor maternal nutrition, pregnancy outcome and future health

Women with poor nutritional status during pregnancy are at risk of developing deficiencies in a range of micro and macro nutrients (Szostak-Wegierek 2014). These deficiencies have been associated with a number of adverse pregnancy and developmental outcomes such as anaemia and intrauterine growth restriction (IUGR) leading to greater maternal and infant morbidity and mortality (Parisi *et al.* 2014, Zepro 2015). The prevalence of iron deficiency anaemia is very high in Ethiopian women (Gebremedhin & Enquselassie 2011, Obse *et al.* 2013). The richest food sources of iron are largely prohibited according to Ethiopian food taboos, and many women also refuse to take iron supplements from fear of

having a large baby (Cherkos *et al.* 2013). Anaemia during pregnancy has been associated with a range of adverse outcomes (Abu-Ouf & Jan 2015) such as a greater risk of infection, preeclampsia, bleeding, IUGR, still birth (Abu-Ouf & Jan 2015), premature birth (Allen 2000) and low birth weight (Alwan *et al.* 2015). Maternal iron deficiency anaemia has also been associated with poor cognitive development in the infant (Black 2012, Murray-Kolb 2013). Zinc deficiency is another problem for Ethiopian pregnant women (Abebe *et al.* 2008). As for iron deficiency, high reliance on cereal based foods and low intakes of pulses and animal proteins are the main contributors to this problem (Roba *et al.* 2015). Zinc deficiency during pregnancy has been associated with preterm birth and low birth weight (Cetin *et al.* 2010).

Many of these negative pregnancy and birth outcomes can be ameliorated by encouraging Ethiopian pregnant women to increase the diversity in their diets. In particular consuming animal products (Abebe *et al.* 2008) and other protein sources such as beans and legumes (Roba *et al.* 2015) can significantly impact the nutritional status of Ethiopian women. Beans and legumes are generally accessible and low cost and therefore present as a reasonable option for this group.

Similar findings are presented in the little literature on women of African origin who have migrated to other countries. Even though the nutritional status of these women is largely unknown, migrant women of African origin are more likely to be anaemic and are at greater risk for infant morbidity and mortality (Carolan 2010a). One study investigating antenatal practices of migrant Ethiopian women in Israel indicated that women avoided taking iron supplements due to the belief it causes their babies to grow excessively making them difficult to birth (Granot *et al.* 1996). Migrant Ethiopian women put on little weight during pregnancy, potentially for similar reasons (Salim *et al.* 2012). These women have

higher incidences of emergency caesareans and interventions during labour, preeclampsia, early post-partum haemorrhage, preterm and post-term birth, still birth and small for gestational age babies (Calderon-Margalit *et al.* 2015, Merry *et al.* 2013, Salim *et al.* 2012). Pregnancy complications in Ethiopian migrant women are partially explained by socioeconomic disadvantage, poor education, poor prior health and prenatal care, but it is unknown what other factors contribute to these problems (Merry *et al.* 2013, Salim *et al.* 2012). Understanding the nutritional status and food related beliefs of these women may identify further areas of risk that could be a target for intervention.

CONCLUSIONS AND RELEVANCE TO CLINICAL PRACTICE

Ethiopian migrant women are at risk for inadequate nutrition during pregnancy. Risks include cultural factors associated with food taboos as well as issues associated with low socioeconomic status. There are many serious consequences of poor diet during pregnancy, however many of these can be avoided by adopting a healthy diet (Christian 2010, Lau *et al.* 2011).

There is an urgent unmet need for nutrition education among Ethiopian women (Daba *et al.* 2013, Demissie *et al.* 1998, Gebremedhin & Enquselassie 2011, Zepro 2015). Studies have shown that Ethiopian pregnant women who received nutrition education had significant increases in their nutrition knowledge during pregnancy (Daba *et al.* 2013). When the education focussed on overcoming barriers such as food taboos, it also corresponded with greater nutritional intakes (Cherkos *et al.* 2013). According to Demissie *et al*. (1998) the lack of education in general, and particularly nutrition knowledge are the greatest contributors to the adherence of food taboos in Ethiopian pregnant women. Responding with culturally appropriate nutrition education is likely to be an important aspect of

antenatal care for these women. A need for adequate antenatal education programs for migrant African women has been identified, and steps to enhance the cultural sensitivity of health care professionals when working with these groups has also been encouraged (Carolan 2010b, Correa-Velez & Ryan 2012).

Culturally appropriate nutrition education and health care can only be provided when there is an understanding of the nutritional needs of Ethiopian migrant women during pregnancy. There is limited literature to date which has investigated whether adherence to food taboos and low levels of nutrition education are apparent in migrant Ethiopian groups. Further research is warranted, given that there are very large populations of Ethiopian people living in various countries around the world. Many of them are of childbearing age, and those that are pregnant have a significantly greater risk of pregnancy complications and poor birth outcomes (Carolan 2010a). Attempts to reduce these adverse outcomes are of great importance, and targeting the nutritional status of migrant Ethiopian women may be one way to do so.

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