



## Food Taboos and Myths about Diet during the Ante-natal Period among Pregnant Women in Urban and Rural Puducherry

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### Abstract

**Background:** Food Taboos refer to the restriction of specific food items due to social or religious customs. When these food taboos & myths occur during pregnancy it compromises the chance of the mother to include all the easily available nutritional foods in their diet thereby resulting in nutritional deficiency and adverse pregnancy outcomes.

**Methods:** This study was conducted in Rural and Urban field practice areas of a Tertiary hospital in Puducherry. This is a Qualitative study which included Antenatal women booked in two government PHCs, RHTC & UHTC of a tertiary hospital in Puducherry. A total of Five FGDs (n = 30) were conducted with subjects selected purposively from urban and rural areas. The study was conducted between Oct 2022 and July 2023.

**Data Analysis:** Data were collected & analysed manually by inductive approach. The discussions were recorded using an audio recorder which was then transcribed verbatim along with the notes taken in the field. The transcriptions were written in Tamil and then translated into English later segregated into themes and codes.

**Results:** Three themes were identified after reviewing the transcripts, they are The Food taboos and Myths during pregnancy, Dietary pattern during the antenatal period and Dietary advice an antenatal mother receives during pregnancy.

**Conclusion:** Most of the Taboos were related to “heat” and “cold” food items. Avoidance of these food items in the long term causes nutritional deficiency and adverse pregnancy outcomes. Most dietary advice was received from the In-Laws during the pregnancy. Proper antenatal care with appropriate dietary counselling at the start of the pregnancy helps in reducing these myths and taboos.

**Keywords:** NIL

### Introduction

A healthy diet contains adequate energy, protein, vitamins and minerals, obtained through the consumption of a variety of foods, including green and orange vegetables, meat, fish, beans, nuts, whole grains and fruit [1]. Pregnancy is a state where nutritional demand is very much increased for the mother's well-being and the baby's healthy development. During Pregnancy, these Food taboos

and myths are seen in various parts of the world at different Levels, especially in developing countries [2-14]. Culture plays a major role in taboos during pregnancy [8]. Food Taboos refer to the restriction of specific food items due to social or religious customs [11]. When these food taboos & myths occur in pregnancy it compromises the chance of the mother to include all the easily available nutritional foods in

their diet, thereby decreasing their chance of meeting this state of high nutritional requirement

Various forms of taboos, misconceptions, and cultural beliefs revolve around the dietary patterns of pregnant mothers. For example, fruits and vegetables which are said to be ‘cold’ like bananas and radishes and ‘heat’ including mango, pineapple, jackfruit & sesame seeds were reported to be taboo among pregnant and nursing mothers in south India this makes them devoid of certain essential and easily available nutrition.

Therefore, the present study used focus group discussions with pregnant women to explore maternal dietary habits, food taboos & misconceptions that can affect nutrition during pregnancy in South India.

## Materials & Methods

### Study Site:

This study was conducted in Rural and Urban field practice areas of a Tertiary hospital in Puducherry

### Study Participants & Design:

This is a Qualitative study Since food taboos and dietary habits are best explored through qualitative methods like FGDs. The study included Antenatal women booked in two government PHCs, RHTC & UHTC of a tertiary hospital in Puducherry. A total of Five FGDs (n = 30) (Table 1) were conducted with subjects selected purposively from urban and rural areas. The FGDs were held with pregnant women in the nearby health centres (Anganwadis, RHTC, UHTC).

The study was conducted between Oct 2022 and July 2023.

**Table 1: Place and participant distribution of FGDs**

Number of FGD	Place	Participants (n=30)
FGD 1	Uchimedu	6
FGD 2	Ariyankuppam	7
FGD 3	Periyakanganankuppam	6
FGD 4	Manavelly	6
FGD 5	Nanamedu	5

Open-ended questions were asked to the participants, regarding their dietary patterns before and after the pregnancy, food taboos and myths practised in their family and community, Types of dietary advice they get and from whom they get it. The responses from the participants were recorded through a tape recorder. New questions were added in each discussion to overcome the knowledge gap.

### Data Collection & Analysis:

Data were collected & analysed manually by inductive approach. The discussions were recorded using an audio recorder which was then transcribed verbatim along with the notes taken in the field. The transcriptions were written in Tamil and then translated into English. The duration of the discussions ranges between 35 to 45 minutes. The Principal author coded all the transcripts, and the categories were cross-checked by all the authors independently (Table 2)

**Table 2: Phases of analysis**

Phase	Description
Transcription	Done after repeated listening of audiotapes and notes taken during the discussions
Translation	Translation was done by the principle investigator from local language (Tamil) to English

Themes & codes	After a through discussion with all the authors, three themes were identified and grouping of codes done accordingly.
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Ethics:

Ethical clearance was obtained from the Institutional Ethical Committee. Written consent was obtained from each respondent before data collection, after a full explanation of the nature, purpose, and procedures used in the study. The participants were given the freedom to withdraw from the study at any time they wished.

Results

Socio-demographic characteristics of the participants:

A total of 30 respondents participated in 5 FGDs. Each comprising of 5 to 7 antenatal mothers. The age group of the participants is between 19 to 48 years. A majority (53.3%) of the participants belonged 18-30 years of age, Majority (36.7%) of the participants had studied up to Higher secondary school followed by High school (30%) and graduates (23.3%). All of the participants are Housewife (100%) by occupation (Table 3).

Table 3: Socio-demographic characteristics of the participants

Characteristics	Categories	Frequency(n=30)	Percentage (%)
Age	18-30	16	53.3
	30 - 40	11	36.7
	40-50	3	10
Educational status	Middle school	3	10
	High school	9	30
	Higher secondary	11	36.7
	Graduate	7	23.3
Occupation	House wife	30	100

Three themes were identified after reviewing the transcripts, they are:

- 1. Food taboos and Myths during pregnancy
- 2. Dietary pattern during the antenatal period
- 3. Dietary advice an antenatal mother receives during pregnancy.

1. Food Taboos & Myths during Pregnancy:

1.1 Foods included in the diet for specific health benefits:

Many participants include more garlic, especially boiled in milk, dry ginger, tapioca and varieties of fish mainly silver belly fish, Red Snapper fish & trevally fish in their diet throughout their pregnancy. They call

these fishes as “Pathiya meen”. They believe it increases their breast milk quantity after delivery.

FGD -1, P -1

*They have asked us to include more Garlic in our diet, right from the First trimester ...They also boil garlic & sukku (Dry Ginger)in milk and give it to us to drink, every night, from 7thmonth.....because it helps in Produce more breast milk...and keeps our body Relaxed.*

FGD -1, P -2

*My friends say to include “Maravalli Kilangu”(Tapioca) in our diet ....to help Produce more breast milk....to include “Kara Meen”( silver belly fish), “sora Puttu”(Scrambled Milk shark) & Garlic*

FGD -3, P -3

*They will give garlic for lactation even during the pregnancy...but in small quantities together with the regular food items....it is given separately, boiled in milk... after the delivery*

FGD- 5, P- 4

*In my house.....they gave “Pal Sura” (Milk Shark) for more breast milk secretion in the third trimester....I had no difficulty in lactation after birth.*

FGD -1, P - 1

*My Mother-in-law told me to avoid Non-vegetarian food items.....like meat, and include more Fish...that too....paththiya meen....like sangaraa meen( Red Snapper fish), Kaara meen (silver belly fish), Ramparai (trevally fish). They do have salt content (Laughing).....but our ancestors have told us that, these ....paththiya meen are good for us, hence my mother-in-law is saying the same to me.*

In a few households, they give homemade concoctions made with drumstick leaves, Palm Jaggery and dry ginger. In some families, they also include cumin seeds and fenugreek seeds. This concoction is mainly given from 5 months onwards till delivery, whenever the ANC mother feels tightness or abdominal pain, this concoction is given. They believe that, if the pain settles after drinking this concoction, then it is most likely a false labour pain.

FGD -4, P - 5

*In my house....they will give “Murunga Keerai Kashayam”(Drumstick Concoction) made together with Karupatti & Sukku....this is for abdominal pain.....normal pain settles after taking this kashayam.....if it is not settling.....then it is...delivery pain.*

FGD- 4, P- 2

*In my house...they make “Sukku Kashayam” (Concoction Made with dry ginger)Made with water, Karupatti, Sukku,.....boil it for some time, filter it...and drink it...Karupatti I added for improving Iron in blood.....in 9 months, they add cumin & fenugreek in a pan & roast it.....once it becomes black...they add karupatti to it and bring it to a boil....this is for identifying False labour pain.*

Certain participants believe that the same concoction except for the drumstick leaves used to identify the

false labour pain helps in reducing the pedal oedema. They believe this concoction takes out the water content present in the foot and helps reduce the oedema.

FGD -3, P - 1

*After 5 months of pregnancy, my mother gave me “kashayam” made with Jeera & panavellam....this is not for vomiting, but it is good for health...To take out the water content from our foot in case of pedal oedema...Likewise, she also adds fenugreek seeds with Panavellam & gives it to me to drink.*

Many of the participants believe adding food items that are highly viscous like butter, castor oil, rice water, urad dal (in the form of Kanji), and fenugreek seeds into the diet will help in Normal vaginal delivery. A few participants also added that they take “soda pal”. This is a mixture of soda and freshly milked cow’s milk with foam on it. They believe that regular intake of this mixture helps in normal vaginal delivery. Few participants mentioned that they don’t believe in food items for normal delivery rather they go by physical activity. Higher the physical activity during pregnancy, Higher the chance for normal vaginal delivery.

FGD -3, P - 1

*In the eighth & ninth months..... they'll give Castor oil Mixed in “Nattu kozhi muttai”(Country chicken’s egg)...for normal delivery.*

FGD -3, P - 4

*In the ninth month, they will give “Soda Pal”(a mixture of soda and milk).....they will mix cow’s milk & Soda and give us to drink... they buy freshly milked cow’s milk with foam & mix it with soda and give us a glass...milk Half a glass and soda half a glass...it’ll help in normal delivery...*

FGD -3, P - 1

*Similarly, they also give fenugreek-soaked water....for normal delivery.....it is given after 7 months of pregnancy.*

FGD -4, P - 6

*My relatives asked me to eat more Lady’s finger....because it helps with normal delivery.....they also said to include butter in the diet.*

FGD -5, P - 5

*They say that drinking more “Ulundhu Kanji”(Congee made with Urad dal) helps in normal delivery....and adding butter to rice water and drinking it daily from the 5th month of pregnancy... helps in normal delivery. My Mother-in-law did all this religiously...but I ended up with LSCS...(Smiling)..because my baby’s head was bigger & it was difficult for normal delivery.*

FGD -2, P -4

*Not any specific food, but did a lot of household work.....I won’t sleep a lot.....ill do as much work as possible...my first baby was born through normal delivery only.*

Few mothers mentioned that they eat Saffron and gulkand (rose petals sauteed with honey)to make their baby have a fair complexion. But, they also mentioned that they didn’t succeed most of the time.

FGD -1, P -5

*For my previous baby, I took kunguma poo(Saffron).... I used to mix it with milk and drink it. I also consumed gulkand.... which is rose petals preserved in honey...I bought it from stores and ate it...I took it after 7 months of my pregnancy...these are said to make the baby fair.*

FGD -2, P -1

*I drank beetroot juice regularly....for my baby...she was fair when born (smile)*

FGD -2, P -2

*I ate “Kunguma poo” for all of my pregnancies.... But I couldn’t see any results...my babies were dark only (shy smile)....but it is considered good for our health.*

## **1.2 Food items avoided in an antenatal diet for specific reasons:**

The food items avoided by the participants are mainly they are considered either “cold”, “heat” or believed to affect the appearance of the baby. Some mothers avoid these only in the early days of pregnancy, i.e. till the 5th month and some mothers avoid these throughout their pregnancy. This avoidance of “cold” & “Heat” food items is religiously followed in the first pregnancy but violated in the consequent pregnancies in most of the cases.

The “cold” food items include “Ice cream” and cold beverages like “7-up” & Jamun fruit. Fermented rice

and curd are also considered as “Cold” to our body. They believe Eating these food items makes them suffer from respiratory tract infections.

FGD-1,P-4

*I was asked to avoid “cooling” food items like ‘Ice-cream’, ‘cold beverages’ like ‘7 up’*

FGD -1, P -1

*My friends say to avoid ‘Pazhaya sadam’(fermented rice)..... “Curd”....because.. either I or my baby will catch a cold.....especially on days when we take head bath.*

FGD -1, P -5

*My sister advised me to avoid eating “Naval Pazham”(Jamun fruit) during pregnancy....because it is “Cold” for the baby*

FGD -3, P-2

*We will include Apple, Pomegranates, Orange, and Green grapes....we’ll avoid black grapes since they are “cold” to our body.*

Certain food items are considered “Heat” to our body. These food items include papaya, Jackfruit, pineapple, Mango & sesame seeds. These are avoided because they are considered to cause miscarriage in the mother.

FGD -2, P-4

*At first, they say to avoid...Papaya, Pineapple, sesame seeds, Peanuts, Jackfruit, Mango...all “Heat” items*

FGD -1, P -1

*Till 3 months.....They say to avoid eating Pineapple, Papaya,*

FGD -1, P -3

*In my family, they also ask to avoid corn and sesame seeds.*

FGD -1, P -4

*In my family.....they ask me to avoid jackfruit and mango..... because jackfruit is “Heat” to our body.....so, not good for the baby.*

FGD -1, P -1

*Mango, Jackfruit, Pineapple....papaya...is also a “Heat” food items.*

*My mother-in-law told me...that....if I consume these “Heat” food items within 5 months.....something bad*



will happen to the baby. I asked her, can I include these in my diet after 5 months....and she said..I can include only Papaya after 5 months...around the 7th or 8th month.

FGD -4, P -1

*I ate jackfruit.....I piece.... at 7th month.....that smell was so tempting...other than that I avoided pineapple, papaya, and sesame seeds. I had sweet cravings throughout the pregnancy....previously I included less sweet only...but after pregnancy.....I feel like eating "ice cream" daily.*

FGD -4, P -5

*I ate jackfruit....at 5th month.....didn't eat in the first 3 months.....I avoided papaya and sesame seeds.*

FGD -4, P -2

*I ate jackfruit at the 9th month only.....one, one piece..... didn't eat it before that.in the first pregnancy...I didn't eat it throughout the pregnancy....*

Few mothers mentioned that they avoid these "Heat" food items because they cause a burning sensation in their bodies.

FGD -2, P-5

*As soon as we eat these "Heat" food items.....there will be a burning sensation throughout our body if it is not suitable..... At that time we shouldn't consume it*

FGD -2, P-5

*I did feel that way....my body was very hot, my skin was burning, that's why I didn't eat chicken, most of the time...even the doctor said to avoid them...I couldn't eat anything.....body was very hot...I'll apply castor oil to my feet and sit down.....that is how much my body was hot....*

Some of the participants have mentioned that they have heard of or experienced miscarriages following Papaya and pineapple intake which is considered one of the "Heat" food items by few participants.

FGD -2, P-4

*For my first baby.....after 45 days of my period...I ate papaya without knowing...I had an abortion, the next*

*day....I even checked for my pregnancy with the doctor before....after this, we went to our doctor, and they told us we shouldn't eat papaya or pineapple.... during these times. we took treatment in Thiruppur.....we know them before....they told us this*

FGD-3, P-4

*I have heard of an incident about Pineapple.....this happened to a friend of my friend....she drank pineapple juice....in the first one and half months of pregnancy, without knowing.....then, she got her period immediately....she already confirmed her pregnancy with the doctor....but unknowingly she drank pineapple juice when she went out with her husband.....she is a young lady....College-going age.*

One participant tried these "heat" food items to abort her pregnancy but failed after multiple attempts.

FGD -5, P-4

*We ate everything, dear.....she (Daughter) was born after eating "everything" possible...all of the things...whatever things, we shouldn't consume..... I ate all.... 23 23-year gap between my first & second baby.....but I didn't know she was there...I thought there was a lump in my belly, which was rotating inside for four, or five months....I went to the doctor since I didn't get my periods....by then she was 4 months of gestational age.... my family members gave me red brick powder to eat....I even ate it all....she didn't budge. (Laughing throughout)*

Most of the South Indian mothers wish their babies to have a fair complexion. Hence some food items like "Jamun fruit" are avoided because it is believed to make baby "Dark".

FGD -2, P -5

*My Relatives told me that if I eat "Naval pazham"(Jamun Fruit) My baby will become dark.....But I already ate without knowing....I will only know when the baby is born (Giggle)*

FGD- 2, P-6

*I avoid eating bitter gourd because.....we are taking tablets like Folic acid ...this bitter gourd reduces the benefits of the tablet if taken together.*

## 2. Dietary pattern during the antenatal period:

### 2.1 Normal eating patterns in pregnancy

Antenatal mothers in the first trimester, mostly avoid taking breakfast due to vomiting as soon as they get up from bed. A few participants mentioned that they break their fast at 10:30 am, most likely with any liquid form of diet like “rice water” or “dal stock”, A few others take Idli or Dosa for breakfast, and snacks are taken at around 11:30 am and 3 or 4 in the evening, mainly consisting of a fruit or juice with some nuts. For lunch they commonly include rice and for dinner idli or dosa. Idli in most cases since it is easily digested. Apart from this, some include milk in their diet either in the morning or night and some avoid milk because they can't withstand the smell and easily vomit. Most of the antenatal mothers in the first trimester have disturbed intake due to vomiting despite their sincere effort for the sake of the baby resulting in weight loss.

#### FGD-1, P-3

*I had vomiting in the first 5 months..... my family members used to make “Koozh” for me during those times. It is made of Kezhvaragu (Finger millet). Sometimes this koozh is made from Sathumaavu (Health Mix)..... that we get from the Anganwadi centre.*

#### FGD-2, P-3

*I could eat only half the amount..... I used to eat before pregnancy. I'll vomit if I force myself to eat for the sake of the baby...because of this, I lost weight in my first trimester.*

#### FGD -2, P-3

*Most of us wake up at 6:00 am....but will have breakfast after 10:00 or 10:30 am...we will feel hungry even before that....but not be able to eat...even if we try for the sake of the baby....we will vomit.*

#### FGD -2, P -1

*As soon as I get up, I feel like vomiting, I don't feel like eating anything....so I'll take a liquid diet...like “paruppu thanni”(Dal Boiled water), or “Vadi Kanji”(Rice water).....that too around 11:00 AM...not before that...if I drink before that I'll vomit. For lunch..... I'll homemade food. I'll include Non-veg twice a week.... In the evening...I'll drink date juice or any fruit.*

*Sometimes I'll feel hungry at 12:00 am or 1:00 am.... That time I'll take some..... bread, rusk or Banana*

#### FGD -1, P -1

*In the morning I'll eat idly... tiffin items, Before that I'll drink milk., for breakfast.... 'll eat idly accompanied with coconut chutney or sambar. For lunch, I'll eat vegetables, beetroot, Murungai keerai....since we are not supposed to eat Non-veg. Egg I can eat to some extent....but I'll avoid the yolk. After dinner, before going to bed, I'll drink a glass of milk.*

#### FGD -2, P -2

*As soon as I get up from sleep for breakfast.... I'll drink “sathumaavu kanji”...we will prepare the “sathumaavu” at home...by adding almonds, cashews, pista, urad dhal, thoor dhal, moong dhal, masoor dhal.. we will make a powder out of it, boil it in milk and drink. Morning at 11:00 am I'll take a fruit....most of the time I will not be able to eat...but for the sake of the baby.. I'll try (smile) For lunch I take “keerai”, “keerai thanni”.....mainly on days...when I can't eat rice. In the evening I'll eat “sundal”*

#### FGD-1, P-2

*At 11 am or 3 pm, I'll munch on some nuts like Almonds, cashews, dates, raisins or some fruit..... One fruit daily.*

Most of the participants mentioned that once the vomiting sensation stops, from the 2nd or 3rd trimesters they resume their usual eating pattern. More greens, vegetables, & nuts were included in the diet in general.

#### FGD-1, P-4

*I had vomiting till 7 months of gestational age, I could eat only the food item..... that I liked the most. With spicy food items..... I feel.. less nauseating. I'll vomit even with sweet or sour food items. After that 7 months, I was able to consume a regular diet.*

#### FGD -1, P -1

*Vegetables.....are the ones we eat the most...beetroot we'll eat the most.....carrot...sambar...items with more vegetables in general.*

#### FGD -1, P -3

*They (Family Members) bought me A lot of Fruit.... A lot of Nuts...and dates....asked me to consume more Keerai.*

FGD -1, P -1

*They say....If I eat more beetroot..... ill get more blood in my body. Eating vegetables makes both the mother and the child stronger. Carrot....they say it will improve my vision.*

FGD- 4, P-2

*I included more carrots & beetroot....more than usual in my diet*

**2.2 Diet to tackle nausea and vomiting during pregnancy.**

Each participant has a different way of dealing with nausea during pregnancy. One participant mentioned that she adds ginger to her milk before drinking, and some use boiled water with cumin seeds. One participant mentioned that she eats “Inji Marapa” (ginger candy) to prevent vomiting. Some use a variety of pickles like lemon, Citron, and Indian gooseberry for this purpose.

FGD -1, P-1

*I put ginger in milk and drink it.....since it has some spiciness....I won't feel like vomiting*

FGD -2, P-3

*For my previous baby.....I didn't eat much pickle. But, for this baby, I'm eating too much pickle...I'm feeling better only after eating some pickle....it helps with my vomiting*

FGD -2, P-4

*I used to vomit a lot before....now if I feel like vomiting.... I'll eat lemon pickle....I'll not vomit if I eat that.*

FGD -3, P-5

*I'll vomit whenever I take an Iron tablet....so, immediately after taking an Iron Tablet, I take lemon pickle....it helps control the nausea*

FGD -2, P-6

*I eat “Narthangai (Citron) pickle”, “Nellikai (Indian Gooseberry) pickle” & “Pulipu Mittai (Sour Candy)” for my vomiting.....Anything sour when goes inside.....stops vomiting*

*I boil jeera in water and pour it into a water bottle.....and drink it throughout the day.....I'll do this if I have severe vomiting.*

FGD -2, P-5

*Likewise, I ate only “Inji Marapa” (Ginger Candy).....I'll not vomit if I keep that in my Mouth. I ate only that....for my vomiting.*

FGD -1, P-1

*Between 11 to 12 pm....I'll feel slightly hungry. During that time...if I eat any other thing I'll vomit... so for that reason, I'll take an apple.*

FGD -1, P-1

*No....if I take rice I'll feel like vomiting... so I'll eat apple.... If I take fruits I'll not vomit, since I'm eating in a small quantity. After this around 1:30 pm, I'll take my lunch.*

**2.3 Reason for Avoiding non-veg in the First Trimester:**

Among all the Non-veg food items chicken and boiled eggs are the most commonly avoided ones. Boiled eggs are avoided because most of the antenatal mothers despise the smell of egg yolk and Chicken is avoided because it is considered as “heat” food.

FGD -2, P-1

*I took non-veg in the form of soup..... I'll drink the water which we use to cook the mutton. I didn't feel like vomiting when I drank it hot...when I take a liquid diet, usually I do not vomit.*

FGD -2, P-2

*I don't like eating the egg yolk....in a boiled egg. Likewise, I don't like the smell when mutton is getting cooked.....I used to eat egg yolks before pregnancy..... but now I couldn't.....with mutton....I didn't like eating mutton even before pregnancy, But now...I'll be nauseated even with its smell...I don't like eating prawns....I took only chicken & fish.*

FGD -2, P-4

*I took everything except for the boiled egg....I didn't like the smell of egg yolk. I'll eat it if it is in the form of an omelette...I hate it only when it is boiled.*

FGD -2, P-6

*I avoided eating chicken and boiled egg yolk in the first 3 months.....I felt like It was not getting properly digested....plus...I was always vomiting.*

FGD -2, P-5



*I avoided eating chicken in the first 3 months....since it is "Heat" to our body.....other than that I'll eat non-veg to some extent...except in the evenings.....because I'll vomit as soon as I get up from my afternoon nap.*

FGD -3, P-4

*I avoided only chicken because....it is "heat" to our body*

#### 2.4 Sweet cravings:

*Two mothers mentioned that they had cravings for sweet food items during pregnancy. They also said that they were eating more sweets than compared to pre-pregnancy.*

FGD -5, P -2

*I got diabetes.....after eating too much sugar only.....my husband bought me a large dairy milk chocolate....since I asked him to.....before pregnancy, I didn't eat that much sugar, including chocolate....but during that time I felt like eating more sweets...I ate that dairy milk for 1 week without sharing..... after that when I went for a blood sugar check-up in Periyakattupalayam phc...it was high...from then I stopped eating sweets.*

FGD -5, P -1

*Yeah! I too had sweet cravings....for both my first child & this.*

#### 2.5. Dietary pattern of Antenatal mother with comorbidities

One participant said that she was asked to avoid sweet and spicy food items after she was diagnosed with hypertension. But she couldn't stop eating pickle as it helped her with vomiting. She was also advised by her family members to avoid eating meat and include more fish in her diet. One antenatal mother said that she drinks fenugreek-soaked water to bring her blood sugar level down. A few antenatal mothers avoid cabbage, radish & cauliflower after being diagnosed with hypothyroid.

FGD -1, P -1

*I had hypertension in my previous pregnancy....I was asked to avoid sweet and spicy food items.*

*We'll add salt only to the kuzhambu not to the rice, they told us to reduce salt intake also..... but I loved eating Pickles...even in this pregnancy I eat pickles a lot ( Shy Giggle)*

*Only during pregnancy..... I'm feeling like eating something sour....pickle a lot..... if I eat some of it I won't feel like vomiting..... if I'm not including it in the diet.....I feel like vomiting. Only a little.....only for lunch I'll include pickle, in a day.*

*My Mother-in-law told me to avoid Non-vegetarian food items.....like meat, and include more Fishes...that too....paththiya meen....like sangaraa meen, Kaara meen, Ramparai. They do have salt content (Laughing).....but our ancestors have told us that, these ....paththiya meen are good for us, hence my mother-in-law is saying the same to me.*

FGD -1, P-6

*Especially for diabetes.....I drink Fenugreek seeds soaked water.....I'll Soak them in water overnight....in the morning I'll drink the soaked water alone and discard the seeds.*

FGD -4, P-5

*I was asked to avoid...Cabbage, Raddish & Cauliflower.....other than that I ate everything.....*

#### 3. Dietary advice an antenatal mother receives during pregnancy:

Most of the participants got advice mostly from their Mother-in-law, Mother, sister, Husband and sister-in-law regarding their dietary intake during the antenatal period.

FGD-1, P-2

*All my relatives and friends ask me to.....drink more water*

FGD -1, P-1

*My sister advised me.....to drink more water, and sleep as much as I want within 5 months...after that if I sleep.... I'll put on weight. Drink 1 bottle of water every 2 hrs.....those are the words, she'll repeat the most.*

FGD-1, P-6

*My sister-in-law advised me to drink....."Nellikai"(Indian Gooseberry) Juice..to stop Vomiting during Pregnancy.*

*My sister advised me to drink more " Kezhvaragu Paal", it is rich in iron.. she also advised me to include more "Carrot" in the diet.....avoid juices and eat more fruits....as chewing with saliva...helps deliver*

more nutrition to our body...., especially “Pomegranate”...it increases blood level.

FGD-2, P-4

I didn't take my supplements..... my Husband told... ”you make the food yourself and eat....eat more fruits and vegetables, rather than the supplements”

FGD-3, P-4

My grandmother told me to avoid....Black grapes, sesame seeds, Lemon rice, Guava & Banana....since these are cold to our body.

FGD-3, P-6

My mother told me to avoid drinking Milk....because I'd catch a cold if I drank it...She also asked me to avoid raw mango, she asked me not to simply sit in a place after eating and to take a walk.... These are some of the pieces of advice she usually gives.

FGD-4, P-5

In my house they asked me to avoid eating everything....do not eat too much...your baby will become big...it will become difficult for delivery...my mother-in-law asked me to eat less than usual... despite having less blood...and take injections for it.....she asked me to eat less.

**Table 4: Food items included and Excluded in Pregnancy with their reasons**

S No	Food Items	Reason	Number of Participants
<b>Include:</b>			
	Garlic	Increase Lactation	Nearly Half
	Tapioca	Increase Lactation	A Few
	Milk shark	Increase Lactation	A Few
	“Sukku Kashayam”	Identifying False Labour Pain	A Few
	“Murungai Keerai Kashayam”	Identifying False Labour Pain	A Few
	Castor oil	Normal Vaginal Delivery	1 Participant
	“Soda Pal”	Normal Vaginal Delivery	A few
	Fenugreek Soaked water	Normal Vaginal Delivery	1 Participant
	Lady's Finger	Normal Vaginal Delivery	1 Participant
	“Ulundhu Kanji”	Normal Vaginal Delivery	1 Participant
	Saffron	Fair Baby	More than Half
	Gulkand	Fair Baby	1 Participant
	Beetroot Juice	Fair Baby	A few
<b>Avoid:</b>			
	Milk	“Cold” food – Catches cold	1 Participant
	Ice cream	“Cold” food – Catches cold	A few
	Cold Beverages	“Cold” food – Catches cold	A few

Fermented rice	“Cold” food – Catches cold	1 Participant
Jamun Fruit	“Cold” food – Catches cold,	A Few
	Dark Baby	1 Participant
Black grapes	“Cold” food – Catches cold	A Few
Guava	“Cold” food – Catches cold	1 Participant
Banana	“Cold” food – Catches cold	1 Participant
Papaya	“Heat” Food - Miscarriage	Nearly Everyone
Pineapple	“Heat” Food - Miscarriage	Nearly Everyone
Sesame seeds	“Heat” Food - Miscarriage	Nearly Everyone
Jackfruit	“Heat” Food - Miscarriage	Nearly Everyone
Mango	“Heat” Food - Miscarriage	Nearly Everyone
Bitter Gourd	Prevents the benefits of Supplements taken during Pregnancy	1 Participant

## Discussion

This study showed a variety of food taboos and myths in pregnancy, especially the “Cold” and “Heat” foods.

The present study showed avoidance of fruits like papaya, Pineapple, sesame seeds, Jackfruit and Mango, since they are considered as “Heat” food items and they are believed to cause abortion. Similar to this study, a study conducted by Chakrabarti S et al among pregnant women in West Bengal shows, Fear of consuming “Heat” food items like papaya and pineapple since it is known to cause Miscarriages, Difficulty in labour and Abnormality in the baby [14].

Participants of this study avoided Milk, ice-cream, cold beverages, Fermented rice, Jamun Fruit, Black grapes, guava, Banana, since they consider them as “cold” food items and they are believed to make them susceptible to respiratory tract infection. Similar to this in a study conducted by Kouser Banu et al among Pregnant & lactating Mothers in Chennai, which showed avoidance of Grapes, bananas, mango, Curd and Buttermilk in fear of getting Cold [15]. Also In a study conducted by Swetha TM et al, conducted in Tumkur District, Karnataka among Pregnant and lactating women, their in-laws and Anganwadi workers, the study participants avoided curd, guava, custard apple and watermelon because they consider

them as “cold” and it make them susceptible to infections.[16]

Participants of the present study include more garlic, Tapioca, and Milk shark in their diet to increase breastmilk secretion. Similar to this in a study conducted by Ade AD et al the participants included milk, meat, bread, vegetables in their diet to help with post partum recovery and Lactation. Most of these food items were taken not based on scientific evidence, but due to the influence of their friends and family members for increasing breastmilk.[17]

Antenatal mothers consume castor oil, “soda Pal”, fenugreek soaked water, Lady’s finger and “Ulundhu Kanji” to help with Normal vaginal delivery.in a study done by Ansong J et al, the participants includes a soup called “Abedru” (made of seven palm fruit, smoked mudfish and three finger plantain) which is considered to help the antenatal women with easy and smooth delivery. Participants believe that as much as the food item taken during pregnancy is viscous, that much it helps with a smoother vaginal delivery. This serves as main reason for most of the pregnant mothers opting for an food item viscous in nature. [18]

Participants include saffron, Gulkand and beetroot juice in their diet, due to the belief that these food items make their baby to be born with fair skin complexion. Similar to our study, Milk with saffron,

pomegranates and red apples were taken to improve the complexion of the baby according to a study done by catherin N et al. [19] similarly in a study conducted by Tanvi goel et al, the participant consumes saffron with milk to improve fetus's complexion [20]. According to a study done by Goyal RP et al, most of the saffron sold in the Indian market are adulterated with cancer causing dyes such as metallic dyes and azo dyes, which helps in replacing the lost colour in saffron during processing or to make it more vibrant. Hence, Consuming these might result in the health hazard to the mother or the baby.[21]. Gulkand is a sweet (made of rose petals, honey and rock sugar), high in added sugar, regular intake of them, pose threat to increased blood sugar levels.

Diet of most of the participants in the first trimester is in Liquid form like "rice water or "dal Stock" because of the morning sickness. In a study conducted by Asim M et al, the participants agreed that their usual dietary pattern changed after pregnancy. On most of the occasions they were not able to eat because of nausea, as a result they preferred eating less nutrient dense food items like cookies and crackers instead of a traditional meal. [22]

Most of the participants includes more greens, Vegetables and nuts in their diet. Similar to a study done by shwetha TM et al, more vegetables, fruits and green leafy vegetables are included more in the pregnancy. [16]

Antenatal mothers include milk boiled with ginger, water boiled with cumin seeds, Ginger candy and variety of pickles including lemon, citron and Indian gooseberry to tackle nausea and vomiting during pregnancy. According to the study by Catherin N et al, the participants includes Rasam, Coriander, red chillies and other spices to control nausea in pregnancy [19]

Antenatal mothers of this study avoid non-vegetarian during the first trimester of their pregnancy, because of the strong smell which can trigger their nausea and vomiting sensation. In a study done by Asim M et al, the participants reported that they could not withstand the smell of Salan (Curry) or roti (bread). [22] similarly, in a study done Yalew A et al, the participants reported of food aversion especially with meat, fish, poultry and egg due to their inability to withstand the smell of them during 1<sup>st</sup> trimester. [23]

Most of the study participants received dietary advice during pregnancy from their Mother-in-law, mother, Husband and sister-in-law. According to Pike V et al, Diet of a pregnant mother is very much influenced by the family members, central role is played by mothers & Mother-in-laws. [24] Similarly according to Asim M et al, Mother-in-law serves as a leading person who influences a pregnant mother's diet, especially in Asian settings. [22]

## Conclusions

This study shows that there are strong food taboos and myths revolving around nutrition intake during pregnancy which is influenced by the relatives of the pregnant women, especially their in-laws, mother & sister. Most of the taboos were concerned with "Heat" and "Cold" food items which serve as a rich source of protein, vitamins & minerals required for an uneventful pregnancy and childbirth. Compromising these nutritional factors has a long-term impact on the health of the mother and baby resulting in undernutrition and adverse pregnancy outcomes. Hence Nutritional counselling is recommended during antenatal care and a clear explanation must be given to the antenatal women at the start of pregnancy so that these myths are reduced. Counselling should also be done to the mother regarding the inevitable morning sickness in the early period of pregnancy and the need to eat a small, frequent and Nutrient-dense diet.

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