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Social determinants of adolescent girls' dietary pattern in suburban areas in Chennai: A qualitative approach

Cover Page Footnote

I would like to thank the Selcom expert panel, CRY, New Delhi and Mumbai for the guidance and support for the study

Social determinants of adolescent girls' dietary pattern in suburban areas in Chennai: A qualitative approach

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Abstract

Background: The idea of adolescent well-being is getting importance all around the world and thus there is a lack of national investigations to survey the factors on the dietary pattern of young girls in suburban regions. **Aim:** The objective of the study is to explore the social determinants of adolescent girls' dietary pattern in suburban areas of Chennai. **Design:** The phenomenological design was used to explore the social determinants of adolescent girls' nutritional intake. The study population consisted of adolescent girls, who were in the age group of 15-18 years in suburban areas of Chennai. The tool had two sections: Areas of exploration and indicative questions. The total sample size was 19 with three focus group discussions (FGDs). Thematic analysis was used to explore the social determinants. **Results:** The four main categories were identified from the adolescent girls' point of view in terms of social determinants. It consisted of father and mother (as individual determinants), family (merged determinants of father and mother) and related society. The major themes were knowledge and interest in cooking, tiredness and lack of time of mother, alcoholism, ill health of a family member, the purchasing power of the family, friends circle, agriculture, seasonal variation, and urbanization. **Conclusion:** Closing the gaps, both in research and in action, would profit the society in general, resulting in enhanced wellbeing and health of adolescent girls and help in harnessing their full physical and mental potential for overall improvement of the population.

Key words: Adolescent girls, dietary pattern, phenomenology, qualitative approach, social determinants, suburban areas

Introduction

A girl stepped out of the house to go to the school with the fresh flowers and coloured ribbons on her hair and with a small bag hanging on her shoulder. Her smiling face and dress were drenched in the talcum powder. I asked her 'what is in the bag?' She replied that two notebooks and a lunchbox. I was very curious to know what might have the mother packed her for lunch? She replied 'I do not know, let me open and see.' She opened the lunch box and showed it to me. I was stunned to see a lunchbox with the spiced rice (mixing the rice with oil, chili powder, onion and salt) and two drops of the pickle. It is known that most of the groceries

and vegetables are available at a cheap rate under the 'Ammu weekly market scheme' by the government of Tamil Nadu. Nevertheless, their daily plate still consists of varieties of cooked rice, spices, and tamarind based side dishes, packaged snacks and completely devoid of vegetables, fruits and dairy products.

The researcher continued the journey to the outer parts of the city to explore the social determinants influencing the adolescent girls' defective nutritional intake as seen today. Adolescence is the period in which the body prepares for motherhood. It is very essential that adequate nutrition helps them to maintain their health to achieve potential for pregnancy and lactation period. The modernization of the city has reached the neighbouring villages of the Chennai, named as suburban areas. The adolescent girls are subjected to face more challenges due to the ever-increasing pressure of modernization as compared to the rural set up. Nutrition plays a major role in an adolescent girl's life

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and the quality of future generation lies in their hands. The evaluation of the dietary patterns of adolescent girls showed that there was an insufficient intake of greens, fruits, roots and tubers, fruits and milk among 500 study participants in a rural area in India (Tanvi et al., 2015). A cross-sectional study of 300 adolescent girls showed that majority of the girls were underweight and they had signs of micronutrient deficiencies like anaemia (Pavithran & Bant, 2018). An examination of non-dietary determinants of the dietary pattern of 3,930 adolescent girls in India indicated that the socio-economic factors such as joint family, non-concrete house, illiterate mother, unemployment of the parents, low-income family and unhygienic houses were having significant association with the prevalence of thinness among them ($p < .01$) (Radhika, Swetha, Kumar, Krishna, & Laxmaiah, 2018). However, it is seen that the interventions in the pregnant mothers showed poor reproductive and childbirth outcomes rather than the interventions in the adolescent girls. It shows an urgent need to study the nutritional status of adolescent girls to prevent worst and defective reproductive outcomes in the future. Thus, it is imperative to explore the social determinants of adolescent girls' dietary patterns in suburban areas.

Materials and methods

The researcher selected two suburban areas to conduct focus group discussions and the study population consisted of adolescent girls who were in the age group of 15-18 years. The researcher developed the inclusion criteria to ensure homogeneity of the participants: 1) Adolescent girls within the age group of 15-18 years (Rationale: Those were the majority of the accessible population, who appeared for class 10 and plus two results were available at home during the time of the study), 2) Adolescent girls who belonged to the same religion (Rationale: Considered majority), 3) Adolescent girls who lived with parents, 4) Adolescent girls who were from nuclear families and 5) Adolescent girls who were from the families earning below <Rs 10,000 per month. The researcher selected samples using the convenience sampling technique for the pilot study and the snowball sampling method for the main study. The researcher selected the design phenomenology to explore the social determinants of adolescent girls' dietary pattern in suburban areas.

Data collection instrument

It has two sections; areas of exploration and indicative questions. The areas of exploration included dietary practices and preferences, gender differences, family instructions and restrictions on the dietary pattern. These areas were explored with a leading indicative question and sub-questions with an aim to understand 'what usually is done by your family and you in your dietary pattern?' There were seven leading questions and 26 sub-questions to explore the social determinants of dietary pattern among adolescent girls.

Data collection procedure

Pilot study

The pilot study was conducted in a suburban area and samples were selected using the convenience sampling technique. The researcher had a discussion with two samples to check the feasibility of the indicative questions. No issues had arisen. The discussion was found to be feasible for the main study.

Main study

The main study was conducted in two suburban areas and samples were selected using the snowball sampling technique. The researcher planned two focus group discussions and divided the samples into two groups with six and seven participants in each group using the lottery method to avoid the error due to the factor of sample's friendship. The researcher acted as the moderator and arranged a scribe to take notes and a digital recorder to record their conversations. During the focus group discussion, the researcher assured all the participants about ethical principles such as anonymity and confidentiality. The researcher explained the purpose of the study and what to expect from the discussion and allowed the samples to introduce themselves and to be familiar with each other for 10 minutes with an aim to ensure the comfort with group members and increase the likelihood of honesty of the emerged data. Then, the researcher got the informed consent from all the participants. The researcher began the discussion with general questions and then proceeded to specific questions. The discussion lasted around 60 minutes. In the end, the researcher thanked all participants and gave them a chance to add anything they would have liked to. Following that, the researcher had taken field notes immediately after the

focus group discussion about the observations, ideas and thoughts on discussions, as it could help in the data analysis process. The researcher had followed the same procedure for the second focus group discussion and started to do the thematic analysis. After two days, the researcher was able to develop themes with the supporting data and wanted to do another focus group discussion to confirm those themes. For that, the researcher went to the field, collected ten samples which met the inclusion criteria and selected six samples out of ten using the lottery method to reduce bias of friendship and conducted the third focus group discussion and confirmed the reliability of the themes. The total sample size of the study was 19.

Ethical consideration

There were minimal risks to the study participants during the study. The purpose of the study and the voluntary nature of participation were explained to the participants and their families before data collection. A written consent was obtained from the participants and their parents prior to the data collection procedure. Privacy was provided. Confidentiality and anonymity of the information were maintained. The entire study including the conceptualization, tool design, data collection, analysis and final report preparation was approved by the Ethical committee of the Child Rights and You (CRY) team.

Data management and analysis

The steps followed in the analysis were:

The researcher read the transcripts many times and coded the data with hand and identified keywords. To validate the codes, the researcher took a gap of one week to clear the mind and with an aim to approach the data as a new one. The researcher re-read the data and checked the codes for consistency and validation. From the codebook, the researcher identified the themes and sub-themes and presented the results to the Selcom panel of CRY, New Delhi and Mumbai. The themes and sub-themes were accepted by the experts.

Results

The aim of this research was to explore the social determinants of the dietary pattern of adolescent girls. The four main categories were identified from the adolescent girls' point of view. It consisted of father,

mother (as individual determinants), family (merged determinants of father and mother) and related society.

Father and mother as individual determinants

1) Knowledge and interest in cooking

The majority of the girls expressed that mothers should have an interest in cooking and must know to cook the variety of tasty dishes like restaurant food. They expressed that "I do not like to eat from the home. . . No taste at all. . . I prefer to have outside food. . . It is so tasty and spicy."

"My mother does not like to cook. She expressed many times that it is a burden and the same routine for her. . . She is always in front of the television to watch mega series. . . If I ask something to eat, she will shout at me and asked me to cook."

"In my opinion, if a mother can cook the variety of dishes according to my taste . . . definitely, I will like home food always."

Majority of the participants supported uniquely to the above mentioned statements.

The paper shows that mother's knowledge and interest in cooking are essential components for influencing the healthy dietary pattern of adolescent girls.

2) Tiredness and lack of time

It was identified that the majority of their mothers were working for daily wages such as housekeeping, home maids, cook, babysitting, laundry services, etc. They expressed their concern that mothers were tired and not getting enough time to cook tasty dishes. The mothers prepared easy and quick dishes just to satisfy the family members' hunger.

"My mother works as a housemaid. She gets up at five o' clock in the morning, prepares *idli* and *chutney* in the morning and a variety of rice in the afternoon for us. She grinds enough batter for one week and prepares *idli/dosa* for breakfast and dinner. When I complain about something, she would say that it is good for health. I know that it is healthy, but I am having it daily. I hate it now."

The above mentioned statements showed that the tiredness of mothers and lack of time to cook due to full-time work are the major factors affecting the daily healthy dietary pattern of adolescent girls.

3) Daily intake of alcohol by father

All the study participants expressed their voice against the drinking habit of their fathers. They said that alcoholism creates many problems in their family like money issues, daily fights, etc.

“In my house, my father used to drink and have a fight with my mother daily. On some days, the fights would be severe. . . we would cry a lot. . . wouldn't have any food on those days (silence). . .or else. . . sometimes we will have food from neighbour's house.”

“Because of my father's drinking habit, my mother has to work to feed us.”

It showed that alcoholism has a detrimental effect on the dietary pattern of adolescent girls.

4) Education, occupation and income

All participants supported that education and a good job with an adequate salary are essential for having a daily healthy dietary pattern for adolescent girls.

“I guess that money is very essential to buy groceries, vegetables and fruits. To need adequate money, a job is needed. For getting a job, a good education is needed. All three are very essential in a girl's life.”

Another participant summarized that the income of the family determines its economic status, which also determines the health status of the adolescent girl and the majority of problems will be solved. The given statements showed that education, occupation and income act as determinants on the dietary pattern of an adolescent girl.

Family as merged determinants of father and mother

1) Economy status and purchasing power of the family

Majority of the participants stated that the price of groceries is increasing daily and affects their family.

“I happened to hear a discussion between my father and mother. My father told that the costs of all items are increasing daily, but his salary remained the same for two years.”

“We have ration card . . . they sell all cheap items . . . not at all good . . . sometimes it has a bad smell and

has insects too. . . They sell *palmolein* oil at Rs 25, but it is not good for health, as it increases body fat . . . my father is a heart patient . . . We cannot buy a litre of sunflower oil by paying Rs 110.”

“I like to have many varieties of fruits but it is costly. I like to have dinner from good restaurants . . . but it is not affordable for my parents. My mother prepares bitter gourd, beetroot, bottle gourd or banana stem based side dishes every day . . . I am getting bored of it now and don't like it.”

It is seen in the current study that economic status and a good purchasing power of the family are also the determinants of the dietary pattern among adolescent girls.

2) Ill health of a family member

Some of the participants told that the illness of a family member affects their dietary pattern.

“My father is a diabetic patient . . . so my mother adds a little sugar to the tea for everyone . . . because as diabetes is a hereditary disease, we are afraid that we will be affected in the future.”

“My father had a heart attack once. My mother prepares low-fat food for everyone in the family. We will have the same food with father. I do not complain about it.”

They expressed that the illness of their fathers influences their dietary pattern.

3) Merged likes/dislikes and attitudes/believes

It is said that they are living in the midst of merged likes and dislikes of father and mother. In some families, the mother cooks according to her wishes.

“My mother does not like greens. She does not cook greens at home, even though she knows that it is good for health.”

“My mother is a vegetarian; she will not allow non-veg food inside of the house as she does not like the smell.”

In contrast to these opinions, in some families mother cooks based on father's likes and dislikes, as he is the main breadwinner and head of the family.

“My mother used to cook according to my father's likes and dislikes. He cannot eat spicy . . . so my mother

prepares low spicy food items. I do have it . . . but I really like spicy foods and used to have it from street outlets.”

The majority of the girls felt that they have common attitudes and believes, learned from their parents at home.

A participant said that mothers should have a positive attitude towards cooking and should not consider it as a burden for her.

“My mother used to fight with my father telling him that her life will be ending in the kitchen. She is bored with the same routine in her life. On those days, she will not cook anything; we will have some biscuits and go to bed.”

While considering gender difference, they told that they are treated equally at home.

“My mother used to give milk every day; she encourages me to have greens, *urad dal*, horse gram and eggs weekly by telling me that I should have strong bones.”

In contrast, some of the participants expressed their concerns about gender difference at home.

“My mother used to cook an egg for my brother daily, which really bothers me.”

“When my brother is hungry, she will cook immediately for him. If I ask anything, she will shout at me and ask me to cook on my own.”

All the participants supported that girls and boys should be treated equally.

It is said that mothers have common believes related to food practices at home. They will not encourage girls to drink warm liquids and they do not reveal the reason to their daughters. During sickness, they believe into taking only lukewarm semi-liquid diet and no fruits and curd should be taken. On Saturdays they are not allowed to take non-veg items especially during lunar eclipse.

Related society

1) Friends, relatives and others

It is seen that the advice from others is likely to have an influence on the dietary pattern of adolescent girls.

They said that

“Friends will share about new outlets in the nearby areas. They also share about tasty foods. We will go there and have a look from outside.”

“Relatives, neighbours and teachers used to advise us about the importance of taking vegetables and fruits in the daily diet. We would not listen to it. Who likes bitter gourd or beetroot side dishes which do not have any taste at all?”

2) Media

They expressed that they learn many facts about the dos and don'ts of the dietary pattern through WhatsApp and Facebook in the form of images.

“We used to hear so much about food. Recently, I saw a documentary on adulteration of food. I read the forwarded message regarding the side effects of spicy items on WhatsApp. I do not know whether it is correct or wrong.”

It showed that social media had an influence on the dietary pattern of adolescent girls.

3) Agriculture

They strongly believe that pesticide-free agriculture enhances their immunity power and has an influence on enhancing their health.

“We learnt about kitchen garden. We were taught about it in schools, but there is no space at home. I wish that I had space at home, I would plant a pesticide-free vegetable garden at home.”

4) Seasonal variation

They expressed that the seasonal variation of fruits and vegetables also affected their health.

“In the summer season, we have plenty of fruits and vegetables, but in the rainy season nothing is available and it is also costly. During that time, my mother used to prepare *rasam*-rice (rice mixed with tamarind pulp and chilli).”

“I would say that the banana is a staple fruit, drumstick leaves and banana stems are the staple vegetables for us . . . they are really cheap here.”

It was understood that seasonal variations might have an influence on the dietary pattern of adolescent girls.

5) Urbanization

Majority of the participants expressed their concerns about the drawbacks of urbanization and the advantages of living in rural areas.

“I miss my native place. There are lots of fresh fruits and vegetables there. When I go there, I will have a lot of fruits like papayas, guavas, watermelons, etc., and when I come back here; my friend says that I have become very fair.”

“In my native, they cultivate groundnuts, rice, *ragi*, sweet potatoes, etc. We used to bring a lot to Chennai. For the first few weeks, my mother cooked a lot of it. After that, we had food like ‘variety-rice’, idli, dosa . . . as usual.”

It is shown that urbanization brings a change on the dietary pattern of adolescent girls in Chennai.

These are the themes derived during the study.

Discussion

This study showed that the socio-economic status of the family, parental advice and media influence the dietary intake of the adolescent girls. Similarly, a study conducted in Peru indicated that lack of financial resources to purchase food; parents' food selection and internet are the major factors influencing eating among adolescent girls. They expressed “My grandmother and my mother tell me what is good for my health; I should stop eating the junk food that I buy on the street and eat fruits, I should not drink a lot of soda and should drink water instead” (Banna, Buchthal, Delormier, Creed-Kanashiro, & Penny, 2016). Another study conducted to identify the factors influencing the eating behaviour of Ecuadorian adolescents revealed that financial level, knowledge of food safety, peer pressure and the availability of healthy food at home are the main determinants. A study participant said, “At school, we eat junk food because we can only buy such type of food and also because we like it” (Verstraeten et al., 2014). A qualitative study explored the factors of dietary pattern in South Africa, locally grown foods, fruits and vegetables are healthy and about the importance of breakfast. A study participant of South Africa shares “Healthy food makes you live better. With unhealthy food, you will live, but it is not the same with healthy food; it makes you gain weight and become sick.

I like to eat carrots, makes your eyes whiter and clean. Beetroot and spinach are very important for the human body” (Sedibe et al., 2014). In another study conducted in South Africa, shows the peer pressure as a major influence on the choice of food among adolescent girls (Voorend et al., 2013). A study done in India showed that contaminated foods, academic stress, affordability of quality foods and parental choice influenced their food preferences (Correa et al., 2017). A focus group study conducted in the United States showed that culture, availability of foods and knowledge about the foods are the major factors influencing their daily intake (Sylvetsky et al., 2013). It was also noted in another study conducted among Appalachian youth, which showed that incidence of food-related communicable and non-communicable diseases like stroke and heart attack have a major influence on their daily diet among them (Williams, Taylor, Wolf, Lawson, & Crespo, 2008). In contrast, a study conducted in North India showed that the adolescent girls prefer to have food based on the taste (Kotecha et al., 2013). All these results of the related studies supported the themes of the present study directly and it is very important to know what the social determinants are and what influence the dietary pattern of adolescent girls, to help them to become a healthier workforce of tomorrow.

Limitation of the study

There would be an element of bias, since there was a possibility for the subjects to give socially desirable responses due to self-reporting.

Conclusion

The literature review shows that there are plenty of studies conducted in other countries including South Africa to explore the different aspects of the defective dietary pattern of adolescent girls. The present situation of the adolescent girls in India demanded further inquiry into the determinants which influences their daily nutritional intake. From the researcher, nutrition education message to the public is to include a healthy diet plan at home, to support their girls become healthier and happier for today and tomorrow.

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