

Original Research Article

## A Qualitative Study on Understanding Experiences of Adult Participants on Obesity and Lifestyle Behavior Modification in Tamil Nadu State, India

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### ABSTRACT

**Objective:** obesity and people being overweight rates continue to be on the rise globally. A consequence of obesity is prevented by life style behavioral modification. To explore the experience and perception on knowledge of obesity and lifestyle modification behavior practice among adult participants in Theni District, Tamil Nadu state, South India,

**Materials and Methods:** Qualitative explorative study design used in the study. Total thirty two men and women participants were involved aged between eighteen to sixty years. Four focus group discussions (FGDs) of 6-8 participants of total 24 and in-depth interview 8 participants each were conducted balancing primary health center and hospital. Content analysis was conducted.

**Result:** The study revealed that the majority of the participants had knowledge on important causes of obesity. Participants reported that the risk of obesity with experiences of knee pain, hypertension, difficulty in walking and work, heart attack, diabetes mellitus. Respondents had the knowledge on control/ prevention of obesity by lifestyle behavioral modification and, related to the practice adaptation in food choice were initially accommodation by participants although social and faith based responsibilities were reported as important barriers to preserving with dietary goals due to work load, fast life and difficulty to continue the physical activity due to long working hours, physical demanding employment, darkness, afraid to go for walk alone, knee pain, unsafe environment and also social factors, this being compounded by theni district challenging physical exercise for women in Gymnasium.

**Conclusion:** Health promotion should target both government and private; Primary health center and hospital to individual awareness on physical activity and diet, stress control and should address the notion that obesity and unhealthy foods represent a good life. Health education should incorporated to the primary health care settings and hospitals through health professionals must address the underlying driver of co-morbidities and can have a major influence on client's health status. Health Policy to be establish gymnasium for their workers in government and private organizations in the state level.

**Key words:** Obesity, life style Behavior Modification, qualitative Research.

### INTRODUCTION

Obesity is creating an enormous socioeconomic and public health burden in poorer countries. World Health Organization has described obesity as one of

today's most neglected public health problems, affecting every region of the globe. <sup>(1)</sup>

Obesity is now considered as a "Killer lifestyle" disease. It is an important

cause of preventable death worldwide. According to the World Health Organization (WHO), 1.2 billion people worldwide are officially classified as overweight. Overweight and Obesity affect the majority of adults in most developed countries and are increasing rapidly in developing countries. <sup>(2)</sup> Obesity has reached epidemic proportions in India in the 21<sup>st</sup> century, with morbid obesity affecting 5% of the country population. <sup>(3)</sup> It was recorded that the prevalence of obesity (BMI) $>23\text{kg/m}^2$  in urban areas was 64.4% and 31.8% in rural areas respectively. Indians exhibit unique feature of obesity, excess body fat, abdominal adiposity, increased subcutaneous and intra abdominal fat, and deposition of fat in ectopic (liver, muscle etc), with improvement in the economic situation of the country, the prevalence of obesity is showing a marked upward trend in adults. <sup>(4)</sup>

The factors which escalate overweight and Obesity are increasing urbanization, nutrition, and reduced physical activity. <sup>(5)</sup> Obesity is one of the cause to premature mortality and a significant risk factor associated with development of diabetes, cardiovascular disease and other non-communicable disease. Over weight and obesity is associated with some types of cancer such as breast, endometrial, colorectal and kidney cancers. <sup>(6)</sup> Obesity is a stigmatized condition with multiple forms of prejudice and discrimination in settings of employment, health care, education, interpersonal relationships, and the media. <sup>(7)</sup>

Although, studying the experience of obese people plays vital role in designing public awareness strategies for prevention of obesity research in this area is scanty in India. Therefore, this study intended to explore the experience, perception and knowledge of obesity and lifestyle modification behavior practice among adult obese people.

## **MATERIALS AND METHODS**

### **Study area**

Tamil Nadu state is located in South India. The state of Tamil Nadu has 32 districts. Theni district is one of the agriculture districts in Tamil Nadu. The city of Theni is the district headquarters. The official language is Tamil. It has eight taluks such as Periyakulam, Uthamapalayam, Theni, Bodinayakanur, Andipatti, Chinnamanur, Myladumbarai, and Cumbum. It has 6 government hospitals and one medical college hospital, 30 primary Health centers, 30 private hospitals, and 90 clinics and nursing homes. Based on the convenience sampling technique, theni district was selected.

### **Study design and sampling procedures**

Qualitative data collection method such as focus group discussion and in-depth interview was conducted between January and February 2015.

### **Study population**

Study Population was selected purposively. All adult clients with an age of 18-60 years attending Hospital/ primary health center during the data collection period they were selected as sample population.

### **Data collection**

Focus group discussions (FGDs) were conducted to obtain broader views and experiences and perception of clients on knowledge and Control of obesity by life style behavior modification. Then with the mirror of big picture from FGDs; in-depth interviews (IDIs) were conducted among clients to explore individual's life experiences and perception about causes and consequences of obesity and preventive aspect of obesity through life style behavioral modification. This sample was determined on the basis of theoretical saturation (the point in data collection when new data no longer additional insight to the research questions).

The participants were all selected purposively for convenience of the investigator and potential participants were identified at the time of data collection wide range of source of information were included in FGDs, IDIs. The participants

were adult men and women clients. The potential participants were invited to a private room and introduced. Who provided a brief description of the study? Interested client received and completed participation information. The discussions were facilitated by the principal investigator together with (two moderators BSC Nurses) and assistants were involved to capture non verbal cues and other non-recordable issues. The participant's line was not affected during the discussion.

### Data collection tools

A Semi structured interview guide was designed for Focus group discussion and In-depth interview was developed in English and translated in to Tamil by experts' who are fluent in both languages and back translated to Tamil to check its consistency. Important concepts and points for development of the questionnaire were derived from literature review and adopted to the local context tools were prepared by considering the culture, values and language of the study subjects.

### Data processing and analysis

All discussion was tape-recorded and note taker was present in all discussion. It was transcribed verbatim in to the language of discussion, Tamil. The transcribed text was given to three of FGD, two IDI Participants to read and check weather all points were properly captured or

not. The checked texts were translated to English and back translated to Tamil to see its consistency. The initial step in the analysis was to read through all the transcripts several times while making notes in the transcript. The notes were reviewed by multiple readers and themes identified and coded, to ensure that all the key themes were captured. The investigators used empirical approach to modify the pre-determined themes. After verifying and reviewing the coded and labeled response, the authors identified the major themes.

The English version of the data entered in to an open code software version 3.4 for analysis and the codes were grouped into categories in order for themes to be identified. (8) Codes were grouped into categories. Then the themes and subthemes future identified. This was intended to indentify similarities as well as differences in experiences and opinions across various categories of participants. Further key questions were put in to memos during coding, letters they used to incorporate to illustrate the main ideas during the write up. Quotes and important points presented by the participants were presented along with the qualitative data to give emphasis of the concepts. Qualitative latent content analysis technique was used. The data were therefore condensed without losing quality (figure 1)

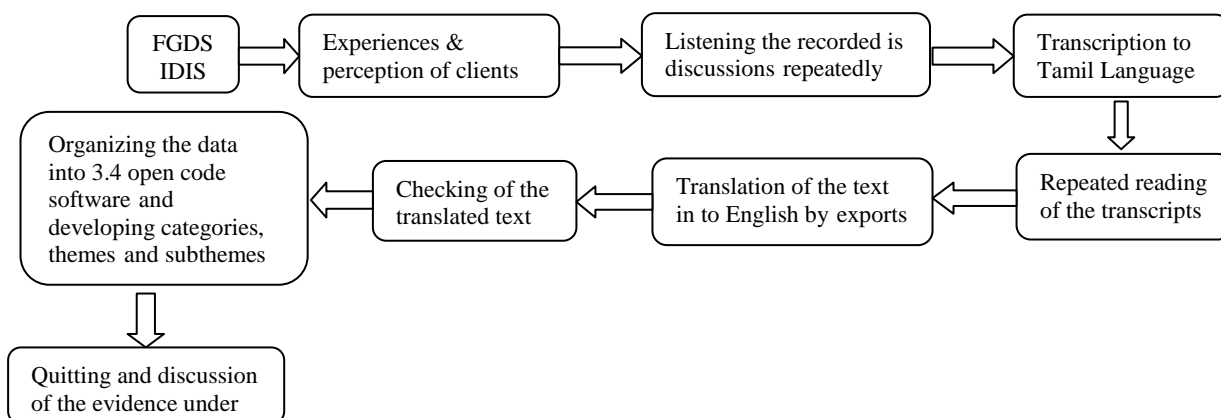


Figure 1: Schematic presentation of data processing of the study, Tamil Nadu State, India.

### Ethical Consideration

Ethical clearance was obtained from institutional review board of faculty of

pharmacy and paramedical sciences, Himalayan University. Consent was obtained from the primary health center and

hospital before data collection with a copy of approval letter. Verbal consent was obtained from individual clients. Interviews were conducted in a private, quiet, ventilated room to respect the study participant's anonymity and boost their confidence on the study. Each participants name was not mentioned code was mentioned and confidentiality was maintained.

## RESULTS

A Total of 32 participants were involved in this study ,Including 24 through Focus Group Discussion and, 8 In Depth Interview. The 24 FGD's participant included women and men age 20-55 years, on average 6 participants were involved in each FGD with minimum 6 maximum 8 participants with 4 FGDs. The number of FGDs women with age of 25-50 years and FGDs women sample size was 13 in

number. The interviewees conducted are summarized in (Table-2)

**Table 1: Socio demographic characteristic of participants Theni District, Tamil Nadu State, 2016**

Categories	Age	FGD's	IDI's	All
Man	29-55	11	3	14
Women	25-50	13	5	18
Total Response		24	8	32

The experience and perception of clients on knowledge of obesity and their control on life style modification behavior are presented in (Table-2) Two main themes were identified and are described by categories and codes. Themes-1 deals about knowledge of obesity, (Information and awareness), which are subcategorized in to causes like role of diet, physical activity, stress and eating habits. Theme-II discusses on control of obesity by life style modification behavior which includes diet management behavior, physical exercise, controlling stress, and medication.

**Table 2: Knowledge of obesity, consequences of obesity and practice on control of obesity by life style behavior modification by themes sub categories and code's in Theni district, Tamil Nadu State, 2016**

Themes	Sub-categories	Code
<b>Theme –I</b> Knowledge on obesity	Healthy diet,	Concept of healthy diet Consumption of healthy diet
	cause of obesity	Common causes of obesity like diet, physical activity and stress.
	Consequences' of obesity	Obesity leads to other health problems
<b>Theme –II</b> Control of obesity by life style behavior modification	Awareness on reduction of obesity	Source of information on control of obesity. Diet, physical activities/ exercise, stress control and medication
	Importance of life style modification behavior	Benefits of lifestyle modification behavior
	Practice of obesity reduction by life style modification in practice	Practice of Diet, physical activities/ exercise, stress control and medication

Theme-I Knowledge on obesity

### Healthy Diet

Majority of the participants from FGD reported that the eating habits causes obesity, However, despite displaying that they “know” what is healthy diet means there is confusion , and it would seem the concept of “Good” for them is interpreted to be items of food they like to eat.

*“Drinking Horliks, Boost, Bonvita daily is a healthy diet”* (38 years man)

Few participants reported that concept, content and importance of health diet. Participants had a concept of eating vegetables and fruits are healthy diets. Many participants reported that most of preference of healthy diet is rice, some of

them reported that boost, Horlicks, bonvita's are healthy food due to advertisement in the Television. Participants have a concern that now days there is not healthy diet because of using more amount of fertilizer in the agricultural field.

*“I could not identify the healthy choice but I am eating cultural food like rice and vegetables”* (50 years Man)

Many participants reported that they do not give attention to a healthy food in every day diet. About the consumption of diet the majority are taking more Calorie diet (Carbohydrate), Common diet usually taken regularly are Idli, dosa, rice, sambar, and rasam every day with some vegetables.

Majority of participants reflected economic problem as the main cause for not eating healthy diet. Because of these they don't take meat, fish, and egg and chicken very often, they used to consume weekly once or once in two weeks or more depends on the money.

*"I eat rice and some curry with or without vegetables everyday it makes my stomach full gives more energy for my work"* (40 years man)

*"I don't know which is healthy diet, but simply I am eating whatever available at home, one day Rasam, another day sambar I will eat" every fifteen days we will eat meat* (48 years Man)

### **Causes of Obesity**

Majority of the participants have a common understanding on causes of obesity. Many participants reported Over eating is the most important causes of obesity, and one women reported consumption of more oily food and fried foods or snacks cause obesity. Majority of the participants reported eating more rice in daily diet, less physical activity, hereditary, hormone problems causes Obesity and overweight. However, some participants reported that all shops are selling delicious and new type of snakes, so it make temptation to buy and eat, this is a way increased in weight. Many participants stated that eating chicken cause weight gain because of steroid has injected to the chicks and also watching television for long time. Majority of participant are aware of diet causes obesity. Majority of participants perceived that stress does not cause obesity, but it cause blood pressure and diabetics. One participant reported obesity due to thyroid disease.

*"If eat more you become a barrel"* (Nereaya thina kulluka yaganam) (48 years men)

*"Eating chicken causes obese, because injection is given to chicken for increase the weight, that chicken we eat our weight is increased..."* (40 years woman)

*"Stress will not cause obesity it cause blood pressure and sugar problem to*

*us"* (29 years man)

### **Consequences of Obesity**

Majority of the participants wanted to reduce weight because, they are aware of the consequences of obesity like difficulty in breathing, heart attack, knee pain, not able to work, Blood pressure and body pain. Majority of participants reported that obesity leads to heart attack due to deposits of fat in the heart. Some participant said that it gives bad figure (body shape) and looks like aged person due to obesity. Most of the participants reported feel shame in the function in from of the crowd. Many participants reported common problem like difficult to walk, climbing staircase and do the household activities.

Majority of participants don't know obesity leads to diabetes mellitus.

*"Because of my weight if I sit for some time I cannot stand, I used to have severe knee pain"* (40 years woman)

*"I have shame feeling to attend the function, because everyone they will see me and talk something..."* (25 years woman)

These 18 participants felt an acute sense of stigma and stereotyping from public health messages and felt that they had been unfairly labeled for their weight gain. Again, this suggested that the 'cause and effect' simplicity of some public health messages made individuals feel unfairly blamed for something that was beyond their personal control.

Theme-II Control of obesity by life style behavior modification

### **Awareness on preventive measures of obesity**

Awareness on reduction of obesity they got information through health education by health workers when they go to hospital for any problem, the doctor insisted to reduce the weight, and also the currents advertisement by mass media especially health talk in television Half of the participants reported 'walking' as preventive measures of obesity and some of them reported 'Exercise' preventive measure of obesity. In addition, dieting was reported as the next imported preventive

measure of obesity and also mentioned other preventive measures, 'avoiding less fried food, snacks and less oily food. Majority of participants reported more physical work as the preventive measure of obesity and overweight. Most of the participants had awareness of how to reduce weight, and very few reported physical exercise in gym or at home by use of machines everyday (gym) as preventive measures.

".....yes the weight can be control/reduced by eating less food..." (45 years woman)

".....As for as exercise if needed we are doing household activities, we never visited gym in my age.... (48 years man)

"... I don't know about gymnasium ....." (50 years woman)

### **Importance of life style modification behavior**

On discussion on importance of life style behavioral modification to reduce the obesity participants had awareness many participants agreed that diet change is important in our life to prevent obesity, heart attack, and other diseases. so, 'diet control' is important like eating less quantities' of food, reducing meat, avoiding oil in cooking it help our blood cholesterol level and reduce weight in our body. 'Walking every day' it reduces weight and our mind will become free. Majority of participants don't have any idea about stress control behavior.

"...watching television every day, I feel free and my mind also relaxed ..." (44 years woman)

### **Practice of obesity reduction by life style modification in practice**

All participants are well aware of the importance of physical exercise needed daily; however the participants misunderstood about physical exercise and physical activity. Some participants reported that there is no facility like gym for woman and majority of men's reported they don't have a habit of schedule the time for physical exercise. Major participants reported that physical activity is vital to reduce the weight gain, some participants

reported that they don't have time for walk or relax due to busy schedule activity always we are using motor cycle. Majority reported that they never visited gymnasium for physical exercise due to lack of knowledge and busy schedule. Many participants reported that stress must be relieved by watching Television, talking to our friends but some addressed they don't have clear information on how to relieve stress. Some of the participants had knowledge about how to control obesity, but they lack practice of prevention of obesity by life style behavioral modification.

"I used to go for Gym weekly once on Sunday ..." (44 years man)

"..I don't have idea about gym for females, I do my house work." (37 years woman).

"I used to go for walking every day with my friend, he walks faster than me, I try to walk with him, but, I cannot walk. I feel tired and week, so, I walk slowly my own." (55 years man)

"Even though, I do my house work whole day, my weight not at all reduced for me..." (43 years woman)

## **DISCUSSION**

A major theme shows assessment and practice of valuable insight in Knowledge on causes of obesity, experience of consequences of Obesity, and Control of obesity by life style behavior modification. Obesity and people being overweight rates continue to be on the rise globally. <sup>(9)</sup>

Participants interviewed in this study reported regards to healthy diet very few respondents were aware of healthy diet and practice it. About the consumption of diet majority they are taking more Calorie diet (carbohydrate), Common diet usually take regular food like Idli, dosa, rice, and sambar. Participants reported who eat out, particularly at fast food restaurants it is increased now, and also is clearly understood that participants don't yet fully understand the "healthy diet." Participants watching the advertisement in the media they felt that all items are healthy diet

compare to natural diet. This finding is consistent with study done in America <sup>(10)</sup> this may due to industrialization, fast life style, people habit and modernization of society. Furthermore finding indicated that they do not give attention to a healthy food in every day diet.

Some of the reasons attributed to the global increase of obesity and being overweight were consumption of foods high in calories, reduced physical activity, and urbanization. <sup>(11)</sup> This study finding reported about causes of obesity was eating more carbohydrate diet, less physical activity, hereditary, hormone problem, eating snakes, eating farm chicken, watching television and thyroid diseases, which consistent with other studies in "India is currently witnessing rising numbers of people in the middle-class who are obese. A lot of the Indian population has started relying on processed foods that contain a huge percentage of trans-fat, sugars, and other unhealthy and artificial ingredients and over eating, fried food, not doing any work, lack of physical exercise, no walking, for female sterilization operation and other medical illness. <sup>(12)</sup> Rural Indian study s reported similar findings like overeating, fried food eating's, unhealthy eating, eating junk food and inactivity of obesity <sup>(13,14)</sup> Participants reported, When asked about their food preferences, they preferred foods from restaurants. The foods of choice from restaurants at least once in a week consume food included chips (fries), grilled meats, chicken, with urbanization, developing countries, including rural areas, have experienced an increase in take-out and fast foods restaurants. Based on their responses, in this study participants preferred restaurant foods because it was convenient for them, easily accessible, and delicious to eat. This finding validated the study findings of Ziraba et al. <sup>(15)</sup>

Risk behavior that lead to obesity like unhealthy eating, sedentary lifestyle, excessive alcohol consumption, stress. <sup>(12)</sup> In this study finding reported respondent don't have idea about stress causes obesity and

some participants they were disagree with this statement.

Majority of the participants wanted to reduce the weight because, they are perceived and aware of the consequences of obesity like difficulty in breathing, knee pain, body pain, heart attack, unable to work and walk, elevated blood pressure, bad figure (body shape) and discrimination; heart attack due to deposits of fat in the heart and diabetes. Furthermore finding indicated the while, Obesity, or excessive body fat, is a problem of concern because of its relationship with chronic diseases <sup>(16)</sup> New Delhi qualitative study women reported consequences of obesity and overweight was breathlessness, problem in standing and sitting, problem while walking, bad figure, and cloths not fitting <sup>(17)</sup> Social consequences of obesity. Research has shown that obese individuals experience stigma and discrimination. <sup>(18)</sup> Similar findings reported in Malaysia consequences of obesity, heart disease, diabetes mellitus, osteoarthritis and gout, sleep apnea and metabolic syndrome were mentioned mostly by the participants. <sup>(19)</sup> Obesity is considered the core of many diseases. Increased weight carries significant health risks of heart diseases and strokes," <sup>(20)</sup> In this study similar finding was reported; they did not provide any new information but other study reported extra information on consequences of obesity like gallbladder disease, types of cancer such as breast, endometrial, colorectal and kidney cancers. <sup>(21,22)</sup> However, this variation because of lack of information provided and people have varied life experiences with developed and developing countries.

In this study participants knew about control/ preventive measures on obesity by lifestyle behavioral modification, they were mentioned about diet control, walking, and physical activity; they were awareness and agreed that diet change is important in their life and other diseases. so, 'diet control' is important like eating less quantities' of food, reducing meat, avoiding oil in cooking it help our blood cholesterol level and

reduce weight in our body. 'Walking every day' it helps in re weight loss and mind free; however the participants misunderstood about physical exercise and physical activity. Some participants reported constraints for physical activity that there is no facility like gymnasium for woman and majority of men's reported they don't have a habit of schedule the time for physical exercise and diet due to work load, fast life and difficulty to continue the physical activity due to long working hours, physical demanding employment, darkness, afraid to go for walk alone, knee pain, unsafe environment and also social factors. Similar finding was found in Kenya, the concept of physical activity or exercise did not seem to be understood by participants as a way of preventing obesity and being overweight. (23) Similar reported was found in Delhi reported like walking, doing exercise, diet, less eating sweet, fried foods and Gymnasium, unsafe environment, traffic and darkness were regarded constraints for exercise, (17) Priority of time and money was found to be a barrier to exercise. (24) This similarly and constraints was due to social, cultural and economical and psychological factors in all developing and developed nation.

## CONCLUSION

The study finding identified the gap of Knowledge on healthy diet, practice on life style behavioral modification to control obesity. Health promotion should target both government and private; Primary health center and hospital to individual awareness on physical activity and diet, stress control and should address the notion that obesity and unhealthy foods represent a good life. Health education should incorporated to the primary health care settings and hospitals through health professionals must address the underlying driver of co-morbidities and can have a major influence on client's health status. Health Policy to be establish gymnasium for their workers in government and private organizations in the state level.

## Authors' Contribution

Both authors contributed equally during design and conduct of the study .we both participated in data collection, statistical analysis and interpretation of findings. Rajalakshmi Murugan prepared the draft then revised by Maria Therese. Both authors read and approved the final content of the manuscript.

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