



## Adult Women Perception towards Obesity and Its Intervention Strategies in the Community: A Qualitative Study



Ni Komang Wiardani <sup>a</sup>, IGP Adiatmika <sup>b</sup>, Diah Pradnya Paramita <sup>c</sup>, Ketut Tirtayasa <sup>d</sup>

Article history: Received 14 March 2018, Accepted in revised form 20 July 2018, Approved 5 August 2018, Available online 11 August 2018

### Correspondence Author <sup>a</sup>



### Keywords

*Obesity;  
Society;  
Perception;  
Adult Women;  
Obesity  
Countermeasures;*

### Abstract

Obesity was one of the health problems experienced in the society, especially in adult women and the number was increasing rapidly every year. The various factors contribute to the obesity occurrence in adult women and appropriate obesity prevention strategies must be taken. With reference to being needed exploring the obesity perception, its causes, and impact as well as countermeasures strategies based on the needs of the society itself. The study was intended to explore the society perception regarding obesity, ideal weight, and strategies that the society wanted in overcoming obesity. The study was a qualitative study. It was conducted in March-July 2017. The research subjects (participants) were women 25-50 years old, the leader of the Family Welfare education organization, and health workers (nutritionist) in Denpasar city about 22 people. The data were collected included obesity and weight perception, social determinants, the impact of obesity and opinions on obesity prevention strategies. The data were collected through the Focus Group Discussion (FGD) process in adult women, in-depth interviews with the leader of the Family Welfare education organization, and society leaders. It was analyzed and presented descriptively. The results showed that most of the participants stated obesity was identical to overweight. Obesity was a health problem that has an impact on the onset of chronic diseases e.g., diabetes, therefore, less of confidence self. An ideal weight was proportional become a desire. The most participants perceived themselves as fat and far from ideal. They did not want to be fat, however, the various inhibiting factors, unlike dietary habit, were difficult to change, the availability of fast food that was very easily accessible, work, less of exercise, transportation occurred lack of movement. They generally want a comprehensive program through eating arrangements, exercise regularly, education at improving knowledge, and education at balancing menu processing skills. It was carried out together by involving social groups in the community.

<sup>a</sup> Department of Nutrition, Poltekkes Denpasar, Indonesia

<sup>b</sup> Faculty of Medicine, Udayana University, Indonesia

<sup>c</sup> Faculty of Medicine, Udayana University, Indonesia

<sup>d</sup> Faculty of Medicine, Udayana University, Indonesia

*e-ISSN: 2550-696X, p-ISSN: 2550-6978 ©Copyright 2018. The Author.  
SS Journals Published by Universidad Técnica de Manabí.  
This is an open-access article under the CC BY-SA 4.0 license  
(<https://creativecommons.org/licenses/by-sa/4.0/>)  
All rights reserved.*

## Contents

Abstract .....	46
1. Introduction .....	47
2. Research Method .....	48
3. Results and Analysis .....	48
4. Conclusion .....	56
Conflict of interest statement and funding sources.....	56
Statement of authorship .....	56
Acknowledgements .....	56
References .....	57
Biography of Authors .....	60

## 1. Introduction

Obesity that was characterized by increasing of fat proportions and excess body mass index was a global health problem that affects the emergence of various non-communicable diseases unlike diabetes and cardiovascular. It was estimated in 2016, the 39% of the world's adult population over 18 years old was overweight and the 19% was obese (1). Based on the data of the Basic Health Research 2013, the obesity prevalence in Indonesia was around 26,3% and 28,8% in Bali (2).

The adults, especially of the obesity incidence, were estimated more in natural by adult women than men. The survey was conducted by Fleming, et al, 2014. It was shown in several countries that in 2013 the obesity prevalence in adulthood with *Body Mass Index (BMI)* > 25 kg/m<sup>2</sup> was about 38.6 in women and 36.9% in men (3). It was supported several survey results in the United States in 2015-2016, the obesity prevalence in women 40-49 years old about 44.7% while in men was 40.8%, and the 20-39 years old in women was 36.5% and in men was 34.8% (4). Wiardani (2017) research stated in Denpasar city, Bali province in 2017, found that the obesity prevalence in adult women for 25-49 years old with BMI > 25 kg/m<sup>2</sup> was about 40.9% (5).

Obesity was contributed by various factors. Obesity occurred in the society was very closely related to lifestyle and dietary habit *e.g.*, sedentary lifestyle with less physical activity, eating behavior with western patterns with high energy, fat, and low fiber (6); (7); (8). Yu, et al. (2010) stated that in the adult population in China for 30-79 years old showed that the western diet increased the risk of overall obesity and central obesity (7). The populations in India, physical activity, high-fat diet, and protein increased a fat in the body (9). Wiardani (2016), stated that in adult tour guides as well as showed the subjects proportion who consumed macronutrients above the recommended adequacy was more than the recommended consumption (10). Energy intake, carbohydrates, supper was a major determinant of increasing obesity in adult women in Denpasar city (5).

Obesity countermeasures effort should be undertaken to prevent adverse impacts of either short-term or long-term effects. It was a problem related to social behavior, therefore, community-based obesity implementation should be focused on the social determinants of obesity, socio-demography, culture, and environment (11),(12). Obesity countermeasures programs have been conducted through health campaigns on diet and increased physical activity through healthy living societies (13),(14). The program has not provided maximum results. It was in the campaigns form for the society emphasized more on physical health risks and were considered less concerned with the social dimension (15). It has also not been consistently conducted as a result of reduced motivation and compliance with the program (16). As well lack of understanding is for obesity program. It was evidenced the fact in the society that obesity proportion was increasing. Therefore, it was necessary to explore the knowledge and perceptions about obesity and the

countermeasures efforts that were society sources and become a desire. The study was intended to explore the adult women perception and social groups regarding obesity and to know the countermeasures program desired in the society itself.

## 2. Research Method

The study was a qualitative research. It was applied phenomenology method. According to WHO in [Martha \(2014\)](#), qualitative research was a research approach that emphasized a holistic understanding of social problems in the society ([17](#)). This study was intended for exploring the perceptions of individuals and societies related to obesity and identify strategies for handling obesity desired and accepted for the community. The study was conducted in Denpasar City due to the place has the highest obesity prevalence among all Regency of Town in Bali. The research subjects called informants or participants were adult women 25-50 years old with supporting informants included the team of family welfare education, the Head of Village as society leader, the Head of Health Center, and nutritionis in Denpasar Primary Health Care. The subjects were conducted purposively with a certain consideration. Therefore, the maximum variation according to the topic and the informant has a deep perspective on the phenomenon being investigated ([Puwandari, 1998](#)).

The data collection included the informant's perceptions about obesity, weight perception, social determinants of obesity, and opinions about obesity intervention strategies for the society and government policies related to obesity countermeasures programs. It was conducted in the Focus Group Discussion (FGD) method openly. Therefore, for each FGD participant has the widest opportunity to convey matters related to the facilitator's problem ([17](#)). The FGD participants were grouped in the 8-10 female adults with two series frequency and each series was provided approximately 60 minutes. The data collection was also carried out to the PKK implementation team, the Head of Village or society leaders, the Head of the Public health Center and nutrition staff conducted in-depth interviews. The two methods used the structure interview guides or guidelines accompanied on interviewing records. The FGD facilitator was the researcher and as minutes was the research assistant. The interview process was conducted after the explanation of the research and after the informant signed the inform consent. The processing of the data was conducted manually by grouping data of FGD results and in-depth interviews, was conducted content of analysis, and data interpretation presented descriptively according to the research purposes.

## 3. Results and Analysis

### *Subject Characteristics*

The research subject or informant in the present study carried out 22 people consisting of adult women who were obese with BMI > 25 kg/m<sup>2</sup> 17 people, the Head of Village (1 person), the Chairman of PKK Team (2 person), the Head of Public Health Center (1 person) and Nutrition Health Center (1 person). The subjects who obese were 17 people from Kesiman Village of the demographic characteristics as shown in Table 1.

Table 1  
The characteristics of FGD participants

Characteristics	N	%
<i>Age/Years Old</i>		
25-35	5	29,4
36-45	8	47,1
>40	4	23,5
<i>Education</i>		
Junior High School	3	17,6
Senior High School	10	58,8
College/University	4	23,6
<i>Occupation</i>		

---

Unemployed/Housewife	2	11,8
Seller	3	17,6
Civil servant	4	23,5
Private/Self Employed	8	47,1

---

### *Perception regarding Nutritional Status and Obesity*

The nutritional status was a balance between consumption and nutrients absorption as well as the use that was expressed according to a certain variable (18). Enough consumption caused a person having good nutritional status (19). The informant stated that nutritional status was related to the food being eaten and weight. A good nutritional status was described on the healthy and ideal body weight, proportional body. It was depicted from body shape, body proportions, unlike being fat or thin. The other informants stated that over nutritional status or obesity was described as excess weight, stomach size, body fat, especially in the buttocks, abdomen, and hips. However, when it was explored more deeply about how to know the ideal body weight and nutritional status, their statement was unknown.

*"kalau kita melihat orang yang bodinya bagus, tidak gemuk dan tidak kurus, sudah pasti ideal dan status gizinyanya baik, lain dengan kami yang perutnya agak besar, ada lemak disana disini, rasanya pasti status gizinya jelek, "*

*"If we see people whose good bodies, not fat and not skinny, it is definitely ideal and good nutritional status, our stomach is rather big, there is fat, it must be bad nutritional status,"(women : 2.2)*

Obesity was a condition as a result of energy imbalances. There was excess energy input compared to expenditure, thus, it was a build up of energy in the form of fat in the adipose tissue (1). Asking about the obesity perception, they stated that obesity was excess weight, fat deposits occurred in the abdomen, hips, thighs, cheeks, and others. It was due to the appearance becomes less good. According to them, when observed a lot of fat in adult women, the fat was actually a condition less good for the body, especially, to severe obesity, was considered a terrible problem.

*'Menurut kami obesitas sama dengan gemuk. Kalau diamati, maka perutnya gendut, buncit, dagu rangkap, pinggul dan pantat besar, pipi tembem. Sangat tidak menyenangkan, walaupun banyak artis yang kelihatan bahagia gendut'*

*'According to us, obesity is a fat. If it is observed, the stomach is fat, bloated, double chin, hip, and big ass, big cheek. It is a very unpleasant, even though many artists look happy fat "(women, 6:2)*

All participants almost stated that they did not want to be obese or overweight. The fat is to make the body tired quickly, difficult to move and occurred various diseases e.g., joint pain, shortness of breath, and serious illnesses, unlike diabetes and heart disease.

*"sebenarnya saya tidak mau gemuk, kan bikin bodi kita jelek, mental mentul penampilan gak bagus, tidak percaya diri, apalagi kalau harus pake kebaya ke pura, ke banjar, semua terasa sesak, jadi sering bikin baju baru dan keluar uang lagi ... tapi kok susah ya biar tidak gemuk padahal gemuk itu kan tidak baik ya""I actually do not want to be fat, to make our body ugly, not good appearance, not confident, especially, if I have to use kebaya (Balinese T-shirt) to the temple, to Banjar, all feel crowded, so often make new clothes and spent more money ... it's hard to become thin and I know the fat is not good" (women, 6 :2)*

### *Perception of Ideal Body Weight*

If it was related to obesity and ideal body weight, they thought that obesity was far from ideal. The ideal participant's ideal body weight perception represents moderate body size, balanced between weight and height, not too high or short, not fat or thin, the body looked slender, slim, not fat accumulated. The ideal body weight actually becomes the ideal for everyone, including informants, but according to them, it was difficult to find the ideal body weight. According to them, the ideal body weight was only achieved by the young mothers.

*"Berat badan ideal itu ukuran tubuh yang pas. Tapi di usia kita sekarang... apa mungkin ya berat ada ideal. kita usianya sudah kepala empat, pasti dah berat badan jadi lebih, gendut, perut semakin besar, sulit cari tumbuh ramping dan ideal. jauh sekali kalau dibandingkan waktu kita masih muda, rasanya gampang bergerak, makan bebas. Tapi sekarang.. mihhh... Jeg susah.. kenapa ya, badan saya rasanya berat. padahal sudah berusaha untuk mengurangi makan.. makan sedikit*

*"The ideal weight is the fix right body. But we are current age ... is it possible mastering an ideal weight? We are already forty years old, surely, the weight is more, fat, belly getting bigger, hard looking slim and ideal grow. It is far away when compared to when we were young, it felt easy to move, eat freely. But now .. upz .... very difficult ... why? My body feels heavy even though they have tried to diet ... eat a little bit"" (women, 16:2)*

Regarding the ideal body weight and perceived obesity, most informants perceive themselves as fat and feel that weight was no longer ideal, now they always feel more weight, with fat deposits in some parts of the body. The informants stated that in fact, they did not want to even fear the fat. They generally feel unable to control their weight which was felt to increase every month even though they have been on a diet.

### *Perception about the impact of overweight and obesity*

The overweight and obesity have an adverse effect on a person both physically and psychologically. According to participants about the obesity impact. They stated that there were a lot of impacts due to obesity. They claimed that overweight and obesity cause of the body to feel sluggish, quickly tired, sore, sleepiness and not concentrating. Some other informants stated obesity caused pain and aching legs, difficulty moving, unable to squat. They often feel sad in the morning, especially on the feet and hands, the further impact of obesity causes serious diseases such as diabetes, cholesterol, gout, and heart disease.

*"kalau saya bu ya .. cepet sekali capek kalau gerak lebih dikit aja. Susaaah rasanya gerak .kadang kadang pagi terasa kesemutan pada jari jari, ngilu di bokong . untuk saja gula saya masih normal, tapi ngga tahu kolesterolnya belum pernah periksa. Mudah -mudahan saja baik baik saja. Kami ngeri juga kalau melihat di tv ada artis yang gemuk yang meninggal mendadak"*

*"If I'm faster to feel tired when I move more. Uncomfortable to move, sometimes in the morning feels tingling on the fingers, aching in the buttocks, for my sugar level is still normal, but do not know cholesterol has never checked. I hope all is fine. We are also horrified if we see on TV there are fat artists who die suddenly" (women, 51:2)*

The overweight and obesity also have a psychological impact. The participants stated that obesity can lead to decreasing confidence, embarrassment with body fat and less attractive appearance. It can not be modified for the appearance (stylish) due to the body proportion does not support. But some informants stated that we should be passionate, be casual and do not need to feel inferior, the main important must be tried to overcome them.

---

*Social determinants of obesity*

The factors contributed to the obesity occurrence that interacts with one another such as individual factors, genetic, behavioral, and environmental factors (20). Based on the interview, the informants stated that obesity was due to the foods that were too sweet, savory, fatty, or fried foods such as fried chicken, crackers, coconut milk, snack, syrup, and others within an excess portion. The sweet snacks like cake, chocolate or fried were foods that can be eaten while doing relaxing activities *e.g.*, watching television, chatting, and reading. The snacks consumption was usually not realized while watching TV while working and only realizes when it's gone, the food excess portion can also occur when the family members did not spend their food provided. The mother as a food provider feels affection if the food was thrown, therefore, spent without thinking about whether the food consumed was excessive.

*"sebenarnya tidak ingin makan banyak, tetapi kalau di rumah.. sering sekali makanan tidak dimakan anak atau suami.. kalau malam mau bersih bersih .. eh kok sisa makanan banyak di meja makan..sayang kalau dibuang dan bisa ..ya saya makan. Sudah capek sediakan, belikan eh ngga dimakan..." . Katanya tidak boleh buang buang makanan,nanti rejekinya hilang "*

"I actually do not want to eat a lot, but if I am at home .. the food is often not eaten by children or husbands .. if the night wants to clean.. wow..... there are many foods left in the table.... it's a pity to throw away, it is better to eat them.... I already tired provide, buy, upz..... they did not eat ... ". They stated that we should not waste food, we can lose our gift", (women, 26:2)

According to them, the mealtimes and meals frequent also affect the overweight and obesity, unlike supper. There is in the night, there is no activity so that the intake of calories to accumulate in the body. Similarly, eating irregularly, therefore, when hungry, the food portion is to be excessive.

*"Bener makan malam hari bikin gemuk .. Kadang malam perut lapar dan ingin makan, berusaha nahan tapi gak bisa . Setelah makan mata ngantuk terus tidur. Gimana tidak gemuk kalau begitu terus..... " kadang kadang kalau sudah sibuk kerja , kita lupa makan.. terus baru terasa lapar kalau pekerjaan selesai ...pernah lapar banget .. makannya jadi nambah dan banyak .....habis itu ngantuk ..."*

"Exactly, supper can be fat.... We sometimes feel hungry in the evening and want to eat, trying to hold on but failed. After eating the eyes are sleepy and sleeping well. That is how we are fat ..... "sometimes, when we are busy working, we forget to eat .. we are to feel hungry when the job is completed ... ever hungry .. eating become more and more..... then sleepy..." (women, 28:2)

According to participants, the other than food, obesity was related to the less physical activity, especially lack of movement and exercise, such as sitting a lot, staying quiet, and the excess of the food intake. The most participants claimed that more activities were done sitting if doing a good job at home or at the office. They generally feel lazy to move due to quickly feel tired. The rarely do heavy work like lifting weights. If you want to go like marketing, shopping, there was transportation such as motorcycles or escorted. The sports that were carried out only 1-2 times in a month included gymnastics, jogging, walking, and even some who never exercise. They generally are lazy to exercise due to being busy working, there is no motivation to do at home, except in the Banjar. It was conducted together usually 1-2 times.

*"sebenarnya saya senang olahraga, tapi kadungan sudah sibuk dengan pekerjaan rumah, ngayah di banjar jika ada upacara, ndak sempat lagi mikirin olah raga. Apalagi kalau di rumah sendiri.. rasanya sulit dan malas. Ya gini jadinya, bikin perut cepat besar, gendut. kalau ada lagi senam di banjar, ingin lagi ikut"*

"I am actually happy with the sport, but I crowded and busy completing my homework, Ngayah (helping in Balinese tradition) in the Banjar, if there is a ceremony, no time to think about

sports. Especially, if I am home .. it was difficult and lazy. Yes, this will be, make a belly big fat, and fat. if there are more gymnastics in the Banjar, I want to join again" (women, 52:2)

The participants stated that psychological factors such as anxiety also contributed to overweight and obesity. The more age is the more you feel the burden of your mind is harder on your family, especially your child, and also the burden of work both at home and in the office. When you feel anxious, you usually run away to food intake for reducing your food, instead, it becomes a lot of food to eliminate problems. This condition triggers excess calorie deposits. Due to it is not balanced with enough physical activity. The environmental factors provided a very significant influence on the obesity occurrence, both the physical environment and social environment. The restaurants especially provided local and modern fast food with high fat and low carbohydrates.

*"Saat ini kota penuh dengan restoran fas food modern maupun lokal, bahkan sampai di desa. Akses pun tidak perlu lagi harus membeli langsung, saat ini sudah banyak layanan antar makanan yang siap melayani kapanpun . Ibu ibu muda yang sibuk dengan sosial ekonomi cukup pasti sangat memanfaatkan kondisi ini"*

*"The city currently has many modern fast food restaurants, even in the village. The access as well as does not need to have to buy directly, there now are many food services that are ready to serve any time. The young mothers who are busy with enough socioeconomic are quite to take advantage of this condition"(women, 54:2)*

The most adult female participants agree with the presence of fast food stalls both modern and local. It was a society choice. It was already a culture of many fast food restaurants, especially in Denpasar. It was the center of the city. According to them, it was important that our own attitude choose to buy or not, as long as the food was sold healthy. They stated that the most fast food restaurants sell high-fat foods, the frequency of visits and purchases must be reduced, therefore, not to cause a fat. The fast-food consumption was conducted, if the food at home was up, wants a variety of food, bored with food at home or just refreshing.

The distortion that was experienced by working mothers was taking time to cook. Although, the most self-prepared meals for themselves and families. Some informants stated that they often use food stalls available around the house to meet the needs of themselves and their families, especially, if they do not have time to prepare themselves. According to them, there must be extra food such as flavoring, preservatives, and sweeteners, but they can not avoid.

*"Saya jarang masak ,, keseringan beli .. kalau masak kadang sisa banyak .gak dimakan. Akhirnya saya sendiri yang makan. Sekarang kan banyak ada yang jualan makanan sudah jadi .. lebih enak beli. biaya lebih sedikit, lebih praktis , ndak perlu repot nyiapin. Kalau siapkan sendiri kan waktunya banyak, kalau kita terburu buru bisa tidak selesai, jadi enakan beli. tapi kita harus hati hati .. takut banyak pengawetnya, penyedapnya, pemanis, gak tau kandungannya apa saja, cara mengolahnya bagaimana, kalau ada waktu sih lebih baik bikin sendiri "*

*"I rarely cook, I like to buy ... if I'm cooked, sometimes it's left a lot. It's not eaten. I finally eat alone. There are now many places whose sell fast food... it's better to buy, less cost, more practical, no need to bother preparing. If you prepare alone, there will be a lot of time, if we are in a hurry, we cannot finish, therefore, we will not buy but we must be careful ... being afraid too many preservatives, flavorings, sweeteners. I don't know what the ingredients are, how to process it"(women, 42:2)*

The participants who prepare their own food, argues that self-prepared foods were much healthier in terms of the ingredients used and how they were processed. Their weakness was that they prepared according to taste, portions, and doses, as needed, were not understood well. This was likely to cause food to remain. For them who consider it necessary to know well. Thus, it could reduce the habit.

Regarding the aspect of sports facilities generally, the informants agreed with the existence of a fitness center. It will help the surrounding society to exercise. Some informants claimed mastering joined gymnastics, then stopped, lazy due to the movement of gymnastics mostly medium and high intensity. They can not follow. The overweight decreased slightly only. The gymnastics should have some diverse according to the age of the participant's gymnastics. According to them, the sport can be conducted in community under the coordination of the family welfare education team. Therefore, it can be together. The further motivation was for all members family welfare education team for gymnastics. The emphasis was on the regularity of the age-appropriate activities, and togetherness.

*"Setuju setuju saja ada pusat kebugaran .. apalagi kalau kita ada waktu ..pingin ikut tapi jangan yang terlalu hot gerakannya . kan sudah usia . .. cari instruktur yg energik tapi gerakan jangan hot.... nafas tidak kuat kalau gerakan erobik keras ..ngos ngosan . Rugi kalo gak bisa ngikuti .. kan bayar .. Lebih baik diadakan di banjar .kalau ikut di banjar kan bisa gratis, Cuma bayar iuran sama sama " Bisa dilakukan di banjar tiap minggu, waktu dan jenis senamnya kita yang tentukan bersama"*

*"I agree there is a fitness center.... especially if we have time.... eager to come but not too hot movement. It's age.... look for an energetic instructor but the movement isn't hot ... the breath is not strong if the aerobics movement is hard... pours hard. Lose if I am not able to follow.... must pay.... be better held in the hall people gather (Banjar). If we do in the Banjar, can be free, just pay the together dues "can be conducted in Banjar every week, time, and type of gymnastics, we set together"(women, 54:2)*

#### *Opinions of obesity Intervention Strategies*

Obesity was a multifactorial issue. It must be addressed together to avoid the further danger of non-communicable diseases. Various weight loss programs were also so heavily promoted through the media in the form of ads accompanied the promise of success and attractive prizes. When asked about their opinion of various ads that offer overweight decrease, some participants stated that they did not agree due to they felt the program offered was often unreasonable. There was those who offer overweight decrease up to 10 kg in a week without surgery, diet, and exercise.

*"Tidak setuju kalau penurunan banyak dan pake obat .. bahaya.... Program yang ditawarkan pasti penurunan BB yang banyak dalam waktu cepat.. ihh ngeri ... belum lagi obatnya mahal, yang normal normal aja asal selamat. programnya banyak yang instan ...mencelakakan kita .. coba lihat di berita ada yang ikut program sedot lemak trus meninggal . . kan lebih baik lakukan diet sendiri dan olah raga"*

*"I do not agree if the overweight decreased with the use of drugs.... danger.... The program offered must overweight decrease a lot in quick time.... upz.... horror ... not to mention the expensive drugs, being normal for saving. The program is a lot of the instant ... to harm us.... look at the news those who followed the liposuction program then died..... it's better to do your own diet and exercise"(women, 57:2)*

Related to the health program, the information that was obtained from the participant, the Head of Health Center and Nutritionist, until now there is no program of obesity prevention or intervention program structured in the work program of Primary Health Care . The program was still limited to health services for diseases due to obesity *e.g.*, diabetes mellitus, heart disease, and others. The education usually provided by nutrition officers. The programs are still limited to social movements in accordance with Presidential Instructions and Health Ministers such as increased consumption of savage and vegetables, increased physical activity through sports, early detection of disease or incidental weight screening. In the future, with increasing issues for obesity countermeasure programs need to be included in Primary Health Care programs, but require full support from the society. The obesity problem concerned behavioral issues. It can be changed by



eating behavior, lifestyle. Thus, it was needed a commitment together with the active participation of all society components to jointly tackle the issues. The obesity countermeasure must be based on the needs of people who are obese.

a) Dietary habit

In the effort of obesity countermeasure, the most informants stated that the main obesity response was through diet collaborated with the exercise, *i.e.*, reducing the food that was consumed daily in terms of quantity and type *e.g.*, reducing sweet foods, fried foods, snack foods, reducing supper, and increasing fruits consumption, and vegetables were good for health.

b) Increasing physical activity

The dietary habit was not important, but it will be better if doing a physical activity well through physical exercises such as gymnastics, jogging, and healthy walking. It was performed in adulthood should be age appropriate. It should be selected lightly, not to cause fatigue unlike the light aerobic exercise, healthy walking, jogging, and more. The informants stated that exercise can be conducted at least once a month. It can be coordinated by Family Welfare Education organization in the village or others.

c) Education and skills training

The one weakness informants felt was lack of knowledge about diet and proper dietary habit. They did not understand how to know the nutritional needs and the number of meals prepared for themselves and their families. They wanted an activity in the form of education in order to increase their knowledge then proceed with regular training in preparing menus, processing well. Therefore, they have the skills in preparing the right diet.

*"kami sering dengar tentang diet, tapi aaa.. kami tidak tahu diet yang bagaimana. gimana cara berdiet , paling kurangi makan nasi, gorengan , tapi itu juga sulit , habis banyak dagang camilan enak enak " mohon ibu kalau bisa diajarkan kami cara menyiapkan atau dibuatkan daftar menu, jumlahnya, jenisnya, bila perlu bisa ditempel di rumah . Bisa kami lihat setiap hari jika masak sehingga tidak bosan"*

*"We often hear about diet, but hahaha... We do not know what the diet is. How to diet is, eat less of the rice, fried foods, but it is also difficult, a lot of good snacks are sold out, please ask mothers, if we can be taught how to prepare or make a list of menus, number, types, if it is necessarily able to be posted at house. We can see it every day if it's cooked, thus, it's not boring" (women 92.2)*

d) Empowering of social groups

The women's organizations were a forum for women's social activities in the society unlike Village (*kelurahan*) strongly supported the implementation of family welfare programs (21), (33). The all almost married residents were a member of the Family Welfare Education organization. The activity within the society will be more successful if it involved the participation of members of Family Welfare Education.

*"kami sangat setuju adanya program penanggulangan asal tidak berbahaya, tidak pake pil, obat dan lainnya. pil merusak ginjal , tidak ada suplemennya. waktu diatur terutama bagi yang kerja . yang bagus minggu pas kita arisan di banjar atau ada kegiatan PKK banjar .bila perlu program ini bisa jadi program pkk banjar sehingga bisa melibatkan seluruh ibu ibu"*

*"We strongly agree on the existence of the countermeasure program of harmless at least, not use pills, drugs, and etc. The pills damage the kidneys, no supplements. The time is regulated especially for those who work. The good week when we gather in the Banjar. There are social organization of women activities in the vilage. If this program is needed, it can be the program of Family Welfare education organization so that it can involve all mothers. "*

---

*Analysis*

The overweight and obesity was a condition of increasing the proportion of the excess body fat stored in the adipose tissue, especially, in the abdominal area, hips, and thighs (1), (22). The results of the study on the perception of body weight and obesity in adult women showed that generally, they perceive obesity subjectively *i.e.*, obesity related to the appearance and posture, with a rather large body shape, fat accumulation and so forth without knowing *body mass index (BMI)* stomach. The obesity assessment cannot be viewed only subjectively from posture, however, the objective obesity should be assessed anthropometry using indicators such as BMI abdominal circumference, physically doing percent body fat. The person stated that was to be obese, if  $BMI > 24 \text{ kg/m}^2$  and abdominal circumference at women  $> 25 \text{ kg/m}^2$  (23), (24).

The informants generally have the same view for obesity. It was a health problem experienced by the women, however, obesity was considered to interfere with the appearance can cause a sense of confidence. The interesting statement most of the informants have a low perception of body weight. They perceived their self to be fat and overweight. They did not want to be overweight, but, they felt unaware of being overweight and helpless to countermeasure it due to various factors that were considered as inhibitors. The previous studies conducted as well as stated that the women have a negative perception of obesity and consider obesity to be a health problem that interferes with their lives (25), (26). The research conducted by (27), stated that the 40% of participants were overweight and 12% of obese participants feel mastering normal weight even less, although they thought obesity still affects for the health.

The obesity problem was a health issue that was multifactorial as a reflection of the genetical interaction, biological, behavioral, and environmental factors (28). According to Green (1985) in Sudargo, et al (2014) a complex health problem triggered by three factors: predisposing factors derived from the individual itself, enabling, and reinforcing was sourced from the environment physical and social environment. Story (2008), stated that based on the ecological model of obesity and eating behavior. It was claimed that obesity was a social health problem that was determined by four main factors *i.e.*, individual factor, physical environment, social environment, and health policy system by the government (29). Based on the research conducted, they enough understood the factors contributed positively to overweight and obesity. The factors were felt to prevent them from behaving in a healthy life. It was considered a role for eating behavior. It was reflected in daily eating habits. Unhealthy eating behavior was the impact of lack of knowledge about nutrition and health as well as less understanding of government obesity countermeasure programs, social environment, and physical environment led to less healthy eating behaviors *e.g.*, ease of access to food with the availability of local and modern fast food stalls. The most of them thought due to less physical activity, transportation facilities, occupations, and work types. The qualitative research on residents in South Africa also found that obesity experienced by the population was related to diet, lifestyle, culture, and individual conditions (26), (34).

The informant as well as realized that obesity caused various issues of the physical and social problems. The physical obesity experienced often causes fatigue that was faster than normal conditions, heavy when walking, pain and tingling, and there was concerned, if their later experience various dangerous diseases, included diabetes mellitus, hypertension, heart attack, and cancer. The previous qualitative research on the population of South Africa showed that obese subjects who experienced chronic disease strongly believe obesity was related to cardiovascular disease (26). The research on Asian Americans (27) also stated that the most participant believed that obesity affects their health such as causing heart disease, stroke, diabetes, and hypertension. Regarding the social impact, the experienter felt confidence. The condition will be experienced if they were in a social meeting or banqueting. The research was conducted in Nigeria showed that obesity decreased the quality of life leads to negative body perception, and poor behavior (30).

The countermeasure towards the overweight and obesity was an important thing to do. Considering the negative impact occurred medically and socially. Based on the interviewed that was conducted, obesity countermeasure strategies that were expected to regulate food or dieting, increasing activity through sports and involve social components unlike the society leaders and social groups who can be the team to work. The involvement and empowerment of social groups and social leaders were expected to provide motivation for obese groups to implement the program. The obesity countermeasure strategy expected by informants has led to a fairly integrated strategy such as behavioral improvement, namely lifestyle improvement through improvement and control of improved eating behavior, dietary compliance, and increased activity (31),(1).

Involving various components of the society and carried out in the groups. The behavior was closely related to environmental factors that were the main factor that affects eating behavior, time, and frequency of eating for the most individual who overweight. The good behavior must be preceded by the educational process and approach that was helping individuals to identify problems experienced, increase motivation, and skills improvement (20),(28).

Lemstra (2015) research in Canada stated that the effective strategy to reduce obesity was through a comprehensive strategy that included social support intensive education and counseling fosters adherence to the program (16). For the social support, the informants as well as wanted the program to be conducted in groups, thus, to generate motivation, togetherness achieving the success of the program. The literature study also found that obesity intervention carried out by group approach and social empowerment gave a better change in weight loss compared to individual approaches (32). Through the group processed, there would be mutual interaction, togetherness, and collaboration in a synergistic way to overcome problems.

#### 4. Conclusion

The results show that identical obesity with excess body weight with the fat accumulation included stomach, hip, thighs, and buttocks. The participants were aware that obesity was closely related to the onset of health deficits such as the onset of illness and lack of confidence in appearance. An ideal weight is a dream for everyone, however, they were difficult to achieve by adulthood due to various factors. According to the participants, there were various factors contributed to obesity *e.g.*, lifestyle with bad dietary habit, supper in the middle night, availability of fast food, less activity due to the availability of transportation. Obesity intervention strategies in the community must be conducted comprehensively and integrated at involving various components of society, therefore, the behavior changes occurred leading to healthy behavior.

#### *Conflict of interest statement and funding sources*

There is a need for a comprehensive model of obesity countermeasures strategies in involving society components based on changes in behavior. Therefore, the behavioral changes occur during the implementation of the program can be carried out on in progress basis. The research was financed by the Polytechnic of Health Denpasar.

#### *Statement of authorship*

The research has received approval and permission from the Research Ethics Committee of the Faculty of Medicine/Sanglah Central Hospital Denpasar, No. 2017.03.1.0729/2017.

#### *Acknowledgments*

The authors would like to thank for the participants who have actively participated for the research implementation, the Head of Health Office in Denpasar City, the Head of Public Health Center, nutrition staff of Public Health Center, Family Welfare Education team, and other parties who helped complete the research.

---

**References**

1. WHO. Obesity and Overweight .WHO Fact Sheet.N311 [Internet]. (2018).  
[View in \(Website\)](#)
2. Kemnkes RI. Riskesdas Dalam Angka Indonesia tahun 2013 [Internet]. Trihono, Fahmi, Umar.Junadi, Purnawan., Sudomo, Suwandono, Agus., Sukasediati, Nani.,Herman S, editor. Jakarta: Badan Litbangkes Depkes RI; 2013. 446 p.  
[View in \(Website\)](#)
3. Ng, M., Fleming, T., Robinson, M., Thomson, B., Graetz, N., Margono, C., ... & Abraham, J. P. (2014). Global, regional, and national prevalence of overweight and obesity in children and adults during 1980–2013: a systematic analysis for the Global Burden of Disease Study 2013. *The lancet*, *384*(9945), 766-781.  
[View in \(Google Scholar\)](#)
4. Ogden, C. L., Carroll, M. D., Fryar, C. D., & Flegal, K. M. (2015). *Prevalence of obesity among adults and youth: United States, 2011-2014* (pp. 1-8). Washington, DC: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.  
[View in \(Google Scholar\)](#)
5. Wiardani, N. K., Adiatmika, I., & Tirtayasa, K. (2018). Related Factors Increased Obesity Prevalence in Adult Women in Denpasar City, Bali. *Indian Journal of Public Health Research & Development*, *9*(6).  
[View in \(Google Scholar\)](#)
6. Shu, L., Zheng, P. F., Zhang, X. Y., Si, C. J., Yu, X. L., Gao, W., ... & Liao, D. (2015). Association between dietary patterns and the indicators of obesity among Chinese: a cross-sectional study. *Nutrients*, *7*(9), 7995-8009.  
[View in \(Google Scholar\)](#)
7. Yu, C., Shi, Z., Lv, J., Du, H., Qi, L., Guo, Y., ... & Mu, H. (2015). Major dietary patterns in relation to general and central obesity among Chinese adults. *Nutrients*, *7*(7), 5834-5849.  
[View in \(Google Scholar\)](#)
8. Anderson, B., Lyon-Callo, S., Fussman, C., Imes, G., & Rafferty, A. P. (2011). Peer reviewed: Fast-food consumption and obesity among michigan adults. *Preventing chronic disease*, *8*(4).  
[View in \(Google Scholar\)](#)
9. Bowen, L., Taylor, A. E., Sullivan, R., Ebrahim, S., Kinra, S., Krishna, K. R., ... & Kuper, H. (2015). Associations between diet, physical activity and body fat distribution: a cross sectional study in an Indian population. *BMC public health*, *15*(1), 281.  
[View in \(Google Scholar\)](#)
10. Wiardani, N. K., Kusumajaya, A. N., & Arsana, I. W. J. (2018). Macronutrient Intake and Metabolic Syndrome Status towards Tour Guide. *International Journal of Health Sciences (IJHS)*, *2*(1), 29-43.  
[View in \(Google Scholar\)](#)
11. Suastika, K. (2006). Update in the management of obesity. *Acta Med Indones*, *38*(4), 231-7.  
[View in \(Google Scholar\)](#)
12. Sudargo, T., Freitag, H., Kusmayanti, N. A., & Rosiyani, F. (2018). *Pola makan dan obesitas*. UGM PRESS.  
[View in \(Google Scholar\)](#)
13. Kesehatan, B. P. D. P. (2009). Laporan tahunan 2012.  
[View in \(Google Scholar\)](#)

14. Buku Panduan GERMAS. Buku Panduan GERMAS Gerakan Masyarakat Hidup Sehat. (2015);1-24.  
[View in \(PDF\)](#)
15. Leske, S., Strodl, E., & Hou, X. Y. (2012). A qualitative study of the determinants of dieting and non-dieting approaches in overweight/obese Australian adults. *BMC Public Health*, 12(1), 1086.  
[View in \(Google Scholar\)](#)
16. Lemstra, M., & Rogers, M. R. (2015). The importance of community consultation and social support in adhering to an obesity reduction program: results from the Healthy Weights Initiative. *Patient preference and adherence*, 9, 1473.  
[View in \(Google Scholar\)](#)
17. Martha, E., & Kresno, S. (2016). Metodologi Penelitian Kualitatif Untuk Bidang Kesehatan. *Jakarta: PT RajaGrafindo Persada*.  
[View in \(Google Scholar\)](#)
18. Kusharto CMSIDN. (2014). Survey Konsumsi Gizi. Yogyakarta: Graha Ilmu.  
[View in \(PDF\)](#)
19. Perdana, F., & Hardinsyah, H. (2013). Analisis Jenis, Jumlah, dan Mutu Gizi Konsumsi Sarapan Anak Indonesia. *Jurnal Gizi dan Pangan*, 8(1), 39-46.  
[View in \(Google Scholar\)](#)
20. Foster, G. D., Makris, A. P., & Bailer, B. A. (2005). Behavioral treatment of obesity-. *The American journal of clinical nutrition*, 82(1), 230S-235S.  
[View in \(Google Scholar\)](#)
21. Shalfiah, R. (2017). Peran Pemberdayaan dan Kesejahteraan Keluarga (PKK) dalam Mendukung Program-Program Pemerintah Kota Bontang. *JURNAL UNIVERSITAS MULAWARMAN*, 1(3), 975-984.  
[View in \(Google Scholar\)](#)
22. Gray, L. J., Yates, T., Davies, M. J., Brady, E., Webb, D. R., Sattar, N., & Khunti, K. (2011). Defining obesity cut-off points for migrant South Asians. *PLoS One*, 6(10), e26464.  
[View in \(Google Scholar\)](#)
23. Ramachandran, A., & Snehalatha, C. (2010). Rising burden of obesity in Asia. *Journal of obesity*, 2010.  
[View in \(Google Scholar\)](#)
24. Zhang, Y., Liu, J., Yao, J., Ji, G., Qian, L., Wang, J., ... & Gold, M. S. (2014). Obesity: pathophysiology and intervention. *Nutrients*, 6(11), 5153-5183.  
[View in \(Google Scholar\)](#)
25. Sikorski, C., Riedel, C., Lupp, M., Schulze, B., Werner, P., König, H. H., & Riedel-Heller, S. G. (2012). Perception of overweight and obesity from different angles: a qualitative study. *Scandinavian journal of public health*, 40(3), 271-277.  
[View in \(Google Scholar\)](#)
26. Okop, K. J., Mukumbang, F. C., Mathole, T., Levitt, N., & Puoane, T. (2016). Perceptions of body size, obesity threat and the willingness to lose weight among black South African adults: a qualitative study. *BMC public health*, 16(1), 365.  
[View in \(Google Scholar\)](#)

- 
27. Tang, J. W., Mason, M., Kushner, R. F., Tirodkar, M. A., Khurana, N., & Kandula, N. R. (2012). Peer reviewed: South Asian American perspectives on overweight, obesity, and the relationship between weight and health. *Preventing chronic disease, 9*.  
[View in \(Google Scholar\)](#)
28. Wadden, T. A., Webb, V. L., Moran, C. H., & Bailer, B. A. (2012). Lifestyle modification for obesity: new developments in diet, physical activity, and behavior therapy. *Circulation, 125*(9), 1157-1170.  
[View in \(Google Scholar\)](#)
29. Story, M., Kaphingst, K. M., Robinson-O'Brien, R., & Glanz, K. (2008). Creating healthy food and eating environments: policy and environmental approaches. *Annu. Rev. Public Health, 29*, 253-272.  
[View in \(Google Scholar\)](#)
30. Son, N. (2017). Assessment of body perception, psychological distress, and subjective quality of life among obese and nonobese subjects in Turkey. *Nigerian journal of clinical practice, 20*(1), 1302-1308.  
[View in \(Google Scholar\)](#)
31. McGuire, S. (2014). Centers for Disease Control and Prevention. 2013. Strategies to Prevent Obesity and Other Chronic Diseases: The CDC Guide to Strategies to Support Breastfeeding Mothers and Babies. Atlanta, GA: US Department of Health and Human Services, 2013.  
[View in \(Google Scholar\)](#)
32. Burke, L. E., & Wang, J. (2011). Treatment strategies for overweight and obesity. *Journal of Nursing Scholarship, 43*(4), 368-375.  
[View in \(Google Scholar\)](#)
33. Tjiang, N., & Sidiartha, I. G. L. (2018). Lipid profile in obese children with and without insulin resistance. *International Journal of Health Sciences (IJHS), 2*(2), 9-17.  
[View in \(Google Scholar\)](#)
34. Suiroaka, I. P., Duarsa, D. P. P., Wirawan, I. D. N., & Bakta, I. M. (2017). Perception of Parents, Teachers, and Nutritionist on Childhood Obesity and Barriers to Healthy Behavior: A Phenomenological Study. *International Journal of Health Sciences (IJHS), 1*(2), 1-11.  
[View in \(Google Scholar\)](#)

### Biography of Authors

	<p>Ni Komang Wiardani, SST. M.Kes. is a lecturer in Polytechnic of Health Denpasar (The Head of Nutrition Department), Doctoral student in the postgraduate program, Udayana University. Email: <a href="mailto:kmgwiardani@yahoo.com">kmgwiardani@yahoo.com</a>, <a href="mailto:wiardani1603@gmail.com">wiardani1603@gmail.com</a></p>
	<p>Prof. Dr. dr. I Putu Gede Adiatmika, MPH. is a Professor in the Faculty of Medicine, Udayana University. He is as well as a Director of Postgraduate, Udayana University Email: <a href="mailto:ipgadiatmika@yahoo.com">ipgadiatmika@yahoo.com</a></p>
	<p>Dr. dr. Dyah Pradnyana P.D, M.Si. Senior Lecturer at Faculty of Medicine Udayana University Email: <a href="mailto:mita_budi@hotmail.com">mita_budi@hotmail.com</a></p>
	<p>Prof. dr. Ketut Tirtayasa, MS, AIF., AIFO, Sp. Erg. is a Professor in the Faculty of Medicine, Udayana University. Email: <a href="mailto:ketut.tirtayasa@gmail.com">ketut.tirtayasa@gmail.com</a></p>