Self-perception and quality of life among overweight and obese rural housewives in Kelantan, Malaysia

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Abstract

Introduction: Obesity, in the past was perceived to be the problem of the rich, but recent studies have reported that the problem of obesity is a worldwide problem and rural population is no less affected. Self-perceived health and weight appropriateness is an important component of weight-loss and eating behaviors and may be mediated by local, social and cultural patterning. In addition to the quality of life assessment, it should therefore be an important focal point for the design and implementation of clinical and public health policies.

Methods: The present study was carried out to assess the self-perception of weight appropriateness as well as the quality of life of overweight and obese individual among the rural population particularly among housewives. A total of 421 respondents participated in the study which consisted of 36.6% in the overweight and 63.4% in the obese categories.

Results: the analysis of the survey revealed that self-perception regarding obesity among respondents show common similarities, particularly in self reporting on health, dietary habit and also the concept of beauty and a beautiful body. Character and behavior are highly regarded in evaluating a person’s self-worth in society. The results on the quality of life using the ORWELL 97 instrument show that the quality of life of respondents was moderate. Most of the respondents were aware of their body weight and indicated an intention to lose weight but also reported themselves as healthy or very healthy.

Conclusion: The results of the survey indicated that perception on obesity did not differed very much between respondents, in fact there existed a lot of similarities in their perception about health, quality of life, personal health and self-satisfaction with own body. However, their quality of life was within the normal or moderate level based on the ORWELL 97 assessment. Even though most of the respondents were aware of their body weight and indicated an intention to lose weight they also reported themselves as healthy or very healthy, suggesting that public health messages intended for rural housewives need to be more tailored to health-related consequences of fatness.

Keywords: Overweight, Obesity, Quality of life, Self-perception, Rural housewives

Introduction

The world has experienced enormous health improvement in the last century, particularly in its later half (1950’s to 2000). Despite the overall improvement, however, we also have to acknowledge that developing countries benefited unequally from the above health gains, with many countries continue to have high mortality rate, where in some parts of the world the burden of ill health in the form of infectious and parasitic diseases are still prevalent. Communicable disease is an avoidable disease and avoidable mortality, but due to unequal access to healthcare and preventive remedies within a country can lead to notable number of death as a result of lack of access to effective treatment [1].

Developing countries particularly those in the middle range of GNP are currently facing a double burden of
malnutrition at both extreme end of the same continuum, undernutrition and obesity [2]. Both undernutrition and obesity have wide ranging health consequences in all age groups. Figure 1 show a few selected developing countries with the double burden of malnutrition. As shown in Figure 1, many countries in Central and Latin America are showing prevalence of overweight above 30% of their population, particularly in Colombia, Chile, Peru, Brazil, Costa Rica, and Cuba. The graph also depicts an increase trend between underweight and overweight in most countries in Latin America and Africa. This problem is not only confining to Latin America or Africa, but is also a common trend in Southeast Asia.

Despite gloomy conditions in terms of global health, the world will at the same time see rapid growth of cities and income in the near future. In 1900 only 10% of the world’s population lived in cities, however, today the proportion has increased to nearly 50% [3]. According to the United Nations estimates, almost all of the world’s population growth between 2000 to 2030 will be concentrated in urban areas of developing countries, where, if the present trend continues, it is expected that 60% of the developing countries will be urban by 2030. At the same time it is projected that income per person in developing countries will grow at an annual rate of 3.4% between 2010-2015, which is twice that, was registered in the 1990’s (1.7%).

Obesity is defined as excess body fat [4]. On the other hand overweight means the body weight is above ideal weight or standard weight for height. A person may be overweight but not necessarily overfat, this is common among athletes or football players [5]. However, normally a person who is grossly overweight will most likely be overfat. The World Health Organization (WHO) defined obesity as those people with the body mass index (BMI) of equal of greater than 30, and overweight as those whose BMI are between 25.0 to 29.9 [6]. At the physiological level obesity can be referred to as a condition of abnormal or excessive fat accumulation in adipose tissue to the extent that health may be impaired [7]. The normal scientific explanation for obesity has been the imbalance between energy intake and energy expenditure. When input is greater than expenditure, excess fat will accumulate. However, understanding the physiological basis alone is not adequate, as it can be seen today that obesity has become a pandemic, there is a trend towards global obesity or globosity [8]. In western countries the prevalence of obesity is beyond control despite the knowledge and research they have accumulated [9,10]. Being obese is associated with increased blood pressure, elevated total cholesterol, abnormal lipoprotein ratios, hyperinsulinemia, and type 2 diabetes [11]. The most prevalent and immediate consequence from obesity, however, may be its negative impact on quality of life [12].

Unfavorable psychological factors, lower self-ratings of health, and worse health-related behavior can be found in overweight and obese individuals. Obese individuals are more likely to be dissatisfied with their body shape and size [13,14]. Weight stigma increases vulnerability to depression, low self-esteem, poor body image, maladaptive eating behaviors and exercise avoidance [15]. Thinness is a beauty ideal in both Europe and the US, so being overweight or obese may contribute to body dissatisfaction and low self-esteem that increases the risk of depression [16]. Some obese people report social anxiety, whereby they are embarrassed to go out because they may not ‘fit’ into a chair in a restaurant or an airplane, for example. Being obese reduces their self-esteem and the effect on their social life leaves them isolated and vulnerable [17].

This study attempted to assess the self-perception and the quality of life among housewives in rural households in the State of Kelantan, Malaysia, and at the same time solicits people’s perception about obesity based on their cultural and socioeconomic context.

**Methods**

Population Sample- Respondents of this study were selected by cluster sampling from a list of rural villages within a sub-district that were selected by random sampling from 8 subdistricts in the District of Bachok in the State of Kelantan, Malaysia.

Included in the study were female housewives aged 20 years and over, with body mass index above 25. Other inclusion criteria were being healthy and not suffering from any serious diseases, Non-pregnant and giving written consent to be interviewed and taken body measurements. Excluded were those with ages below 20, body mass index below 25 or suffering from serious illnesses or psychiatric problems. Were also excluded...
pregnant women and those who did not consent to participate in the study.

The study was approved by The Research Ethical Committee (Human) of Universiti Sains Malaysia (Approval No. USMKK/PPP/JEPeM [207.3.(6)]). The purpose and nature of the study were explained to all participants, who gave their written informed consent before participation. The study was done in full accordance with the ethical provisions of the World Medical Association Declaration of Helsinki (as amended by the 52nd General Assembly, Edinburgh, Scotland, October 2000).

Sample Size - The sample size for this study was 421 housewives: The primary data was collected using a questionnaire, interview and focus groups methods, where the researcher conducted a field survey among selected groups of respondents in different communities.

The questionnaire focuses on eating habits, body image, quality of life (ORWELL 97) and socio-demography. The focus group discussion touched on globalization of food consumption, lifestyles and socio-cultural perception of obesity.

Quality of Life Assessment - An assessment of quality of life among overweight and obese respondents used the ORWELL97. This questionnaire has been translated into Bahasa Malaysia. Data Analysis - Data entry and analysis was performed using the SPSS for Windows software. The analysis consisted of descriptive and inferential findings to describe the underlying factors and predicting variables in modifying body weight among rural housewives in Malaysia. The result also discussed the quality of life of respondents in relation to overweight and obesity.

Results
A total of 421 respondents who were all female housewives from 8 sub-districts in the district of Bachok participated in the study (Table 1). The age of respondents were mostly within the range of 20-59 years old with the majority from the 40-59 age group (69.6%), with the mean age of 45.01 ± 9.01 (Table 1). In terms of marital status, 86.9% were married and the rest were either widows or divorce (Table 1). Household size and number of children are also shown in Tables 1, with a mean of 6.00 ± 2.48 and 5.3 ± 3.0 peoples, respectively. More than 64% of the respondents had secondary education, while less than 10% did have any form of formal education (Table 2). As housewives most respondents (66%) did not have personal income (Table 2), while in terms of household income the majority (82.2%) were in the income bracket of below RM1000 per month (Table 2). About 75% of the respondents spent less than RM 500 per month on food for the household, the mean monthly expenses on food was RM 400.62 (Table 2).

Table 1 Socio-demographic data

| Variables | Categories | Frequency | Percent (%) |
|-----------|------------|-----------|-------------|
| Numbers of sample population and sub-district (n = 421) | Tanjung Pauh 48 | 11.4 |
| | Tawang 53 | 12.6 |
| | Perupok 53 | 12.6 |
| | Melawi 47 | 11.2 |
| | Bekelam 54 | 12.8 |
| | Gunong 50 | 11.9 |
| | Mahligai 65 | 15.4 |
| | Telong 51 | 12.1 |
| Age group of respondents (n = 421) Mean age = 45.01 ± 9.01 years old | 20 – 29 23 | 5.4 |
| | 30 – 39 96 | 22.8 |
| | 40 – 49 152 | 36.1 |
| | 50 – 59 141 | 33.5 |
| | 60 and above 9 | 2.1 |
| Marital status (n = 421) | Married 366 | 366 |
| | Divorce 10 | 10 |
| | Widow 45 | 45 |
| Size of households (n = 421) Mean size of households: 6.00 ± 2.48 peoples | 1 – 4 151 | 35.9 |
| | 5 – 9 238 | 56.5 |
| | >9 32 | 7.6 |
| Numbers of children living in households (n = 421) Mean numbers of children living in households: 5.3 ± 3.0 peoples | None 18 | 43 |
| | 1 – 4 154 | 36.6 |
| | 5 – 9 207 | 49.2 |
| | 10 – 14 39 | 9.3 |
| | 15 and above 3 | 0.7 |

The respondents were asked regarding their self-perception of health and physical activities, the findings are shown in Table 3, where 66.7% considered themselves as very healthy or healthy. Almost all of respondents planned to lose weight (96.2%) (Table 3).

The respondents were also asked regarding their priority in life, Table 3 also listed the ranking of priority by respondents. The number one priority in Table 3 is to be physically healthy (54.7%), followed by having a happy family (29.6%), self-happiness, being wealthy, emotionally healthy, modest living, sanity, and earned higher education.

The respondents’ current spouse/partners, expectations and preferred sexual partners in relation to body weight are all shown in Tables 3. More than 66% has spouse or partners who are normal weight and only 18% has obese partner (Table 3). More than 70% of respondents expected their current partners to maintain their current weight and about 20% expected them to lose weight (Table 3). Regarding sexual partners, more than 95% preferred sexual partners who are of normal weight (Table 3).

Tables 4 reported the respondents’ responses on what do an obese and thin person represent. More than 55%
said that obesity symbolizes happiness, 19.4% said it reflects sickness, 16.1% thought it was laziness and 5.5% said it was a result of lack of control in food consumption, respectively (Table 4). Regarding thinness, 42.2% thought these people were not happy, 22.7% said it was due to fear of eating, 19.8% thought they may be sick and 9.6% said it reflects a weak person (Table 4).

The perception in defining what a beautiful female person is presented in Table 4. Most respondents rated behavior and personality (43.7%) as the most important indicator, followed by facial (31.4%) beauty and the shape of the body (24.2%). In defining a handsome male, behavior and personality also was rated highest (50.4%), followed by body shape (26.1%) and facial attractiveness (23.3%) (Table 4). Table 4 also represents the perception of respondents with respect to a beautiful body or shape. For female, thin or slenderness was considered as the most important attribute (53.4%), followed by height (41.3%) (Table 4). While for males, a beautiful body can be defined as being tall (67.9%), followed by thin (17.6%) and being muscular (10.5%) (Table 4).

On body self-perception, 90.5% are not satisfied with their current body shape (Table 4), the main reason why they are not satisfied is because they perceived they are obese or overweight.

A self-reported measure of obesity –related quality of life questionnaire (ORWELL 97) was administered to the respondents to assess whether their weight affect their quality of life [18]. ORWELL 97 consisted of an 18 item questions and for each item the respondent scored on a 4-point Likert scale the occurrence and severity of the symptom (occurrence) and the subjective relevance of the symptom-related impairment in the respondent’s own life (relevance). The score of the item is calculated as the product of occurrence and relevance. The total ORWELL 97 score is obtained as the sum of the scores of individual items. Higher ORWELL 97 scores mean a lower quality of life.

The results of ORWELL 97 scores for the entire data are shown in Table 5, with the mean total score of 47.7 ± 35.2. The mean ORWELL 97-O (occurrence) is 25.3 ± 16.3, and the mean ORWELL 97-R (relevance) is 22.4 ± 18.9.

**Discussion**

Understanding community views and perceptions in regards to health and obesity is essential to design and achieve successful health promotion strategies. The actions people take to maintain their health depend on how they perceive the threat of the disease. In other words, when people perceive that they are susceptible to a disease and are likely to suffer serious consequences from it, then they tend to take action to prevent it. This study aimed to explore community perception of obesity and obesity related quality of life among overweight and obese housewives in rural areas in Bachok District, Kelantan, Malaysia. The results of the survey show a common trend regarding the perception of people in relation to health, dietary practices and obesity. Even though more than 66 percent of the respondents perceived themselves as healthy or very healthy, 96.2% said they plan to lose weight, which means that although they are overweight still some of them considered themselves as
healthy. This result was unexpected as overweight and obese respondents are more likely to report poorer health in comparison to those with normal weight [19], given that studies have demonstrated that there is no healthy pattern of increased weight [20]. The high percentage of obese and overweight rural housewives in Bachok on higher self-reported health status could be explained by their low socioeconomic status. Indeed, a negative association between high education and poor self-reported health was found in a recent study implying women in St. Petersburg, Estonia and Finland [19]. In St. Petersburg unlike the other two areas, housewives rather than employed women had less often poor perceived health. Housewives in Bachok had low socioeconomic status, and most of them had personal and household income below the current minimum basic wages of RM900 in Peninsular Malaysia, as well as education level below higher education. A quarter of the respondents had spouses who were overweight or obese. Thus considering the respondent’s population are already a group of overweight people, about two third of them have spouses who have normal weight.

The results of body self-perception was expected, because the respondents that we selected were mostly overweight or obese (Mean BMI = 32.1) (result under publication elsewhere). It is interesting to also note that even though a whopping 90.5% of the women were not satisfied with their body shape, a high percentage of

| Variables                                           | Categories | Frequency | Percent (%) |
|-----------------------------------------------------|------------|-----------|-------------|
| Self perception on health (n = 421)                  | Very healthy | 107       | 25.4        |
|                                                     | Healthy    | 174       | 41.3        |
|                                                     | Moderately healthy | 100       | 23.8        |
|                                                     | Not well   | 40        | 9.5         |
| Current weight status of respondents (n = 421)       | Planning to lose weight | 405       | 96.2        |
|                                                     | Satisfied with current weight | 16       | 3.8         |
| Hierarchy of priority in life of respondents (n = 419) | Physical healthy | 229       | 54.7        |
|                                                     | Happy family | 124       | 29.6        |
|                                                     | Self-happiness | 37        | 8.8         |
|                                                     | Wealthy    | 14        | 3.3         |
|                                                     | Modest living | 10       | 2.4         |
|                                                     | Emotionally healthy | 4 | 1.0       |
|                                                     | Higher educational | 1     | 0.2         |
| Current status of spouse’s body weight (n = 366)     | Obese      | 65        | 17.8        |
|                                                     | Overweight | 3         | 0.8         |
|                                                     | Normal     | 243       | 66.4        |
|                                                     | Thin       | 54        | 14.8        |
|                                                     | Very thin  | 1         | 0.3         |
|                                                     | Lose weight | 73       | 19.9        |
|                                                     | Maintain current weight | 259 | 70.8         |
|                                                     | Gain weight | 34       | 9.3         |
|                                                     | TOTAL      | 366       | 100.0       |
| Expectation on spouse (n = 366)                      | Obese      | 2         | 0.5         |
|                                                     | Overweight | 8         | 1.9         |
|                                                     | Normal     | 403       | 95.7        |
| Preferred body weight of sexual partners of respondents (n = 421) | Thin | 8 | 1.9 |

Table 3 Self perception on health, weight status of respondents and partners

Table 4 Perception of respondents of a beautiful body, obesity and Satisfaction with current body shape

| Variables                                           | Categories    | Frequency | Percent (%) |
|-----------------------------------------------------|---------------|-----------|-------------|
| Obesity symbolizes by respondents (n = 330)          | Rich/affluent | 6         | 1.8         |
|                                                     | Strong        | 7         | 2.1         |
|                                                     | Happy         | 182       | 55.2        |
|                                                     | Lack of control in food consumption | 18 | 5.5         |
|                                                     | Laziness      | 53        | 16.1        |
|                                                     | Sickness      | 64        | 19.4        |
| Thinness symbolizes by respondents (n = 313)          | Poor          | 10        | 3.2         |
|                                                     | Weak          | 30        | 9.6         |
|                                                     | Unhappiness   | 132       | 42.2        |
|                                                     | Fear of eating | 71        | 22.7        |
|                                                     | Laziness      | 7         | 2.2         |
|                                                     | Sickness      | 62        | 19.8        |
|                                                     | Others        | 1         | 0.3         |
| Defining beautiful women by respondents (n = 421)     | Facial attractiveness | 132 | 31.4       |
|                                                     | Shape of the body | 102 | 24.2         |
|                                                     | Hair style    | 1         | 0.2         |
|                                                     | Voice         | 2         | 0.5         |
|                                                     | Behavior      | 184       | 43.7        |
| (Features)                                          | Facial attractiveness | 98 | 23.3         |
|                                                     | Shape of the body | 110 | 26.1        |
|                                                     | Hair style    | 1         | 0.2         |
|                                                     | Behavior      | 212       | 50.4        |
| (Features)                                          | Fat           | 19        | 4.5         |
|                                                     | Muscular      | 2         | 0.5         |
|                                                     | Tall          | 174       | 41.3        |
|                                                     | Short         | 1         | 0.2         |
|                                                     | Thin          | 225       | 53.4        |
|                                                     | Yes           | 40        | 9.5         |
| (Features)                                          | No            | 381       | 90.5        |

Table 4 Perception of respondents of a beautiful body, obesity and Satisfaction with current body shape

Table 3 Self perception on health, weight status of respondents and partners
The results of the perception of beauty show how
society, and it has a very powerful influence in determining
important is the character or behavior of a person in
relationship between being healthy and having a happy
the fourth placing is being rich. This results show the close
The third priority is self-happiness or self-contented, and
one priority, having a happy family is the second priority.
Greatest proportion chose physical health as the number
self-discipline. In terms of placing their priority in life, the
greatest proportion chose physical health as the number
beauty ideal in modern
western societies because of the socially constructed idea
physically attractiveness is one of the women's most
important assets. This study suggests that the values asso-
ciated with self perception on health, thinness and obesity
could be influenced by socio-cultural conditions.
Past studies have reported that obese individuals had a
poorer physical quality of life than normal individuals
[22,23], this condition is also related to the impaired
physical well-being among obese individuals. Thus the
impact of weight on physical and psychological well-being
is a very important area that need further research. The
results of the ORWELL 97 of the total score are compar-
able to the mean total score of the population studied by
Mannucci in Italy (1999), which is 47.9. However, the
scores for both ORWELL 97 – O and ORWELL97 – R,
were lower than the Italian population. According to the
interpretation of ORWELL scores a lower scores mean a
better quality of life. This results also differed from the
total ORWELL 97 findings from Indonesia (57.71 ± 37.60),
Philippines (52.61 ± 32.99), and Thailand (50.98 ± 32.14)
[24], which may mean that overweight and obese respon-
dents in Bachok have a better quality of life than their
counterparts in Thailand, Philippines, and Indonesia.

**Conclusion**

This study surveyed the perception of rural housewives
population regarding health, obesity and impact of weight
on quality of life. The results indicated that perception on
obesity did not differed very much between respondents,
in fact there existed a lot of similarities in their perception
about health, quality of life, personal health and self-
satisfaction with own body. However, their quality of life

| Questionnaires | R+O | R  | O  |
|---------------|-----|----|----|
| 1.            | 4.27 ± 2.05 | 2.69 ± 0.76 | 1.58 ± 1.29 |
| 2.            | 2.69 ± 2.44 | 1.88 ± 1.21 | 0.81 ± 1.23 |
| 3.            | 1.20 ± 1.85 | 0.65 ± 0.94 | 0.55 ± 0.91 |
| 4.            | 2.41 ± 2.02 | 1.02 ± 1.02 | 1.39 ± 1.00 |
| 5.            | 2.06 ± 2.13 | 0.76 ± 0.94 | 1.30 ± 1.19 |
| 6.            | 4.44 ± 1.81 | 2.36 ± 0.90 | 2.08 ± 0.91 |
| 7.            | 4.46 ± 1.35 | 2.98 ± 0.20 | 1.48 ± 1.15 |
| 8.            | 4.56 ± 1.70 | 2.94 ± 0.39 | 1.62 ± 1.31 |
| 9.            | 2.41 ± 1.97 | 1.79 ± 1.14 | 0.62 ± 0.83 |
| 10.           | 3.36 ± 1.90 | 0.87 ± 1.02 | 2.49 ± 0.88 |
| 11.           | 2.23 ± 2.49 | 0.95 ± 1.21 | 1.28 ± 1.28 |
| 12.           | 1.08 ± 1.68 | 0.30 ± 0.76 | 0.78 ± 0.92 |
| 13.           | 1.86 ± 2.06 | 0.76 ± 0.97 | 1.10 ± 1.09 |
| 14.           | 1.86 ± 1.91 | 1.14 ± 0.96 | 0.72 ± 0.95 |
| 15.           | 1.36 ± 1.75 | 0.86 ± 0.97 | 0.50 ± 0.78 |
| 16.           | 1.50 ± 1.84 | 0.79 ± 0.90 | 0.71 ± 0.94 |
| 17.           | 2.85 ± 1.93 | 0.80 ± 0.90 | 2.05 ± 1.03 |
| 18.           | 3.06 ± 2.27 | 1.74 ± 1.10 | 1.32 ± 1.17 |
| Total         | 47.7 ± 35.2 | 25.3 ± 16.3 | 22.4 ± 18.9 |
was within the normal or moderate level based on the ORWELL 97 assessment. Even though most of the respondents were aware of their body weight and indicated an intention to lose weight they also reported themselves as healthy or very healthy, suggesting that public health messages intended for rural housewives need to be tailored to health-related consequences of fatness. This study is a preliminary study, and the results of the study is very encouraging, it challenged the researchers to go into more in depth to untangle the link between nutrition and socio-cultural behaviors and health consequences, particularly obesity. It is hoped that further research can be carried out to provide a more comprehensive findings regarding the factors and variables that are at play in accelerating or slowing down dietary consumption and physical activities.

Competing interests
The authors declare no competing financial, professional or personal interests that might have influenced the performance or presentation of the work described in this manuscript.

Authors’ contributions
WAMWM designed the study, supervised interviews, contributed to drafts. RAJ, WSWN, SAA participated in data collection, entered and analyzed the data. DK participated in the manuscript design, data analysis and literature review. All authors approved the final manuscript.

Acknowledgements
This study was supported by Tanita Healthy Weight Community Trust Grant and The World Academy of Sciences.

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Received: 2 July 2014 Accepted: 21 January 2015
Published online: 12 February 2015

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