We are IntechOpen, the world's leading publisher of Open Access books Built by scientists, for scientists

6,900
Open access books available

185,000
International authors and editors

200M
Downloads

Our authors are among the

154
Countries delivered to

TOP 1%
most cited scientists

12.2%
Contributors from top 500 universities

WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com

Chapter

Social Inequalities, Poverty and Obesity

Vanessa Alves Ferreira and Rosana Magalhães

Abstract

Nowadays, the growth of obesity, especially in socially vulnerable groups, reveals the complex nature of food patterns involving socioeconomic and cultural aspects. In this scenario, there has been slow progress in intervention actions for this issue. In general, initiatives to reduce obesity tend to focus on changes in diet behavior and individual sector strategies. They underestimate broader aspects social inequalities, symbolic dynamics and cultural local situations. Faced with this reality, the objective of this study was to investigate the phenomenon of obesity in a context marked by poverty incorporating the constructivist perspective. About 24 interviews and 3 focus groups were performed. The expectation was to analyze perceptions, interpretations and practices around food and body fat. The results revealed fundamental components to be observed in the design of public policies aimed at the reduction of obesity. Concentrating in this direction, actions directed to the promotion of social equity and gender equality, as well as greater access to food, education, technology and the quality of health care, especially in the post-partum period, seems more promising ways of dealing with the problem of obesity in this local context.

Keywords: obesity, poverty, public policy

1. Introduction

In Brazil, the tendency of obesity in contexts marked by poverty and inequalities were studied [1–5]. Such analyzes may be valuable contributions to the deepening and understanding of the phenomenon of obesity in these segments, because they reveal the complex network of interrelationships that operate in this multifaceted dynamics of a more comprehensive and relational approach [5]. Explanations for obesity among the poor in Brazil are therefore interrelated with a number of important structural, economic, social and cultural transformations verified in the last that profoundly altered the relationship between Brazilians and food, body and health. In general terms, it can be said that these changes are linked to the emergence of obesogenic environments, that is, social, economic and cultural trends that stimulate the population to overeating and poor physical activity [5, 6].

Limitations of economic and social order also promoted inequalities in accessing the main means of intervention in the problem. Inequalities in access to healthy food and recreational public spaces have accentuated health inequalities, especially with in relation to the problem of obesity among the poor in Brazil. Thus, the limited choice of lifestyles that favor health and well-being promote marked inequalities in the daily life of these segments. Yet, income ratio does not seem to be the only factor or the most

consistent to explain the phenomenon of obesity among the poor. Cultural conceptions related to food, body, health, work and living conditions permeate the dynamic [5, 6].

At the same time, the poor have been targeted by the market for unhealthy products, contributing to the growth profile of obesity. Companies that produce consumer goods, including processed and ultraprocessed foods, soft drinks and sugary drinks, among others, have been able to change behaviors and lifestyles, contributing to the increase of excess weight and its comorbidities in different groups, including those with lower income [7, 8]. This imposes protectionist measures of the Brazilian government aimed at regulating unhealthy products and expanding the supply of products and services that promote health and quality of life of the most socially vulnerable segments [7, 8]. Thus, the proposal of a resolute public intervention of the Brazilian government to intervene in this public health problem becomes an emergency [5, 7, 8].

In this light, we believe that it is opportune to deepen the theoretical discussions around the subject and to advance in proposing more consistent intervention initiatives in the control of obesity. In this sense, this study contributes to this debate by listing the main obstacles and opportunities for coping with obesity in poor women living in the historic city of Diamantina, located in the southeastern region of Brazil called Vale do Jequitinhonha, Minas Gerais. For that, we investigated the dietary practices aligned to the life context of obese women and holders of the conditional cash transfer program, Bolsa Família, of the municipality.

2. Methodology

The proposal was to carry out a single interpretive case study within the health promotion approach [9]. The choice from the perspective of health promotion relies fundamentally on valuing the context in which subjects interact socially. This perspective reflects, in part, the recognition that most health practices are oriented by social space and seeks to expand increasingly the study of socio-technical networks and spaces of social interaction to subsidize the planning, implementation and the evaluation of initiatives in the sector. Such an approach may, according to some authors, create valuable opportunities for the strengthening of current health promotion actions, especially for coping with contemporary social phenomena, including the dynamic obesity among poor women [10–12], a reflexive effort on the dynamics of female obesity in poverty from the perspective of health promotion.

In this direction, this study sought an approximation with the life context of holders of the Bolsa Família government program, from the urban and rural areas of the historic city of Diamantina, Minas Gerais, Brazil, in order to understand the dynamics that permeate the phenomenon of obesity in this group, in particular. Fieldwork totaled 24 interviews and 3 focus groups. The criteria for the selection of the group included: (1) the family registered with a local Family Health Strategy team; (2) the family registered in the Bolsa Família government program and (3) the diagnosis of obesity in at least one of its members. All these combined information allowed the selection of socially vulnerable families, using criteria beyond the purely normative dimension, incorporating elements related to the general conditions of life and well-being of families [13–15].

The instrument for data collection followed two previously established roadmaps. The first script was used to conduct the in-depth interviews—"semi-structured interview script," which contained information such as socioeconomic; consumption and food practices; work and leisure activities; and the conditional income transfer program Bolsa Família. For the focus groups, the "script of debates" was used that addressed the themes of food, the body and aspects related to the

Bolsa Família program. In the data treatment, the content analysis proposed by Bardin [16] was used. The data were compiled in five main thematic axes: (1) food routine; (2) perceptions and conceptions of body; (3) perceptions about the Bolsa Família program (PBF); (4) physical and leisure activity and (5) living conditions. In this chapter, in particular, we will address issues related to coping with obesity in the group. It is worth pointing out that in this investigation, the ethical principles contained in the Declaration of Helsinki were fulfilled [17].

3. Results and discussion

From 24 interviews conducted in the domiciles and 3 focus groups conducted in a primary health care unit, it was verified that obesity was present in women [18]. The coexistence of obesity with several chronic diseases, being the most prevalent—diabetes mellitus, hypertension, dyslipidemias and bone diseases was also observed. Regarding the age range of our research universe, age of women presented range from 14 to 56 years. In the analysis of the combined social indicators, which aimed to discriminate women subjected to conditions of social vulnerability, it was observed that low schooling was present in the group. And some women were considered to be functional illiterates. In fact, educational inequalities have been related to the occurrence of obesity in women. In general, the lower the schooling, the greater the frequency of obesity in the group [19, 20]. This profile is related to lower job opportunities, lower wages and protection [21]. Thus, the holders were inserted in occupations of work of little prestige exercising activities of day laborers, domestic workers, nannies, artisans, among others. The low qualifications of the occupations performed by these women were also reflected in low income: the average wage found was one to two monthly minimum wages.

As per family arrangements, we can characterize them as "couple with children" and "single parent" (those headed by women, without spouses and with children). According to data from the 2010 Census [22], this is one of the new trends in Brazilian family dynamics. Official statistics indicate that, in fact, there is an unequal position in the family income of single-parent households [23].

With regard to consumer goods in all households where the families were interviewed, there was a television, stove and refrigerator. The microcomputer was present in 30% of households, however, only 10% had access to the internet. Still according to PNAD, in Brazil, there are 77 million people connected to the internet. In recent years, the number of internet users has grown by 14.7% [24]. However, among the poor, the expansion seems to occur more slowly. For Tilly [15], this is one of the mechanisms for maintaining social inequalities in the daily lives of the poor within contemporary societies—"digitized," "connected" and "computerized." Low internet access in these segments limits opportunities and the majority of households did not use fixed-line telephony, but all of them used mobile telephony (cellular telephone). Mobile telephony appears to be replacing the landline telephony, according to the 2010 Census [22]. With regard to access to public services, we can now see the absence, at times the deficit of basic sanitation, garbage collection and transportation. For local health services, the biggest complaints were related to the reduced number of doctors and the enormous difficulties encountered in making appointments and examinations.

In this study, it was found that the mean number of children found was relatively similar to the results obtained in the 2010 Census [22]. Each women had, on average, 2–4 children. It has been observed that parity has been a potential predictor for the development of obesity in women, as the studies reveal [5, 20]. We also observed the presence of grandchildren under 5 years of age in these families. This profile increases the degree of dependence and fragility of these arrangements.

According to the National Survey of Household Sample—PNAD [24], the presence of children in the homes is an indicator of vulnerability in the poorer arrangements, especially those headed by women, because they have less provider in the household. Still according to PNAD [24], in this profile, there is an overrepresentation of providers by color or race—black or brown, in addition to low level of education of the reference person. Studies have shown the relationship between gender, color/race, socioeconomic position and obesity [19, 25–27]. This was the profile of the families interviewed in this study. It should also be noted that the city of Diamantina/MG has few public day care centers. For this reason, it was found that many women, especially older women, took care of the smaller grandchildren so their daughters could work. This is a very problematic issue in overcoming poverty in the city.

Regarding the leisure activities carried out by the women in these rare moments (in which they said they were "idle"), the following were mentioned: (1) manual or non-profit activities ("I'll sew, I'll weave"; "I like to sew some things like that for others and fix clothes"; "I usually take care of the flowerbeds"); (2) family with children and grandchildren ("I play with the boys"; "when I'm late I'll talk to my daughter"; "I play with my grandchildren because I like to play ball with them, I take them to walk on the court"); (3) physical rest ("I lie on the couch"; "I take a nap"; "I sleep a little"). And especially (4) watching television ("when I have a little time to watch television I like"; "I lie down and watch television"; "I'm going to watch television, watch a movie"). The frequency of watching television has been associated with obesity among women [27]. Watching television seemed be the most commonly used by the group, because it is economical, safe and available. In addition, according to Da Matta [28], everything that refers to the use, care and recovery of the body, and which as a consequence implies rest and renewal is linked to the domestic and intimate world of the house.

4. The multiple challenges to intervene in overweight in the local context

With regard to coping with obesity, it was possible to verify two fundamental questions that were recurrent in the women's testimony. Thus, for the group to intervene in overweight, it is meant following the medical guidelines. This issue reveals the incorporation of medical and media discourse operating in the group. For women, it was therefore necessary to have "discipline"; "Self-control" ("doing physical activity," "walking," "exercise," "sport," "swimming," "walking," "if you can, gym," "diet," "To do the right thing," "to close the mouth," "to control the mouth," "to stop eating," "to force") to intervene in the problem of being overweight.

For the group, facing the excess weight was still, to have greater access to health professionals (nutritionists), for them, to obtain "some recommendations"; "tips"; "guidance"; "have a follow up". In this regard, they consider it possible to control the problem. Although advances have been noted with the inclusion of nutritionists in the Family Health Support Centers (NASF) since 2008, the insertion of this professional is still insufficient. In this sense, it is necessary to increase the number of these professionals within the scope of the Unified Health System [29].

In the analysis of all the empirical material, we verified the interweaving of multiple dimensions operating in the dynamics of obesity in the group. Thus, it was possible to identify the main obstacles, as well as some possibilities to face the problem among the women interviewed. In this direction, we find that at the macro level, the historical social debt the State of Minas Gerais and the federal public power has with the Jequitinhonha/MG Valley region must be considered.

For decades, this region has presented high levels of social inequality and poverty [30]. The Vale do Jequitinhonha/MG therefore lacks a broad scope of integrated public policies to minimize the perverse effects of scarce public investments in the region [31]. Thus, inequalities in work opportunities, income, health, education, infrastructure and leisure are observed [5]. In this context of adversity, the Bolsa Família program represents an extremely positive public intervention for the families interviewed, while minimizing the effects of poverty. However, the program proved to be an insufficient public measure to transform the extremely precarious context in which these women and their families live. Poverty and social inequities in this region are therefore of a macrostructural order and it must be acknowledged that there is still a considerable gap for the local development of the Valley.

Also in the field of public interventions, we verified advances in actions directed to health and care of women with primary health care and the Reference Center for Social Assistance (CRAS). However, they need to be expanded and intensified. In this way, we consider the proposal of an articulated network of integral support for women, which includes: (1) health actions (mainly in the postpartum and puerperium periods, moments in which women signaled beyond weight gain, symptoms depressive disorders); (2) adequate provision of day-care centers and public schools; (3) psychological support and social assistance to poor families experiencing multiple conflicts, including the use of alcohol and drugs; (4) implementation of specific social programs directed to family arrangements headed by women with minor children and other dependents; (5) institutionalization of spaces for listening and dialog for the problematization of social practices; (6) a reduced working day considering the multiple social roles assumed by women that lead to stress situations [32], as measures that, in our view, are more appropriate to overcome the problem of female obesity [5].

In addition, women's social rights need to be guaranteed. In particular, the of citizenship by feeding one of the most perverse aspects of poverty in the group. Actions that promote the democratization of the means of production and consumption of food; the promotion of local food marketing and consumption directly from the producer; agroecology; the dynamization of community gardens in neighborhoods; the increased participation of women in food production and marketing through existing government initiatives, such as the Food Acquisition Program (PAA) [33], are fundamental public strategies to promote food security and nutritional security of the group [5, 34, 35]. The lack of local public actions aimed at increasing the supply and access to healthy food has been an impediment to the consumption of these items in the daily lives of Brazilians, according to a national study [36].

In our view, facing obesity in the group imposes, in this way, public actions of intervention of the State contextualized the local reality. That is, it involves broader and more integrated public measures that consider the network of interdependence that operates in the dynamics of overweight among poor women in the region. The challenge is to consider local specificities and recognize the vulnerabilities and potentialities of social contexts. It must be considered, above all, that individual choices, whether in food or leisure, are fundamentally social choices, as this study found. That is, individual choices interact with the social context and involve broader dimensions such as production, supply, access, availability, income, context, community participation and local culture. In this direction, the study carried out in a low income social context in France revealed the positive effect of a health promotion intervention on the reduction of obesity with the participation and mobilization of all local community—merchants, residents' association, users of health services health professionals and educators, public authorities and the participants themselves, who were invited to propose recreational and intervention activities. The proposal of intervention to promote a healthy lifestyle was structured in three fundamental axes:

(1) strengthening the individual; (2) strengthening the community and (3) improved living conditions at the local level and proved to be extremely successful [37].

In Brazil, intervention initiatives in these social contexts are still scarce. Although advances have been observed in the theoretical field with the publication of official documents in the perspective of health promotion [34, 35], there is an urgent need to build public initiatives in these territories. In our view, such measures are fundamental to find more feasible and decisive strategies for the success of intervention initiatives on obesity among poor women.

5. The possible possibilities of coping with obesity

In this study, we found that although some of the interviewed women were not "perceived" as obese, they "felt" the enormous discomfort from the symptoms of being overweight. For this reason, they worried excessively about the negative repercussions of obesity on their health and well-being. The external and internal social pressures suffered by obese women, especially those related to the damage to physical health, lead, some of them, to seek a weight reduction program [38]. This fact may contribute to the group's adherence to actions in primary health care. Under the SUS, the close partnership between the Family Health Teams (ESFs) and the Family Health Support Centers (NASFs) may also favor the creation of legitimate spaces for listening, reflection and questioning of social practices that are reproduced in the daily routine of the group for a better performance of the teams. The articulation along with the Bolsa Família program would allow the strengthening, expansion, consolidation and empowerment of intervention actions on obesity among poor women, promoting the universalization of care. In this aspect, it is necessary to expand the actions of nutritional and nutritional surveillance of the holders in order to carry out the diagnosis of obesity more quickly and the referral to the integral care with more efficiency. In the FHS, the creation of operating groups for obese women, dynamics and interdisciplinary support are presented as feasible strategies in the daily practice of primary health care. In this way, to refine the articulation of primary health care programs within the FHS and NASF with the Bolsa Família Program and the Health Academy Program for us seems to be a very timely initiative to control obesity in these groups, especially with the participation and the involvement of the community [37].

For the area of health promotion, intersectoral partnerships that raise the issue of obesity in poverty as a priority of government should be encouraged. The articulation of the public sector, with institutions of education, vocational training and social support, among others, can generate more favorable opportunities of intervention to the problem in the territory. More than that, partnerships can promote institutional investments in the region to revitalize the economy. The strengthening of cooperatives and residents' associations that disseminate culture, tourism, cooking and regional handicrafts is a concrete opportunity to promote socioeconomic development. Fundamentally, these actions are presented as more feasible possibilities favoring new "doors of exit of poverty" for this population [5, 34, 35].

In the urban environment, the inclusion of public spaces for culture and leisure, expansion of the retail food trade, job offer and professional qualification, income and digital inclusion would be measures with a positive impact on the control of obesity. Partnerships with local retailers to promote healthier rebates for these groups are measures that can undoubtedly favor interventions in obesity [37]. In rural areas, the state must promote agrarian reform and a secure, productive and equitable food system. That is, a model of agro-ecological family production increases access to a nutritious and quality diet in these populations. Agroecology

combines traditional knowledge with technological innovations that help to address problems linked to productivity in the countryside, socially restructuring the farming community and family farming. These actions revitalize the traditional and cultural reproduction conditions of these groups in their typical forms of production and life and allow the population to settle in the interior, avoiding migratory processes commonly observed in poor populations [21]. Finally, the encouragement of research, teaching and extension projects within the theme of female obesity should be encouraged as well as the exchange of experiences in the academic and professional fields. The exchange of knowledge can be useful in recognizing successful strategies and initiatives by enriching this debate in the country.

6. Conclusion

This work allowed to understand the dynamics of social interactions that operated in the obese body profile of the poor women, from the Bolsa Família government program. And, in this way, the challenges to coping with obesity are recognized. In our view, research that proposes to incorporate relational theoretical-methodological approaches, using the perspective of health promotion, become fundamental for the proposition of intervention initiatives more resolutive. Thus, we believe that this study could stimulate new research and contribute to the debate about the subject of female obesity in poverty in Brazil.

Author details

Vanessa Alves Ferreira[1*] and Rosana Magalhães[2]

1 Department of Nutrition, UFMG/Minas Gerais, Brazil

2 Department of Social Sciences, ENSP, FIOCRUZ/Rio de Janeiro, Brazil

*Address all correspondence to: vanessa.nutr@gmail.com

IntechOpen

© 2019 The Author(s). Licensee IntechOpen. This chapter is distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/3.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. CC BY

References

[1] Silva DO da. O fiel da balança na história do corpo obeso em mulheres de baixa renda [Dissertação]. RJ: Escola Nacional de Saúde Pública—Fiocruz; 1997

[2] Tonial SR. Desnutrição e Obesidade: Faces da desigualdade social no acesso aos alimentos e nas representações do corpo [Tese de Doutorado]. RJ: Escola Nacional de Saúde Publica—Fiocruz; 2001

[3] Ferreira VA, Magalhães R. Obesidade e pobreza: O aparente paradoxo. Um estudo com as mulheres da Favela da Rocinha, Rio de Janeiro, Brasil. Cadernos de Saúde Pública. 2005;**21**(6):1792-1800

[4] Ferreira VA, Silva AE, Rodrigues CAA, Nunes NLA, Vigatto TC, Magalhães R. Desigualdade, pobreza e obesidade. Ciência & Saúde Coletiva. 2010;**15**(Suppl. 1):1423-1432

[5] Ferreira VA. Desigualdades sociais, pobreza e obesidade. 2014. 178 f. Tese (Doutorado em Saúde Pública) - Escola Nacional de Saúde Pública Sergio Arouca, Fundação Oswaldo Cruz, Rio de Janeiro, 2014

[6] Contreras J, Gracia M. Alimentação, Sociedade e Cultura. Rio de Janeiro: Editora Fiocruz; 2011. p. 496

[7] Minayo MC de S, Gualhano L. Estilo de vida e desigualdade em saúde. Ciência & Saúde Coletiva. 2015;**20**:4. (Rio de Janeiro abr)

[8] Kickbusch I. Na área de saúde, a abordagem dos fatores determinantes, de natureza comercial, é de importância fundamental para os países emergentes. Ciência & Saúde Coletiva. 2015;**20**(4):968-969

[9] Yin RK. Estudo de Caso: Planejamento e Métodos. Porto Alegre: Bookman; 2001

[10] Poland B, Krupa G, Mc Call D. Settings for health promotion: An analytic framework to guide intervention design and implementation. Health Promotion Practice. 2009;**10**(4):505-516

[11] Delormier T, Frohlich KL, Potvin L. Food and eating as social practice—Understanding eating patterns as social phenomena and implications for public health. Sociology of Health & Illness. 2009;**31**(2):215-228

[12] Macdonald B, Veen C, Tones K. Evidence for success in health promotion: Suggestions for improvement. Health Education Research Theory & Practice. 1996;**11**(3):367-376

[13] Sen A. Desigualdade Reexaminada. Rio de Janeiro: Editora Record; 2001

[14] Townsend P. The International Analysis of Poverty. 1st edition. Hemel Hempstead, Herts.: Harvester Wheatshef; 1993

[15] Tilly C. O acesso desigual ao conhecimento científico. Tempo Social. 2006;**18**(2):47-63

[16] Bardin L. Análise de Conteúdo. 1 ed. São Paulo: Edições; 2011. p. 70

[17] World Medical Association. Declaration of Helsinki: Recommendation guiding physicians in biomedical research involving humans subjects. JAMA. 1997;**277**:925-926

[18] WHO. Obesity: Preventing and Managing the Global Epidemic. Geneva: World Health Organization; 1997

[19] Alves RFS, Faerstein E. Desigualdade educacional na ocorrência de obesidade abdominal: Estudo Pró-Saúde. Revista de Saúde Pública. 2015;**1**:49-65

[20] Oliveira EO, Velasquez-Melendez G, Kac G. Fatores demográficos e comportamentais associados à obesidade abdominal em usuárias de centro de saúde de Belo Horizonte, Minas Gerais, Brasil. Revista de Nutrição. 2007;**20**(4):361-369

[21] Marques E. Redes Sociais, Segregação e Pobreza em São Paulo. São Paulo: UNESP; 2010

[22] IBGE. Censo 2010. Disponível: http://www.ibge.gov.br

[23] IBGE. Instituto Brasileiro de Geografia e Estatística. Pesquisa Mensal de Emprego janeiro de 2013 [acessado 05 de fevereiro de 2013]. Disponível: www.ibge.gov.br

[24] IBGE. Pesquisa Nacional de amostra Domiciliar (PNAD). Rio de Janeiro. 2011;**31**:1-135

[25] McLaren L. Socioeconomic status and obesity. Epidemiologic Reviews. 2007;**29**:29-48

[26] Sobal J. Obesity and socioeconomic status: A framework for examining relationships between physical and social variables. Medical Anthropology. 1991;**13**:231-247

[27] Poterio JA, Bernabe-Ortiz A, de MCL, Miranda JJ. Associação entre assistir televisão e obesidade em mulheres peruanas. Revista de Saúde Pública. 2012;**46**(4):610-616

[28] Da Matta R. A Casa e a Rua. Espaço, Cidadania, Mulher e Morte no Brasil. Rio de Janeiro: Rocco; 1997

[29] Rigon S do A, Schmidt ST, Bógus CM. Desafios da nutruição no sistema Único de Saúde para construção da interface entre a saúde e a segurança alimentar e nutricional. Cadernos de Saúde Pública, Rio de Janeiro. 2016;**32**(3):03-10

[30] Silveira FG, Carvalho AXY, Azzoni CR, Campolina B, Ibarra A. Dimensão, Magnitude e Localização das Populações Pobres no Brasil. Brasília: IPEA; 2007. [Texto para discussão n° 1.278]

[31] Leão Rego W, Panzini A. Vozes do Bolsa Família: Autonomia, Dinheiro e Cidadania. São Paulo: Unesp; 2013

[32] Richardson AS, Arsenault JE, Cates SC, Muth MK. Perceveid stress, unhealthy eating behaviors, anda severe obesity in low-income women. Nutrition Journal. 2015;**3**:14-122

[33] BRASIL. Programa de Aquisição de Alimentos: legislação básica. Brasília: Ministério da Agricultura, Pecuária e Abastecimento—Mapa. Companhia Nacional de Abastecimento—Conab. Diretoria de Política Agrícola e Informações—Dipai; 2010

[34] Câmara Interministerial de Segurança Alimentar e Nutricional. Estratégia Intersetorial de Prevenção e Controle da Obesidade: Recomendações para estados e municípios. Brasília, DF: CAISAN; 2014

[35] Brasil. Ministério do Desenvolvimento Social e Combate à Fome. Marco de Referência de Educação Alimentar e Nutricional Para as Políticas Públicas. Brasília, DF: MDS; Secretaria Nacional de Segurança Alimentar e Nutricional; 2012

[36] Figueira TR, Lopes ACS, Modena CM. Barreiras e fatores promotores do consumo de frutas e hortaliças entre usuários do Programa Academia da Saúde. Revista de Nutrição. 2016;**29**(1):85-95

[37] Fianu A, Bourse L, Naty N, et al. Long-term effectiveness of a lifestyle intervention for the primary prevention of type 2 diabetes in a low socio-economic community—An intervention follow-up study on Reunion Island.

In: Kaser S, editor. PLoS One 2016;**11**(1):e0146095

[38] de Almeida GAN, Loureiro SR, Santos JE. A imagem corporal de mulheres morbidamente obesas avaliada através do desenho da figura humana. Psicologia: Reflexão e Crítica. 2002;**15**(2):283-292

IntechOpen

IntechOpen