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Tackling weight stigma in healthcare: impacts of an educational course on health care professionals

Enfrentamento do estigma relacionado ao peso corporal no cuidado em saúde: impactos de um curso educativo em profissionais de saúde

Abstract

Introduction: Weight stigma, present among health professionals and students, harms the health and healthcare of people with overweight and obesity and must be combated. ***Objective***: This article aims to report the results obtained through a test application of an educational course on weight stigma and healthcare. ***Methods***: The test was carried out with 11 healthcare professionals and had a mixed design. In the quantitative component, statistical analysis was carried out on the initial and final results obtained using the Antifat Attitudes Scale (AFAT), with a paired t test (significance level of $p \leq 0.05$). In the qualitative component, a thematic content analysis was carried out with data produced in a final dissertation activity about ideas that were highlighted from the course. Structured feedback regarding the quality of the material was completed. ***Results***: Statistical analyzes did not identify changes between initial and final AFAT values ($p > 0.05$), with an initial overall average score of 0.418 and final of 0.419. Five themes emerged from the content analysis, which demonstrate learning regarding the multifactorial nature of obesity; recognition of intersectional implications; understanding of impacts of stigma on health care; stimulation of critical thinking; and considerations about the course, overall, consistently well evaluated. ***Conclusion***: The quantitative instrument did not indicate change, however, qualitative analysis indicated that the course promoted expanded understanding of the topics discussed, as well as reflection and self-criticism by professionals.

Keywords: Obesity. Social Stigma. Permanent Education.

Resumo

Introdução: O estigma relacionado ao peso corporal, presente entre profissionais e estudantes da área da saúde, prejudica a saúde e o cuidado de pessoas com sobrepeso e obesidade, e deve ser combatido. ***Objetivo***: Este artigo visa relatar os resultados obtidos por meio da aplicação de um curso educativo sobre estigma relacionado ao peso corporal e o cuidado em saúde. ***Métodos***: A aplicação ocorreu com 11 profissionais de saúde e teve desenho misto. No componente quantitativo, foi realizada análise estatística dos resultados iniciais e finais obtidos por meio da Escala de Atitudes Antiobesidade (AFAT), com realização de teste t pareado (nível de significância de $p \leq 0,05$). No componente qualitativo, foi realizada análise de conteúdo temática de uma atividade final dissertativa sobre ideias que ficaram marcadas a partir do curso. *Feedbacks* estruturados a respeito da qualidade do material foram

preenchidos. ***Resultados***: As análises estatísticas não identificaram alterações entre os valores iniciais e finais da AFAT (p >0,05), com escore geral médio inicial de 0,418 e final de 0,419. Cinco temas emergiram da análise de conteúdo, os quais demonstram aprendizagem quanto à multifatorialidade da obesidade; reconhecimento de implicações interseccionais; compreensão dos impactos do estigma no cuidado em saúde; estímulo ao pensamento crítico; e considerações sobre o curso, no geral, bem avaliado de forma consistente. ***Conclusão***: O instrumento quantitativo não indicou mudança; contudo, as análises qualitativas demonstram que o curso promoveu compreensão ampliada sobre os temas discutidos, bem como a reflexão e a autocrítica das/os profissionais.

Palavras-chave: Obesidade. Estigma social. Educação permanente

INTRODUCTION

About 60% of the Brazilian adult population has a body mass index (BMI) classified as "overweight", including 26% presenting BMI classified as "obesity".[1] Overweight and obesity are complex conditions that have been recognized as important public health problems both at a national,[2] and international level.[3] Although complex, the diagnosis of obesity is defined solely by BMI, a fact that has been criticized by the medical community.[4,5] In addition to being an inaccurate measure of body fat, the construction of BMI as a diagnostic tool is permeated by various inconsistencies and conflicts of interest.[6]

Various constructions of negative meanings around fatness mean that people with overweight and obesity[a] are subject to what is known as "weight stigma". This can be defined as the social devaluation of people due to their high body weight, which leads to the production of discriminatory and prejudiced attitudes towards these individuals.[7]

Stigma can be manifested in the form of explicit, implicit, internalized or structural stigma.[8] The first two forms are linked to interpersonal relationships, in which stigma is reproduced more or less directly and consciously. Internalized stigma refers to the process of internalization of stigma by people with overweight and obesity, due to frequent exposure to the discriminatory attitudes of other individuals. Lastly, structural stigma refers to the way in which public and private spaces and services are organized, which are designed to exclude fat bodies, limiting their possibilities of existence and preventing access to rights - such as health, education, transport, leisure.[8] This exclusionary configuration leads to impaired access to education and work, which can also result in people with overweight and obesity being excluded from decision-making spaces for the formulation of public policies.[9]

Different studies have shown the negative impact of weight stigma on the health of people with overweight and obesity. These include a worsening of biochemical and metabolic parameters, such as higher levels of blood and salivary stress biomarkers, such as cortisol, C-reactive protein and glycated hemoglobin;[10] the production of mental suffering, manifested in symptoms related to depression and anxiety, worse body image perceptions, eating disorders and disordered eating;[11] and damage to social life, as mentioned above.[10,12-14]

The presence of this form of stigma among students and health professionals has also been widely evidenced.[15-18] This fact represents an aggravating factor for the context, since the stigma propagated by health professionals - through discriminatory treatment, an exacerbated focus on body weight, among other stigmatizing beliefs and attitudes - and in health services, in a structural way, hinders the production of care and keeps people with overweight and obesity away from these spaces.[19,20] In this way, those professionals who should be a source of security and health promotion become aggressors who not only fail to contribute to improvement, but significantly worsen the situation.

Permanent education is advocated as the priority strategy in Brazil for training workers in the Unified Health System (SUS), through the National Policy for Permanent Education in Health (PNFPS). The PNFPS was reviewed in 2018 in order to evaluate its implementation and the main difficulties faced, which range from drafting processes to program evaluation.[21] Currently, there is no public initiative aimed at training students and health professionals on the subject of "weight stigma". Even abroad, few robust interventions have been developed to address the issue, most of which are brief and poorly contextualized.[22]

Therefore, considering the epidemiological relevance of overweight and obesity; the deleterious effects of weight stigma on the health of people with these conditions; the presence of stigma among health professionals and in health services; and the lack of strategies to combat this form of stigma, it is necessary to create training mechanisms that address the issue among students and health professionals. The aim of

this article is to report the results of an educational course on weight stigma and health care done by health professionals working in the Primary Health Care (PHC) network in municipalities in the Greater "ABC Paulista" region (São Paulo, Brazil).

METHOD

This work was part of the scope of the larger study entitled "Support and analysis for the implementation of actions in primary care of the line of care for overweight and obesity in the municipalities of the Greater ABC region of São Paulo", within its component "Weight stigma: from theoretical understanding to change in health care".

In the first phase, an educational course was created entitled "Narratives of Weight: weight stigma and health care". The material was built in distance learning format and can be accessed free of charge through the Moodle "Extensão" a platform of the University of São Paulo (USP) (available at: https://cursosextensao.usp.br/course/view.php?id=2761). The course lasts 30 hours and is divided into six content axes, namely: 1) the etiology of obesity; 2) the social implications of obesity and intersectionality; 3) weight stigma; 4) the consequences of stigma for health care; 5) ways to combat and behave in the face of stigma; and 6) fat activism: acceptance and empowerment.

For each axis the study prepared video lessons in a variety of formats, infographics, interviews, podcasts, testimonials, texts and multiple-choice tests. Once the materials were finalized, the course was submitted to a panel of judges and underwent improvements. The process of building the course has been previously.[23] The full list of materials that make up the course can be found in the supplementary material.

After completing the development of the educational course, it was applied to a group of 15 health professionals working in the SUS PHC network in the municipalities of Greater ABC Paulista (SP), 11 of whom completed the course. The reason for not completing the course was mainly due to complications related to demands from the health services, which made it impossible to carry out all the course activities. Recruitment took place through the larger study from which this research was derived, in which the professionals were already included as subjects. The number of places was proportional to the size of the municipality, with a total of 15 places being made available. Participation in the study was conditional on signing an informed consent form. The application took place between February and April 2022, through USP's Moodle Extensao platform, with a two-month deadline for the professionals to complete the activities.

The analysis process had a mixed design. In the quantitative component, the results were statistically analyzed using the translated and adapted Antifat Attitudes Test (AFAT),[24] applied at the beginning and end of the course, by comparing the means and standard deviation. Filling in the scale was compulsory within the framework of the course. The means were compared using a paired t-test, with a significance level of $p \leq 0.05$. The test was carried out using Jamovi software.[25,26]

The AFAT has a total of 34 items and is divided into three subscales, called: 1) social and character depreciation (15 items, which assess social contempt and depreciation towards people with obesity); 2) physical and romantic unattractiveness (10 items, which reflect the refusal to relate to people with obesity, because they consider them clumsy and unattractive); and 3) weight control and guilt (9 items, which assess the belief in individual responsibility for excess weight).[24]

The questions were answered using a 5-point Likert scale, with scores ranging from 1 - totally disagree to 5 - totally agree, in which higher scores represent a greater presence of stigma. The total score and score for each subscale was calculated using the arithmetic mean of the item scores (sum of scores/number of

items), according to the authors' instructions. In order to calculate the score, the scores for items 2, 14, 23, 29, 31 and 34 were inverted.[24] In addition, at the end of each axis of the course, the professionals answered feedback consisting of questions about their positive and negative points and their general level of satisfaction. After the course had been completed, the participants responded to feedback about their use of the content covered; stimulating critical thinking about stigma and obesity; relationships between the theoretical field and professional practice; among other points. The answers were given using a 5-point Likert scale. With these results, a simple statistical analysis was carried out to assess the percentage distribution of the answers obtained. There was also a space in all the feedback for free comments ("observations"), which were used to support the analysis of the quantitative and qualitative data, when there were any considerations to be clarified about the structure of the course.

Regarding the qualitative component, participants were asked to carry out a final activity which consisted of writing down five ideas, developed in one paragraph each, about what they had learned from the course. As the material is an exercise in summarizing what was covered during the course, it has the potential to indicate the ability to recognize what has been learned through the ideas put forward in the activity. This method of analysis has already shown significant performance when used to assess the impact of a subject taught in an undergraduate course.[27]

The materials produced were analyzed using thematic content analysis.[28] The final activities were read by two researchers independently in order to identify perceptions and beliefs related to weight stigma and obesity. After this stage, similar quotes and expressions that corresponded to the objectives of the study were approximated using the "cutting and sorting" process.[28] The approximations were then classified into themes based on common elements discussed between the researchers. Finally, the themes were coded using a "Codebook", with a brief and extended description for each theme; inclusion and exclusion criteria; typical and atypical quotes; and an example of a quote classified as "close but no".[29] The coding was carried out by two independent researchers, with a subsequent calculation of the Kappa coefficient,[30] calculated using the GraphPad QuickCalcs online software, to check the inter-evaluator reliability. The results are presented by theme, using paraphrases and quotes from the participants, who have been identified by fictitious names.

This sub-project is a part of a larger project which was cleared by the Ethics Committee of the institution hosting the research, under process number 12785719.9.0000.5421.

RESULTS E DISCUSSION

Characterization of the study sample

The sociodemographic characterization of the professionals received for the test was relatively homogeneous in terms of gender, race/color and schooling.

The average age of the sample was 46.2 years, with a standard deviation of 12.87. Around 90% were cisgender women, white and had completed postgraduate studies. Among the participating professions, nutritionists stood out, accounting for 45% of the sample, with the remainder being made up of: doctors, dentists, speech therapists, physical education professionals and two administrators/service managers. The larger inclusion of nutritionists was possibly due to the nature of the topic, which at first was more directly linked to food and body issues.

Historically, the health sector has undergone a process of feminization of the workforce, with around 70% of the workforce made up of women in the 2000s.[31] In the case of nutrition, in 2016, around 94.1% of

the professionals employed were women, 68.6% of whom were white.[32] There are no consolidated analyses of the distribution of health professionals in terms of race/color.

Given the historical processes of marginalization of black people, access to various rights, including higher education, is still significantly lower when compared to white people.[33] Thus, the composition of the sample follows the general trend to a certain extent. Finally, considering the way in which volunteers were invited, it was not possible to control the gathering of a more diverse sample.

The fact of having a sample mostly made up of cisgender, white, highly educated women brings limitations in the analysis,[34] both of the quality of the course and its impact on professional training. In future applications, efforts will be made to make the sample composition more balanced in terms of race/color and gender, at least, in order to make the possibilities for analysis more complex.

Quantitative assessment of the course's impact

The AFAT was applied before the start of the course and after its completion. The values obtained for the mean and standard deviation at the two evaluation moments, as well as the p-values obtained from comparing the initial and final means, can be seen in Table 1.

Table 1. Mean, standard deviation and p-values of the total score and each subscale of the AFAT applied at the beginning and end of the course "Weight Narratives: weight stigma and health care" in health professionals from the primary health care network of the Greater ABC Paulista. Brazil, 2022.

	AFAT (total)		Sub-scale 1[a]		Sub-scale 2[b]		Sub-scale 3[c]	
	Start	End	Start	End	Start	End	Start	End
N	11	11	11	11	11	11	11	11
Mean	0,418	0,419	0,425	0,479	-0,209	-0,145	1,10	0,947
Standard Deviation	0,299	0,357	0,223	0,361	0,359	0,509	0,431	0,431
P-value[1]	0,505		0,736		0,728		0,066	

[1] Significance level of $p \leq 0.05$.
[a] Social and character depreciation
[b] Physical and romantic unattractiveness
[c] Weight control and guilt.

No significant changes were observed in the participants' anti-obesity attitudes. However, it is worth noting that even the initial scores were relatively low, with maximum values not reaching 2. Considering the items with an inverse score, the maximum score that can be achieved is approximately 4. In the study conducted by Obara and Alvarenga (2018), in which attitudes of nutrition students were assessed, the average score of the global scale was 1.87, much higher than ours.

Recently, the way obesity is viewed and treated has been reviewed. In a coordinated effort with national organizations, the World Obesity Federation (WOF) launched the "Changing Perspectives: Let's Talk About Obesity" campaign in 2023 for March 4, World Obesity Day.[35] In Brazil, the campaign was led by the Brazilian Society of Endocrinology and Metabology (SBEM) and the Brazilian Association for the Study of Obesity and Metabolic Syndrome (ABESO), with the slogan "Another way of looking". [36] Although the campaign took place after the period in which this research was carried out, other efforts in this direction had been underway since at least 2021.[36] In general terms, the aim

was to establish a more empathetic approach to health that takes into account not only the complexity and multifactoriality of obesity, but also the impacts of stigma on health care.[35,36]

The results of the scale may show that the sample, following the trend of recent debates, already presented some degree of awareness of the issue. Furthermore, although the AFAT is a valid and carefully constructed instrument,[24] the wording of its items is quite straightforward, making it possible to understand what would be more or less "acceptable" based on the object under investigation (anti-obesity attitudes). In this way, it can lead to biased responses, more in line with the desire for social acceptance than with reality.[37] There are few instruments translated into Portuguese which aim to assess stigmatizing attitudes related to body weight, and this is an important gap to be filled by future studies.

Despite the lack of significant change in the AFAT scores, the qualitative analysis of the final activity and the comments made by the students in the feedback show that there was a great deal of learning and understanding of the content. In order to remedy this shortcoming, the next applications of the course will use the Beliefs About Obese Persons[38] and Fatphobia Scale - Short Form,[39] translated and adapted by Souza, Japur and Laus and provided for our use, although not yet published.

Qualitative assessment of the course's impact

Five themes emerged from the thematic and exploratory content analysis of the final activity. Agreement between coders was considered adequate (Table 2) for the Kappa coefficient values obtained.[30] The themes and their examples of typical excerpts are described in Chart 1. The names cited are fictitious.

Table 2. Kappa coefficients of the themes obtained through the analysis of data produced in the final activity carried out by the health professionals included in the application test of the course "Weight Narratives: weight stigma and health care", carried out by two evaluators. Brazil, 2022.

Themes	Kappa*
Obesity: multifactorial and complex	1,000
Society and intersectionality	0,777
Barriers to providing inclusive care	1,000
Reflection and the need for change	0,955
Considerations about the course	0,833

*According to Cohen (1960), the results are classified as follows: 0.61 to 0.80 as "good" agreement and 0.81 to 1.00 as "very good" agreement.

Chart 1. Description of the themes that emerged from the qualitative analysis of the final activity of the course "Narratives of Weight: weight stigma and health care" carried out by health professionals from the primary health care network in the Greater ABC region of São Paulo, considering the central aspects of each theme and the respective typical excerpts (n=11). Brazil, 2022.

Theme/sub-theme	Theme description	Typical excerpt
Obesity: multifactorial and complex	The theme describes the understanding that, because it is a multifactorial and complex condition, caring for people with overweight and obesity requires moving away from a focus on body weight and/or BMI, as well as recognizing the impacts that stigma has on the health and care of these individuals.	*"All too often I see an issue that has been raised, that of various health problems being reduced to excess weight. With this reductionism, many people don't undergo tests and other treatments for their health problems, and are once again blamed for their fat bodies. This is a major impediment to seeking health care and a major hindrance to the bond between professional and patient." Maria*
Society and intersectionality and intersectionality	The theme describes an expanded understanding of the social impacts of having a fat body and the importance of taking an intersectional approach when working on the health demands of overweight and obese people.	*"Intersectionality - (a term I was unaware of, at least in the way it was described by Dr. Ramiro*), I understood it as several conditions together that aggravate the perception of oneself and further distort the image of the fat person, as well as other publics, before the judgment of society: woman, transvesti, black, northeastern, fat and axé (this video of the university professor was very significant for me)."Renata*
Barriers to providing inclusive care	The theme describes the barriers and weaknesses surrounding the care of people with overweight and obesity, such as the lack of infrastructure and equipment of adequate size, and the absence of laws punishing those who practice fatphobia..	*"We talk a lot about the line of care for overweight and obesity, but often in the health unit we don't even have a proper scale to provide dignity when weighing. That would be basic. How can a person seek help if they already feel uncomfortable, discriminated against, where they should receive care?" Rafaela*
Reflection and the need for change	The theme brings up reflections, generated from the course, on the care practices, self-perceived and observed in others, that need to be modified; the small changes already underway; the lack of training of professionals to care for users with obesity; and the path that still needs to be traveled, by professionals and services, to understand and combat stigma.	*"I was already trying to carry out my work with this in mind, but after the course I feel a great need to introduce this subject to my team and the other professionals involved. I believe that the entire health network has a lot to evolve and for this it is necessary to seek to understand more and more about the subject and, above all, to have a broader view of public policies and their impact on the health and quality of life of the population in general." Maria*
Considerations about the course	The theme describes the professionals' impressions of the course, as well as the relevance (in a direct way) that it had on their training.	*"What I remember very clearly is the promotion of respect, care, not devaluing or judging the user, we must always be ready to welcome 'bring them in, up and close' (...) May this course be transformative in the lives of many people and professionals, so that we can, as has been said, 'produce fairer care'." Helena*

* Dr. Ramiro: Professor in the course "Narratives of Weight".

Obesity: multifactorial and complex

The theme "obesity: multifactorial and complex" encompasses the understanding that obesity is a chronic disease or condition whose complexity requires the consideration of multiple factors, as can be seen

in the excerpt referred to in Chart 1. It includes considerations about the damage that stigma does to the health and care of people with obesity, as well as the need to take a broader view of professional practice.

The first axis of the course is dedicated to discussing the causality and multifactoriality of obesity. A critical debate is proposed regarding its classification as a disease or chronic condition, bringing in different perspectives. Our aim was to invite reflection on the complex nature of obesity, and none of the theoretical positions - from health authorities to researchers in the field of Fat Studies[b]-, activists and current politicians were denied or assumed to be absolute. This approach seems to have favored the development of a critical view of approaches to treating obesity.

One of the nutritionists refers to the evidence linking obesity to a greater risk of developing other morbidities, and how the increase in its prevalence has earned it the title of "epidemic". However, she questions the strong focus on weight loss and the "normalization" of biochemical tests in the treatment of the condition.

It is possible to see in this construction two complementary positions: the understanding that obesity is a risk factor for making the body sick; and the critical reflection that health is not limited to the absence of disease or the "normality" of biochemical tests, and that weight loss is not always the best strategy.

ABESO,[40] in its Brazilian Obesity Guidelines, assumes that obesity is a chronic, non-communicable disease whose treatment should be "complex and multidisciplinary". However, Paim & Kovaleski[41] argue that the guidelines use approaches focused on weight loss and reinforce the notion that it is impossible to have obesity and be a healthy person, something that is controversial scientifically[39] and which we will try to discuss in the course.

On the other hand, the consensus produced by Rubino et al.[7] discusses the need to overcome the false notions that obesity is simply a question of "eating too much and exercising too little". The authors emphasize that obesity is primarily the result of a combination of genetic, epigenetic and environmental factors.

The development of the ability to understand obesity as a complex condition and the inclusion of critical perspectives on the pathologization of the fat body throughout the course seem to have broadened the view of health professionals, as well as highlighting how simplistic treatments and approaches are stigmatizing.

Society and intersectionality

The theme of "society and intersectionality" contains statements that convey an understanding of the social impacts of having a fat body, as well as the importance of taking an intersectional approach when working with the health demands of people with overweight and obesity. The excerpt inserted in Chart 1 reveals how understanding the concept of "intersectionality" was facilitated by the presence and speech of professor Letícia Carolina Nascimento, "a woman, transvestite, black, from the Northeast, fat and with axé".

Nevertheless, Collins & Bilge[34] propose that intersectionality should not be limited to the understanding of the term as a concept, but rather taken on primarily as an analytical tool for different purposes. Intersectional studies indicate that the perception, experience and ways of dealing with stigma related to body weight vary according to the intersection of each person's categories of social differentiation, within the systems of power of capitalism, racism and cis-heteropatriarchy.[42-45] The understanding that it is necessary to consider these different relationships when being a care-producing agent dealing with any patient, not just those who are overweight and obese, can be seen in nutritionist Maria's speech:

> Intersectionality was a new concept for me and one that made a lot of sense. In my work as a nutritionist in a NASF team, we come across people all the time who experience various forms of violence at the same time - poverty, sexism, domestic violence - and it's clear how much this impacts on health care. (Maria, nutritionist).

Our intention was precisely to highlight the intersections of categories of social differentiation that must be taken into account when receiving health demands. The topic is dealt with in the second axis of the course, right after the discussions on the etiology of obesity. However, the intersectional logic of analysis persists throughout the other strands of syllabus content, in which intersectionality is addressed in a cross-cutting manner.

Barriers to providing inclusive care

The theme "barriers to providing inclusive care" includes speeches that address the barriers faced by overweight and obese people in health services. The following were mentioned in particular: the lack of infrastructure in health services; the absence of adequately sized equipment; and the absence of laws punishing stigmatization. Professionals began to see the problems of inadequate infrastructure and equipment in their own workplaces, as can be seen in the excerpt in Chart 1.

Phelan et al[19] point out that one of the measures that can be taken to avoid weight stigma is to modify the physical spaces of health services, adapting the infrastructure and equipment. The lack of adequate equipment and infrastructure for heavier body weights has already been indicated as a factor that reduces the demand and engagement of people with overweight and obesity in health services.[19]

The difficulties are not only related to structures and equipment directly related to professional practice, but also to even more basic needs, such as suitable chairs:

> We experiment great hurdles in primary care in having adequate materials and equipment to care for fat people. In my workplace, the chairs aren't suitable and the scales aren't heavy-duty, so we always have to improvise. (Maria, nutritionist).

Lack of staff training, attribution of all health issues to excess weight, assumptions about weight gain, little trust and poor communication between the parties are also reasons that keep users away from services.[19] Recognizing the presence of stigma in services and professionals is essential to seeking change.

Reflection and the need for change

The theme "reflection and need for change" brings up perceptions about care practices that need to be modified, small changes underway and what still needs to be done, with regard to health professionals and services, to combat weight stigma. Among the comments made about the stigmatizing practices observed and now perceived, we can highlight: judgments, prejudice and discrimination on the part of health professionals, the reductionist way of seeing obesity as a simple "lack of will" to lose weight, the exacerbated focus on BMI and the pathologization of the fat body.

These statements seem to be related to the proposed discussions on the multifactoriality and causality of obesity, as well as the medicalization and pathologization of the fat body. In the way they were conducted,

they made it possible to understand why practices based exclusively on BMI or on blaming the individual are stigmatizing. Helena, a public health worker and administrative officer, recalls the health care received by her husband, a man with obesity, when he twisted his ankle

> We did an x-ray, he explained what had happened, and as he couldn't miss the doctor said: look you have to lose weight, because your body is overloaded. [...] The fact that he is fat made my husband, who was walking, turn his foot?" (Helena, health worker).

Notions of an expanded "gaze" or "vision" were mentioned a lot by the professionals. With regard to the movements generated by the course, the following were highlighted: the attempt to adopt a broader view when providing care, the desire to matrix the issue in the PHC network, the consideration of subjectivities and possible aesthetic and social pressures (and not health issues), and the need to offer active, attentive and affective listening.

Axis 5 of the course directly addresses ways to combat weight stigma, while the sixth axis addresses the empowerment of fat people through expanded and involved care. However, it is notable that the statements grouped under this theme, which is closely linked to professional practice, carry meanings and understandings acquired across the board.

Reflections on the need for change were not restricted to health care, but considered structural factors in society. We believe that framing the discussion on obesity and stigma as not only a health issue, but also a social and justice issue, has favored this type of thinking.

Considerations about the course

The theme "considerations about the course" contains the professionals' impressions of the course, as well as direct mentions of its impact on their training. In general, the most frequently mentioned points were: the extent of self-perceived learning, the quality and diversity of the materials, and the importance of the presence of fat people. These points will be discussed in conjunction with the comments made by the professionals in the feedback given for each axis.

The professionals felt that the course added to their training and expressed the wish that more people could have access to the materials. Rafaela, a nutritionist, told us that she now feels more empowered to fight stigmas, "whatever they may be", indicating a gain related to facing other types of discrimination. Rafaela refers to the topics as having "a depth that stirs the feelings", which may indicate the emotional factor as another mobilizer.

Three points were highlighted in the feedback: the centrality of the testimonies as components that gave concreteness to the discussions; the diversity of the materials, which made the course more enjoyable; and reflections on professional practices. The importance of the presence of testimonies from fat people was highlighted several times. The absence of testimonies in the fifth axis - the only one without testimonies and/or contributions from fat people - was noted and pointed out as something negative.

The need to incorporate and give prominence to the perspectives of fat people when dealing with stigma related to body weight has been reinforced by both fat activism[46,47] and academia.[48,49] The results obtained from the analysis of this course reiterate that, as well as being necessary to seek greater social justice, this approach favors learning processes by grounding the theoretical in reality.

The mixture of text resources, various videos and audio was received positively, making it easier to follow the course. This variety was prioritized in an attempt to accommodate different forms of learning.[50] Its direct reference by professionals leads us to believe that it was successful.

Although there is not enough literature to determine which are the best methodological strategies to address weight stigma, given the complexity of the topics "stigma" and "obesity", multifaceted and multilevel approaches are encouraged.[22,51] Furthermore, interventions that address the causality of obesity and controllability of body weight have been shown to favor changing attitudes and beliefs about obesity. Interventions focused on empathy exercises and inclusive approaches to body weight have a greater tendency to modify attitudes, but not beliefs, and mixed approaches have varied performance depending on the resources used.[51]

In general, interventions focused on technical-scientific knowledge seem to have a greater influence on changing beliefs, while interventions that use awareness-raising speeches tend to have a greater influence on changing attitudes.[51] The positive results achieved by our course may have been due to the integration of the various types of interventions mentioned, with the addition of other perspectives and resources.[23]

Evaluation of course quality

The criteria analyzed through the feedback on each axis, as well as the percentage distribution of the professionals' answers to each question, can be seen in Table 3. The data relating to the overall assessment of the course can be seen in Table 4

Table 3 Percentage distribution of the responses to the feedbacks for each axis, regarding the evaluation of the quality of the educational course, made by the test professionals (n=11). Brazil, 2022.

Questions	Axis 1[a]	Axis 2[b]	Axis 3[c]	Axis 4[d]	Axis 5[e]	Axis 6[f]
Axis organization						
Very bad / bad	0,0%	0,0%	9,1%	0,0%	0,0%	0,0%
Neutral	0,0%	0,0%	0,0%	9,1%	9,1%	0,0%
Very good / good	100,0%	100,0%	90,9%	90,1%	90,9%	100,0%
Difficulty monitoring the axis						
Very difficult / difficult	9,1%	9,0%	9,0%	9,0%	0,0%	0,0%
Neutral	18,2%	36,4%	27,3%	27,3%	27,3%	18,2%
Very easy / easy	72,7%	54,6%	63,7%	63,7%	72,7%	81,8%
Teaching methods (video lessons, podcasts, texts, etc.)						
Very bad / bad	0,0%	0,0%	9,1%	0,0%	0,0%	0,0%
Neutral	0,0%	0,0%	0,0%	0,0%	9,1%	0,0%
Very good / good	100,0%	100,0%	90,9%	100,0%	90,1%	100,0%

Table 3 Percentage distribution of the responses to the feedbacks for each axis, regarding the evaluation of the quality of the educational course, made by the test professionals (n=11). Brazil, 2022.(Cont).

Audio quality of mandatory materials						
Very bad / bad	18,2%	9,0%	9,1%	0,0%	9,1%	0,0%
Neutral	0,0%	18,2%	9,1%	18,2%	9,1%	9,1%
Very good / good	81,8%	72,8%	81,8%	81,8%	81,8%	90,9%
Quality of images and videos required						
Very bad / bad	0,0%	0,0%	0,0%	0,0%	9,1%	0,0%
Neutral	0,0%	18,2%	18,2%	18,2%	9,1%	0,0%
Very good / good	100,0%	81,8%	81,8%	81,8%	90,9%	100,0%
Quantity of complementary materials available						
Less than necessary	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Good	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
Excessive	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Relevance of complementary materials to the topic						
Impertinent / not very relevant	0,0%	0,0%	0,0%	0,0%	9,1%	9,1%
Neutral	9,1%	0,0%	9,1%	0,0%	0,0%	0,0%
Very relevant / relevant	90,9%	100,0%	90,9%	100,0%	90,9%	90,9%
Did the axis provide you with good practical and theoretical learning?						
Yes	100,0%	100,0%	81,8%	90,9%	90,9%	100,0%
No	0,0%	0,0%	18,2%	9,1%	9,1%	0,0%
The course material was easy to understand.						
Completely / partially agree	100,0%	90,9%	90,9%	100,0%	100,0%	100,0%
Neutral	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Totally / partially disagree	0,0%	9,1%	9,1%	0,0%	0,0%	0,0%
Did you access the supplementary materials?						
Yes	63,6%	27,3%	36,4%	36,4%	27,3%	27,3%
Partially	36,4%	63,6%	54,5%	54,5%	63,6%	63,6%
No	0,0%	9,1%	9,1%	9,1%	9,1%	9,1%
Considering your complete experience with the course so far, how likely are you to recommend it to a friend or colleague?						
Very low / low	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Neutral	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Very high / high	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

[a] Etiology of obesity
[b] Social implications of obesity and intersectionality
[c] Stigma related to body weight
[d] Consequences of stigma for health care
[e] Ways to combat and behave in the face of stigma
[f] Fat activism: acceptance and empowerment

Table 4. Percentage distribution of responses to general feedback, regarding the evaluation of the quality of the educational course, made by the test professionals (n=11). Brazil, 2022.

Questions	Distribution %
The mandatory content is clear and objective	
Completely / partially agree	100,0%
Neutral	0,0%
Strongly / partially disagree	0,0%
The compulsory content is applicable to the professional's day-to-day work	
Totally / partially agree	100,0%
Neutral	0,0%
Totally / partially disagree	0,0%
The amount of supplementary material is	
Excessive	0,0%
Sufficient	100,0%
Insufficient	0,0%
Complementary materials are relevant to the module	
Irrelevant / not very relevant	0,0%
Very relevant / relevant	100,0%
The methodology encourages reflection	
Totally / partially agree	100,0%
Neutral	0,0%
Totally / partially disagree	100,0%
The quality of the materials is	
Very bad / bad	0,0%
Neutral	0,0%
Very good / good	100,0%
The content is clear	
Totally / partially agree	100,0%
Neutral	0,0%
Totally / partially disagree	0,0%

Table 4. Percentage distribution of responses to general feedback, regarding the evaluation of the quality of the educational course, made by the test professionals (n=11). Brazil, 2022.(Cont)

Questions	*Distribution %*
The assessment methods for the compulsory content are	
Very bad / bad	0,0%
Neutral	9,1%
Very good / good	90,9%
The course structure promotes more fluid learning	
Totally / partially agree	100,0%
Neutral	0,0%
Totally / partially disagree	0,0%
The objective of the course was clearly explained at the beginning of the course	
Completely / partially agree	100,0%
Neutral	0,0%
Totally / partially disagree	0,0%
The course workload is adequate.	
Completely / partially agree	100,0%
Neutral	0,0%
Totally / partially disagree	0,0%
The course gave me a good amount of practical and theoretical knowledge	
Completely / partially agree	100,0%
Neutral	0,0%
Totally / partially disagree	0,0%
The course met my expectations.	
Completely / partially agree	100,0%
Neutral	0,0%
Totally / partially disagree	0,0%

We noticed, through comments written in the free field in the feedbacks, that the negative evaluations regarding the quality of the audios referred to their volume, which was sometimes low. All the videos and podcasts were checked and their reproduction faults corrected.

The responses that pointed to difficulties in keeping up with the content were related to the course's hosting platform, although the team monitored participants' progress and tried to help solve problems. In order to reduce possible difficulties in future applications, a tutorial was prepared with objective instructions

on how the platform works, which was inserted into the introductory axis. Overall, the course was positively evaluated in terms of the criteria consistently assessed throughout all the axes and in the final evaluation.

CONCLUSION

Although there was no significant change in the AFAT values, probably due to the points discussed, the qualitative analyses indicate that the course provided a broader understanding of the topics discussed, as well as reflection and self-criticism on the part of the professionals. The sequence of thematic axes seems to have contributed to this process, and it was possible to observe a greater relationship between theoretical learning when the professionals referred to axes 1, 2 and 3, and greater practical learning when they referred to axes 4, 5 and 6.

As for the evaluation of the course itself, its quality was considered positive and consistent across all the axes. In general, we believe that the materials produced have the potential to be adapted and replicated in other contexts and spaces, as well as representing, as far as we were able to ascertain, the most complete course on the subject currently available.

The course would not have had the same impact and quality if there hadn't been fat people present who could speak in their own voices. From the outset, the team recognized the thin privilege that most of us enjoy. Being able to count on the contribution of fat people was essential so as not to limit the discussion to our privileged point of view, distanced from the reality they experience.

More studies are needed to verify the impact of the educational course on larger and more diverse samples, a limitation of this study. There is also a need to test other quantitative instruments capable of assessing the presence of weight stigma among students and health professionals with greater sensitivity

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Notas

[a]Sometimes we use the term "people with overweight or obesity", in alignment with national and international health guidelines (Brazil, 2021; Lobstein, Brinsden and Neveux, 2022); and sometimes the term "fat people", in alignment with the constructions of fat activism (Cooper, 2021) and the field of Fat Studies (Rothblum and Soloway, 2009), which claim the term as a neutral descriptor and/or a political position contrary to pathologization of the fat body. The use of "fat people" is especially related to references to the testimonials and/or speeches of the application test participants.

[b] Academic field of critical studies on the fat body (Cooper, 2021).

Materials that make up the educational course "Narratives of Weight: weight stigma and health care".

Subtopic	Didactic material[1]	Content
1.1. Conceptualization and causality of obesity	Video lessons (2D *lettering* animation)	Addressing the entire causality involving obesity, with greater emphasis on physiological factors at this time.
	Video lesson with presenter in studio	Talks about the relationships between capitalism, food systems and obesity.
	Video lessons (2D *lettering* animation) with presenter	Presentation of the diagram titled "*The obesity system map*", developed within the framework of the program "*Foresight Tackling Obesities*".
1.2. Relationship between overweight, obesity and health	Infographic	Overview of overweight and obesity from the point of view of public health and epidemiology.
	Video lessons (2D *lettering* animation)	Presentation of the confounding factors involved in weight gain, such as socioeconomic issues, development of comorbidities, physical activity, etc.
	Podcast	Conversation about the Health at Every Size approach®, with the nutritionist and therapist Mariana Dimitrov Ulian.
1.3. Medicalization of obesity: is obesity a disease or not?	*VideoAsk*	Divergent speeches by Professor Patrícia Jaime and Professor Bruno Gualano, in response to the questions: Do you believe in the concept of healthy obesity? Why?

Materials that make up the educational course "Narratives of Weight: weight stigma and health care".

Subtopic	Didactic material[1]	Content
	Video lesson with presenter in studio	Closing the axis, with considerations about the medicalization of obesity, the multiplicity of contexts and subjectivities, and the differences between individual and population approaches.
	Depositions	Speeches of people medically classified with overweight and obesity, who bring the meanings that the pathologization and medicalization of the fat body have in their experiences.
2.1. Overweight and obesity in Brazilian society	Infographic	Brief epidemiological overview, with prevalence and stratified distribution of overweight and obesity by sex and education, in Brazil
	Video lessons (2D *lettering* animation)	Brazilian qualitative studies that bring the experience of what it is like to be a person classified as overweight and obese in Brazil.
	Depositions	Speeches of people medically classified with overweight and obesity, who bring the social impacts of this classification into their lives.
2.2. Intersections of gender, race and class	Video lesson with presenter in studio	Brazilian Realities: placement of statistical data that seek to bring reflections on forms of violence and inequality of gender, sexuality, race and class in Brazil.
	Video lesson with presenter in studio	Considerations on intersectionality and obesity.
	Video lessons (2D *lettering* animation)	Brief discussion of studies that analyze the repercussions of obesity through the perspective of intersectionality.
	VideoAsk	Nutritionist Fernanda Sabatini speaks in response to the question: how do you interpret the perceptions of homeless people about food and a healthy body?
	Interview	Interview with Professor Letícia Carolina Nascimento, about intersectionality and her experience as a travesti, black and fat woman.
	Video lessons (2D *lettering* animation)	Expository video about the text "I will not die: loneliness, self-care and resistance of a fat black travesti beyond the pandemic", by Letícia Carolina Nascimento.
3.1. Understanding weight stigma	Video lesson with presenter in studio	Understanding the weight stigma, addressing its different forms and manifestations.
	Video lessons (2D *lettering* animation)	Presentation discussing the consequences of weight stigma for the health of people with overweight and obesity
	Video lessons (2D *lettering* animation) with presenter	Presentation discussing the consequences of weight stigma for the health and academic performance of children with overweight and obesity.
	Depositions	Speeches of people medically classified with overweight and obesity, who bring the impacts of this classification on their health.

Materials that make up the educational course "Narratives of Weight: weight stigma and health care".

Subtopic	Didactic material[1]	Content
4.1. Presence of stigma among students and health professionals	*Podcast*	Interview with nutritionist Maria Clara Gaspar about a study comparing the social representations of overweight and obesity and the weight stigma presented by lay women and nutritionists in three countries: Brazil, France and Spain.
	Infographic	Studies that highlight the presence of stigma among students and health professionals.
4.2. What are the impacts of stigma on health care?	Video lessons (2D *lettering* animation)	Presentation and discussion of studies that point out the consequences of stigma for health care.
	Depositions	Speeches of people medically classified with overweight and obesity, who bring the consequences of this classification in relation to health care.
5.1. Self-criticism and changes at the micro and macro level	Video lessons (2D *lettering* animation)	Provocations and reflective exercises that bring examples of professional practice that may or may not reflect and perpetuate the weight sitgma, with guidance and indications on how to avoid reproducing the stigma.
	Interactive e-book	Presentation of possibilities to combat weight stigma, at a macro and micro level, as well as which strategies can be used in health services (infrastructure, training, etc.).
	Video lessons (2D *lettering* animation)	Presentation of ways and means by which it is possible to build health care that does not stigmatize people with overweight and obesity, supported by a Delphi List (Scagliusi, 2021) that contains items related to changes in the characteristics of health services and practices of health professionals.
	VideoAsk	Mariana Dimitrov Ulian and Erick Cuzziol respond to the question "What is your main advice for a healthcare professional who is aware of stigma and who does not want to reproduce it in their practice?"
6.1. Dialogues between the fight of fat activism and health care	Interview	Interview with philosopher, feminist, activist, researcher of studies on the fat body Malu Jimenez, about the dialogues between transdisciplinary studies on the fat body and health.
	Interview	Interview with nutritionist and anti-fat phobia activist in healthcare environments Erick Cuzziol, about the dialogues between the fight against fat phobia and professional practice as a healthcare professional.
6.2. How to strengthen people affected by stigma?	Video lesson with presenter in studio	Class on care technologies, expanded clinic, and "expanded and involved care", bringing the impacts of stigma related to body weight to the professional-user bond. Closing of the course.

Video lessons with presenter in studio: video lessons recorded in a recording studio, or on online video conferencing platforms, in which the presenter does not use slide support or other resources.

2D *Lettering* animation: video lessons recorded with the support of slides and/or presentations, with or without the presence of the presenter's image.

Videoask: used the online platform of same name, in which guests answer questions, through videos, with a time limit of 2 minutes.

Interactive e-book: own resource of *Moodle Extensão da Universidade de São Paulo*, which allows you to mix different tools (such as image games, interactive exercises, texts, videos, etc.) to display the content in a digital book format.

Cited reference:

Scagliusi FB. Estigma relacionado ao peso corporal: da compreensão teórica à mudança no cuidado em saúde [tese de livre docência]. São Paulo: Faculdade de Saúde Pública da USP; 2021.

Coodebook for supplementary material

Code Theme	Short name	Short description	Detailed description	Inclusion criteria	Exclusion criteria	Typical example	Atypical example	Close but no
Obesity: multifactorial and complex	Multifactorial and complex	Describes the understanding of obesity as a multifactorial and complex condition or disease.	The theme describes the understanding that, as it is a multifactorial and complex condition, to care for people with overweight and obesity it is necessary to move away from focusing on body weight and/or BMI, as well as recognizing the impacts that stigma has on the health and care of these individuals.	Excerpts that describe obesity as a multifactorial and complex condition or disease, the impacts of stigma on the health care and health of individuals with obesity, and the need for a broader perspective when caring for these people are included	Excerpts that refer to changes in the practices of health care professionals who took the course are excluded.	"I very often see an issue that has been highlighted, that several health problems are reduced to being overweight. With this reductionism, many people are not subjected to exams and other treatments for their health problem, and once again they are blamed because of their fat body. This is a major impediment to seeking health care and a major obstacle to the bond between professional and patient." Maria	-	"Knowing the types of stigmas (structural, internalized, explicit, implicit) helped me to broaden my perspective, especially in the moments where I am with the user during consultations." Marcela

Coodebook for supplementary material

Code Theme	Short name	Short description	Detailed description	Inclusion criteria	Exclusion criteria	Typical example	Atypical example	Close but no
Society and intersectionality	Society and intersectionality	It describes the processes of understanding the social implications of obesity, as well as its intersectional implications.	The theme describes paths that lead to a broader understanding of the social impacts of having a fat body and the importance of having an intersectional perspective when addressing the health demands of people with overweight and obesity.	Excerpts that refer to the concept of intersectionality, the perception of fatphobia in different spaces and contexts, and direct quotations from testimonies and interviews with people with obesity are included.	Excerpts referring to reflections on the need for individual and structural changes to modify this scenario are excluded.	"Intersectionality - (a term that I was unfamiliar with, at least in the way it was described by Dr. Ramiro), I understood it as several conditions together that aggravate the perception of oneself and further distort the image of fat people, as well as other audiences, in the face of society's judgment: woman, travesti, black, northeastern, fat and axé (this video of the university professor was quite significant for me)". Renata	"The words in bold really marked my journey on this course, regardless of gender, race, social class, everyone deserves respect, to be treated well, to have their demands and complaints heard and addressed as far as possible, as well as resolved." Helena	"I kept going through my head all the situations I see involving fatphobia in the workplace and in relationships. And reflecting how far we are from a society free of prejudice and accepting that we have different bodies." Marcela

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Theme								
Barriers to providing inclusive care	Barriers	It describes the perception of barriers between people with overweight and obesity and health care.	The theme describes the barriers and weaknesses that involve caring for people with overweight and obesity, such as the lack of infrastructure and equipment of adequate size, and the absence of laws that punish those who practice fatphobia.	References to the difficulties faced in primary care services to serve fat people, the impacts on engagement in health services, and the absence of legislation that guarantees their rights and the punishment of fatphobic actions are included.	Excerpts that refer to the impacts of stigma on the health of people with overweight and obesity are excluded.	"We talk a lot about the care of overweight and obesity, however, often, in the health unit, we do not even have an adequate balance to provide dignity during weighing. What would be the basics? How will a person seek help if they already feel uncomfortable, discriminated against, where they should receive care?" Rafaela	-	-

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Theme								
Reflection and need for change	Reflection and change	It describes the reflections made regarding professional practices and the need to change stigmatizing practices.	The theme brings reflections on professional health care practices, self-perceived and observed in others, which need to be modified; the small changes already underway; the lack of training of professionals to care for users with obesity; and the path that still needs to be taken, by professionals and services, to understand and combat stigma.	Excerpts that refer to the changes that professionals have introduced into their professional practices, critical reflection regarding the (stigmatizing) health care produced in services and the need for change at an individual and structural level are included.	Excerpts referring to the impacts of stigma on engagement with health services are excluded.	I was already trying to carry out my work with this perspective, but after the course I felt a great need to teach this subject to my team and the other professionals involved. I believe that the entire health network has a lot to evolve and to achieve this it is necessary to increasingly understand the subject and, above all, have a broader view of public policies and their impact on the health and quality of life of the population in general. . Maria	This paradigm must be urgently broken. Perhaps we could start in schools by showing our children and their families that we are just different, understanding the concept of plurality and that this brings much more benefits than insisting on imposed standards and labels. Yasmin	We talk a lot about the care of overweight and obesity, however, often, in the health unit, we do not even have an adequate balance to provide dignity during weighing. What would be the basics? How will a person seek help if they already feel uncomfortable, discriminated against, where they should receive care? Rafaela

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Theme								
Course considerations	About the course	Describe general impressions about the course.	The theme describes the professionals' impressions of the course, as well as the relevance (directly) it had in their training.	Excerpts that directly report the impressions made about the course are included.	Excerpts that do not directly refer to the course and its materials are excluded, such as reflections on professional practice.	“What I carry very latently in my memory is the promotion of respect, care, not devaluing, judging the user, we must always be ready to welcome “bring it inside, upward and closer” (...) May this course be transformative in the lives of many people and professionals, so that we can, as was said, 'produce fairer care'.” Helena	I have no doubt that the impact of the participants is enormous, given the proportion of content presented, given so many testimonies and struggles experienced here. Hector	-

Contributors

Oliveira LC and Scagliusi FB participated in the conception of the research and the article; analysis and interpretation of data; discussion of results; article writing; final approval of the version to be published; responsibility for all aspects of the work in ensuring the accuracy and integrity of any part of the work. Soares ARS, Sabatini F, Ulian MD and Unsain RAF participated in the research design; discussion of results; relevant critical review of the article's intellectual content; final approval of the version to be published; responsibility for all aspects of the work in ensuring the accuracy and integrity of any part of the work.

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