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PART I. DISEASES AND PROBLEMS DISTINGUISHED BY WHO AND FAO

STIGMATIZATION AND DISCRIMINATION OF OBESE PATIENTS BY HEALTHCARE WORKERS: A GLOBAL HEALTHCARE ISSUE

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Authors' contribution:

A. Study design/planning
B. Data collection/entry
C. Data analysis/statistics
D. Data interpretation
E. Preparation of manuscript
F. Literature analysis/search
G. Funds collection

Summary

Obesity is a chronic, metabolic disease that stems from an imbalanced calorie intake and can be influenced by genetic, environmental and individual factors. Obesity and its complications are among the major global health issues of the 21st century. Many studies have confirmed that obese individuals evoke negative emotions in others, such as disgust, repulsion or even anger. Search was performed on two databases: PubMed and Google Scholar. The following keywords were used: "obesity", "obese", "patient", "stigma", "weight bias", "healthcare", "healthcare professionals", "medical professionals", "discrimination", "fatphobia". The majority of the articles come from 2013-2023, and no language restriction was applied. Medical personnel often display negative attitudes toward obese patients, which negatively affects the patient's health and the quality of received care. Currently available literature suggests the occurrence of obesity and weight stigma in many countries around the globe, such as: Poland, Germany, Brazil, USA, Canada, Mexico, Singapore, Israel, and Australia. Both medical personnel and medical students display examples of stigma behaviors. Despite the prevalence of obesity, people with excessive body weight often face social disapproval and discrimination. This stigmatizing behavior can also occur among medical personnel. There is a need to eliminate these negative attitudes and beliefs within the medical community.

Keywords: weight prejudice, social stigma, health workforce, obesity, social discrimination

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Introduction

Obesity is a metabolic, noncommunicable, chronic disease, resulting from disturbed energy homeostasis in the body [1-3]. World Health Organization (WHO) defines obesity as the excessive and/or abnormal accumulation of body fat [4]. Obesity and its complications are among the major global health

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problems of the 21st century. Estimates suggest that one in five adults in Poland is struggling with excessive body weight [1]. On a global scale, one in every eight individuals struggles with obesity. This health issue also affects children. In 2022, 37 million children under the age of 5 and over 390 million children and adolescents aged 5-19 were obese [4].

Obesity usually lacks a tendency to resolve itself, which incurs the development of health complications resulting from the accumulation of fat tissue in the human body [5]. A group of disease entities that are complications of high body weight include:

- cardiovascular diseases – hypertension, atherosclerosis;
- respiratory diseases – asthma, sleep apnea, hypoventilation syndrome;
- metabolic conditions – prediabetes, type 2 diabetes, insulin resistance;
- genitourinary disorders – polycystic ovary syndrome, hypogonadism, stress urinary incontinence;
- other disease entities – non-alcoholic fatty liver disease (NAFLD), osteoarticular diseases, cancer, mental disorders [2,5,6].

Lingering health consequences of obesity can lead to reduced quality of life, disability and ultimately the death of the patient [6].

The increasing prevalence of obesity and the wide range of its potential complications contribute to the rise in healthcare expenses. Worldwide, from 2 to 7% of all healthcare expenditures are attributed to actions aimed at preventing and treating obesity, with even up to 20 percent of all healthcare spending being attributed to obesity due to its complications and associated diseases [7,8].

Obesity also contributes to a lower quality of life. Obese individuals suffer from stigmatization and discrimination in many aspects of life, are more prone to depression, and often have negative self-perceptions and low self-esteem [9]. Additionally, obesity impairs daily functioning and may contribute to the development of disabilities [10]. Obesity is classified into two types based on the root cause:

- primary obesity – more common, also called simple, caused by a positive calorie balance;
- secondary obesity – developed as a result of some other medical condition, e.g., drug induced, genetic basis [3].

It can also be classified based on fat distribution inside the body:

- android/abdominal obesity – excessive fat is located in the abdominal area;
- gynecoid obesity – most of the fatty tissue is located in the hips, thighs and buttocks [2,3].

Diagnostic criteria of obesity

To diagnose a patient with obesity, clinical practitioners use commonly available tools. The primary measure of excessive body weight is the Body Mass Index (BMI), which is calculated as body weight (in kilograms) divided by height (in meters) squared [11,12]. The WHO recommends a diagnosis of obesity for individuals whose BMI is greater than or equal to 30 kg/m^2 [4].

While BMI is easy to use, it does not take into account differences in quantity, but also in distribution, between body fat and lean body mass [12]. A popular measure to determine a specific type of obesity is the waist-to-hip ratio (WHR). It is also simple to use and can be helpful in determining body fat distribution and obesity type. It takes two measures, waist circumference (above the belly button) divided by hip circumference [3,13]. Interpretation of the obtained results can be found in Table 1.

Table 1. Interpretation of WHR score by gender and obesity type [3,13]

Gender \ Type	Abdominal	Gynecoid
Men	> 1	< 1
Women	> 0.8	< 0.8

Bioelectrical Impedance Analysis (BIA) is also used in diagnostics. BIA is a noninvasive and fairly precise method of assessing a patient's body composition. It consists of passing a low-intensity electric current through human tissues and measuring the voltage to calculate the impedance of a body. Lower levels of impedance suggest higher water level which indicates more muscles tissue [3,14].

So-called growth charts have been developed for pediatric patients. They are an essential tool for assessing a child's development, health status and nutritional status. To assess a child's health status, healthcare personnel can use a growth chart for BMI or separate charts for height and weight [15]. BMI charts are the most commonly used; it is sufficient to just calculate body mass index and place it on the appropriate chart in order to formulate the diagnosis [15]. In Poland, separate BMI charts for boys and girls from age 1 to 18 are used. For the newborns, more detailed monthly charts are used, usually up to first year [16]. A BMI value between the 90th and 97th percentile suggests overweight, while a BMI above the 97th percentile indicates obesity [17].

Etiology

A positive energy balance, sustained over a significant period of the patient's life, is commonly considered to be the direct cause of obesity [2]. Other factors also play a significant role in the etiology of obesity.

Environmental risk factors, affecting individuals as well as the population as a whole, are extremely important in the development of obesity. These risk factors include insufficient physical activity, an inappropriate dietary pattern, and excessive fat intake [2,3].

Low socio-economic status and lower education levels are also recognized as risk factors, due to the prevalence of excessive body weight among representatives of the population groups in question [3]. Excessive weight gain, resulting in obesity, is also associated with poorer physical and mental health [2,3].

In addition, feelings of stress can also influence the increased likelihood of developing obesity. When under stress, people might reach for unhealthy foods that contain high levels of saturated fats, simple sugars and salt [18].

The results of clinical observations suggest that genetic factors can also play a role in the pathogenesis of obesity, meaning that the offspring of obese parents are at an increased risk of being characterized by an above-average body weight [3].

Stigmatization of obesity

Stigmatization involves pointing out a feature of outward appearance or a character trait that distinguishes the person possessing it as a person of lower social value [19]. Stigmatization can also be expressed as the belief in damaging, untrue stereotypes that relate to characteristics of appearance or disposition [19].

Despite the prevalence of obesity in society, it still lacks social acceptance. In their daily lives, obese people face many harmful stereotypes and prejudices about their body shape [20]. Many studies have confirmed the fact that obese people arouse negative emotions in others, i.e., repulsion, anger, or disgust [21]. Specialized staff in the health sector also have a negative attitude towards obese patients [20,21]. The discussion of obesity can be controversial and emotionally charged, as the vocabulary used to describe an overweight person's body can affect the self-perception or attitudes and behavior of individuals. Disparaging remarks about a patient's body are a segment of the broad problem of obesity stigma [22].

Aim of the work

The aim of this review study is to analyze the available literature on discrimination against obese patients by qualified healthcare staff.

Methods

A literature review was conducted. Studies addressing the topic of obesity stigma and fatphobia in healthcare settings were included, as well as articles describing experiences from obese patients. The search was performed on two scientific databases: Google Scholar and PubMed. The search was conducted in December 2023. The following keywords were used: "obesity", "obese", "patient", "stigma", "weight bias", "healthcare", "healthcare professionals", "discrimination" and "fatphobia". Majority of the articles come from 2013-2023. During the literature search, nearly 200 articles were retrieved using Google Scholar and 460 articles via PubMed. Finally, 32 scientific articles were selected. No language restriction was applied during the search, but most of the selected studies are either in English or Polish. The selection of the studies was done independently based on compliance with the research topic. Firstly, the keywords and the abstract were read. Then, the entire article text was reviewed, and a final selection was made. Mainly, original research papers conducted using author-designed questionnaires were sought, but review articles were not excluded in order to reach as many countries and demographic groups as possible.

Literature review results

Obesity is spreading at an alarming rate and is a global health problem, and together with its prevalence, situations that stigmatize obesity and discriminate against obese patients may become alarmingly common [23]. The limited amount of available literature suggests that the modes of discrimination are dependent on the region of the world where the experience in question occurs. Available knowledge regarding the socio-economic impact and discrimination of obese patients is clearly lacking [24].

Unfortunately, excessive focus on excessive body weight alone results in the alienation and humiliation of patients. The main reasons for this are:

- the belief that obesity is the result of an individual's decisions;
- the belief that an obese person eats poorly and is not physically active;
- the perception of obese people as less intelligent, unattractive, and lazy, with no self-control;
- the belief that stigmatizing obese people motivates them to change their current eating habits and health behavior [1,19,20,25,26].

Inadequate attitudes of health professionals negatively affect the quality of health services provided to obese patients, contribute to health inequalities and effectively hinder interventions for the treatment of overweight and obesity [20,21]. Aversion to overweight patients is a common phenomenon in many medical

professions and concerns doctors of many specialties, including but not limited to nurses, psychologists, physiotherapists, midwives, dieticians, and medical students [1,19,20,27-30]. Healthcare facilities are places where overweight and obesity are very often stigmatized [27]. Negative behavior and attitudes towards obese patients are an international healthcare problem due to the ongoing obesity pandemic [31,32].

Stigmatization of overweight patients in Poland

The situation of patients with obesity in Poland varies. Differences in the behavior of medical personnel are shown in two studies conducted by Sińska et al. [1,20]. The studies in question were carried out using proprietary questionnaires and the results obtained are a subjective assessment of the surveyed doctors and nurses. In the first study by Sińska et al. [1], doctors and nurses completed a questionnaire regarding attitudes and behaviors towards obese individuals. A 3-point scale was used to assess opinions. Most doctors and nurses participating in the study show understanding, kindness, and empathy towards obese people in their daily clinical practice, and at the same time are aware of the inequalities faced by this group of people [1]. Despite that, more than half of the respondents believe that obese patients lack strong willpower, do not have enough knowledge about proper nutrition, or are not physically active [1]. In the second study by Sińska et al. [20], nurses completed a questionnaire containing statements describing positive and negative opinions and attitudes towards obese patients. Study participants responded using a 5-point scale. Nearly half of the respondents believed that obese patients neglect their own health, do not take care of their well-being, and are more likely to struggle with health complications and overuse medical services and nursing care [20]. Nurses support the claim that overweight patients are confronted with disregard and negative comments. The same group of nurses consider obese patients to be neglectful and not paying enough attention to their own personal hygiene [20].

Sobczak et al. [33] conducted research among actively working healthcare professionals who have direct contact with patients. The study examined the level of knowledge among healthcare workers related to obesity, as well as their opinions regarding the situation of obese patients in medical facilities. To gather this information, a proprietary electronic survey was utilized. In this study, as many as 70% of the clinical specialists surveyed (doctors, nurses, midwives, paramedics, and physiotherapists) believe that obesity discrimination is common in the healthcare system [33]. These are most often unpleasant comments, facial expressions suggesting dislike and a lack of response to offensive remarks from others. Discrimination against patients also manifests itself as a lack of appropriate medical equipment and supplies, with many doctors particularly noting the lack of bariatric scales, dedicated blood pressure monitors, or bariatric beds [33].

Stigmatization of overweight patients in Germany

In 2022, Hoffmann et al. [34] conducted a study to compare the level of discrimination of obese patients from Poland and Germany. The study included patients with a BMI higher than 40, treated for excessive body weight conservatively or by bariatric and endoscopic methods [34]. The level of discrimination was determined using the proprietary questionnaire, which was approved by national consultants in the field of obesity. The questionnaire included questions regarding weight-based discrimination, BMI, types of surgeries performed, and types of interventions within obesity treatment. The study showed that differences in obesity stigma between the two neighboring countries are negligible, however, German patients are more likely to report such incidents. In addition, women are more likely to be victims of stigma [34].

Another study on the stigmatization of obese patients was conducted at the Leipzig University Medical Center among a group of German medical staff. During meetings, staff from all departments, such as doctors, nurses, and therapists, were given questionnaires. Almost half of the respondents were nurses [35]. The questionnaires included vignettes describing a hypothetical 42-year-old female patient. In the first vignette, she was an obese woman weighing 90 kg, and in the second vignette, she weighed 62 kg. Following each vignette, there was an assessment of stigmatizing attitudes. In this case, the stigma of obesity manifests itself in the belief that caring for an obese patient is a more complex process than caring for a healthy-weight patient [35]. Respondents were asked to assign specific disposition traits to both patients using a scale of 1 to 5. For example, 1 was assigned to the trait "hardworking" and 5 to the trait "lazy". Analysis of the responses received showed that 99% of respondents had negative attitudes toward obese female patients [35]. Of all those surveyed (physicians, nursing staff, dieticians, physiotherapists, trainees, or technical staff) nurses showed the most empathy [35].

Stigmatization of overweight patients in Brazil

Nutritionists play a significant role in the treatment of obesity and spend a lot of time with the group of people in question [27]. An online survey was conducted among Brazil nutrition students (from both private and public schools) [36]. Respondents, based on reported anthropometric measurements and demographic data, were randomly assigned to one of four hypothetical clinical cases. Respondents could be assigned to an obese or normal-weight woman and an obese or normal-weight man. Each patient struggled with lactose intolerance. All available patient information, apart from weight, BMI, and daily energy intake, were identical for each gender. The survey questionnaire included questions about, among other things, the approaches and procedures utilized, the length of the consultation, the strategies used during the dietary counseling, and an assessment of the patient's diet and health status. The survey revealed biases and negative attitudes expressed by students. Results showed that patients' weight affected the duration of the dietary consultation, students' reaction and perception, and the planned treatment strategy, with obese female patients receiving the worst service [36].

Stigmatization of overweight patients in North America

Resentment and unfriendly attitudes toward above-average body weight are pervasive in North American countries. Popular harmful stereotypes prevalent in many institutions, including the health sector, include the beliefs that obese people are lazy, lack self-discipline, are weak-willed, unsuccessful, unintelligent, and do not undertake weight-loss treatment [26].

Mostly, studies to determine the level of obesity stigma involve adult patients. However, the global increase in obesity prevalence is affecting many age groups. Palad et al. [32] conducted a review study of available literature aiming to assess the current research findings regarding weight-related stigma and its impact on the health of the pediatric population. Current research results suggest that as the prevalence of obesity increases, the magnitude of the problem of stigmatization and discrimination of excessive weight increases. This phenomenon affects children and adolescents in the 2-19 age range along with the general US population, regardless of specific weight values or socioeconomic status [32].

Obesity-stigmatizing behaviors are unfortunately also present during gynecological treatment and counseling or during prenatal care. Bombak et al. [37], between 2012 and 2013, conducted one-hour interviews in two Canadian cities. The study was approved by two university ethics committees. Women who identified themselves as overweight or obese and at some point in their lives had tried to conceive

a child, were pregnant or had experienced childbirth were invited to participate in the study. The interviews covered topics related to participants' experiences in reproductive healthcare and how these experiences influenced their feelings about their own bodies. The study found that medical personnel over-focused on excessive weight gain during pregnancy, resulting in stress of pregnant patients before routine check-ups. In addition, doctors communicated to patients with abnormal weight that their fertility problems were the result of being overweight or obese, rather than a likely disease. Medical staff used unprofessional and insulting vocabulary when interacting with overweight or obese women. For example, one respondent was referred to as "the obese patient" by one of the doctors present during an emergency cesarean section [37]. Discrimination also manifested itself as a blatant refusal to help female patients by disregarding their health problems, respondents reported using sequences such as "there's nothing we can do for you" and "some people are just not meant to be moms" [37].

As a comparison, another study on the prevalence of obesity bias, targeting Canadian family medicine physicians, found that a clear minority of these professionals feel negative emotions when working with obese individuals [29]. However, the results obtained are again a subjective assessment of the doctors surveyed.

Early detection of stigmatizing attitudes toward overweight patients among medical students, especially future physicians, is also extremely important. In 2013-2014, a cross-sectional study was conducted by Soto et al. [30] among students enrolled at the Autonomous University of Baja California in psychology and medical schools. Anthropometric measurements were taken of the study participants, then they completed a questionnaire containing the Beliefs About Obese People (BAOP) scale and the Attitudes Toward Obese People (ATOP) scale. The six-point BAOP and ATOP scales were used to examine beliefs and attitudes about obesity [30]. Analysis of the results showed that, male students have worse attitudes toward obese people compared to women. In addition, future physicians are more likely to express negative attitudes toward excessive body weight compared to future psychologists. Respondents were asked to list five adjectives regarding obese people, the most common terms were: "likes food", "overeats", "slow", "poor self-control", and "inactive." Some others, less frequently mentioned adjectives were: "having no endurance", "weak", "self-indulgent", "unattractive", "lazy" [30].

Stigmatization of overweight patients in Asia

A lack of basic data on attitudes and perceptions about obesity in Asian countries has been observed. Lee et al. [38] conducted a survey study on attitudes and perceptions of obesity and its treatment methods among the Singaporean population. The study was conducted using a questionnaire containing a series of statements regarding obesity and available treatment options. Participants responded to the questions using a 5-point scale. The study, conducted in the form of questionnaire survey during a public forum event on obesity, found that survey participants showed a bias against overweight people. Most of the study's participants believe that obesity is the result of a practiced lifestyle, lack of strong willpower or is a consequence of food addiction [38].

Another study from Singapore on the stigma of overweight and obesity was conducted using an anonymous questionnaire by Chue et al. [39]. Participants in the study included people struggling with excessive body weight and attending the same weight management clinic. The anonymous questionnaire included questions regarding: demographic information and respondents' perceptions of stigma towards themselves in social, professional, or educational spheres. The survey was based on a questionnaire created by a British cross-party parliamentary group [39]. The study found that nearly 80% of participants

believe they are responsible for their current weight and blame themselves for it. In addition, about 60% of respondents confessed that they feel stigmatized and criticized because they are overweight or obese. The study also found that the most common impact of excessive weight stigma was reduced self-esteem and self-confidence [39].

Stigmatization of overweight patients in Israel

Nutrition and the attitudes presented by nutrition specialists are an integral part of medical treatment of obese individuals. The survey study conducted by Stone et al. [40] aimed to examine and define various dimensions of weight stigma among Israeli dietitians. The said study has once again shown the influence of dietitians on the development of obesity stigma. The study showed that obese patients who took responsibility for their own weight and dietary failures evoked emotions considered positive, and dietitians felt empathy and pity towards them. In contrast, patients who blamed others for their own weight loss failures contributed to the development of negative emotions such as frustration and anger [40]. Resentment toward patients manifested itself as cutting short the time of the visit, a lack of effort on the part of the dietitian toward conducting a thorough appointment, or the use of a negative tone of voice and body language [40].

Stigmatization of overweight patients in Australia

Middle-aged and elderly obese Australian citizens are also at risk of experiencing discrimination from staff at medical facilities. To measure the magnitude of this phenomenon, a randomized clinical trial was conducted by Spooner et al. [41] involving overweight or obese patients between the ages of 40 and 70 attending GP (General Practitioner) clinics in Sydney and Adelaide. In the data analysis, information from telephone interviews with obese patients was utilized. Subsequently, the measurement of stigma was conducted using two items from the "Impact of Weight On Quality of Life – Lite Measure" questionnaire, specifically the variants: "Because of my weight I experience ridicule, teasing or unwanted attention" and "Because of my weight I experience discrimination by others". Analysis of the results showed a correlation between discrimination and prejudice against excessive weight and the occurrence of category 2 and 3 obesity (BMI equal or above 35) [41].

Australian researchers conducted a study to determine the prevalence of overweight stigmatizing behaviors in a group of physiotherapists [25]. Participants completed an online survey that consisted of the Crandall Anti-Fat Attitudes questionnaire on attitudes that stigmatize obesity and three case studies, focusing on aspects of care for the elderly, musculoskeletal system, or neurology. Each were assigned to two out of three prepared cases with a hypothetical patient (female or male, normal weight or overweight/obese). Analysis of the results showed that participants demonstrate weight stigma during their communication with patients [25]. They exhibit stigmatizing attitudes toward obese patients through the use of negative vocabulary, exclusive focus on patient weight, and by ignorance in failing to recognize the complexity of the weight management process [25].

Discussion of the review results

The results presented in the paper aim to draw attention to the growing social problem of the stigmatization of obese people. This stigmatization manifests itself through a widespread negative perception of the weight, external appearance, and physical condition of obese people. These people are subjected to criticism not only by the general public, but also by medical personnel, who should be characterized by professionalism and empathy towards all patients. Discrimination against obesity results in a number of

negative consequences and complications. The consequences of such are shown in Table 2. In the doctor-patient relationship, interpersonal skills such as empathy, the ability to listen, showing understanding and compassion play a key role. Such competencies are integral to building patient trust with medical staff members. Nevertheless, in some cases, healthcare providers fail to demonstrate adequate sensitivity, understanding and acceptance toward obese patients [25]. Obese patients are often hastily judged as lazy or less intelligent, a clear violation of the ethical principles of medical care, which presume equality and respect for all patients [20]. In a number of studies, patients report guilt extortion by physicians which would supposedly induce patients to change their eating habits and reduce their weight [19]. Several demographic groups face discrimination, including pediatric patients, adults, middle-aged and seniors, pregnant women or patients receiving maternity care [19,32,41,42].

Table 2. Consequences of obesity stigma with a distinction between mental and physical health [20,21,31,34,43]

Mental complications	Physical complications
Depression and other mental illnesses	Less frequent participation in preventive examinations for many diseases, including cancer
Low self-esteem	Reducing already practiced healthy behaviors
Decreased quality of life	Physiological stress
Psychological stress	Continuation of improper diet and reduction of voluntary physical activity
Eating disorders	

An analysis of the available literature suggests that stigma and prejudice against obese people in the medical community mostly leads to a deterioration in the quality of healthcare they experience. This, in turn, can result in delays in diagnosis, lower effectiveness of treatment and overall lower patient satisfaction with the health services they receive. As a result of the stigma, obese people often avoid regular checkups, which can lead to delays in diagnosing diseases or in the deterioration of existing conditions. In turn they may not receive the right medical care at the right time, which negatively affects prognosis of the disease and their health status [20].

Future exploration of this issue should focus on developing effective strategies and training programs for medical personnel to break down communication barriers and prejudices, and to promote more inclusive, empathetic, and holistic healthcare for obese people [19,40].

Conclusions

Although the presented examples might paint medical personnel in a bad light, authors want to strongly discourage such conclusion. On the contrary they want to draw attention to the growing worldwide social problem of stigmatization of obese people, particularly by medical personnel, and to encourage a search for a structural solution instead of blaming individuals.

This can be achieved by promoting positive interactions between doctors and patients. It will not only increase the efficiency and effectiveness of medical care, but will also improve the overall well-being of obese people.

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