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REVIEW ARTICLE

Impacts of obesity in the hospital environment: the case of nurses

Impactos de la obesidad en el entorno hospitalario: el caso de las enfermeiras

Impactos da obesidade no ambiente hospitalar: o caso do enfermeiro

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Abstract

The aim was to identify the impacts of obesity on nurses' working relationships. This is a descriptive bibliographic review, carried out in 2019. The work environment represents an important consideration due to the reciprocal nature between obesity and employment. It was found that the prevalence of obesity among nurses was statistically higher than among other health professionals, such as allied health professionals who, although categorized in the same socioeconomic classification, are less likely to work in shifts and have disruptive work patterns that contribute for obesity. Especially in relation to obesity, its prevalence among nurses was found, associated with the lack of practice of physical activity and healthy eating, which is why it should be the object of concern of hospital institutions, considering that, in these work environments, effects are more drastic due to the dynamics established in the place.

Descriptors: Obesity; Nurses; Worker's Health

Resumén

El objetivo era identificar los impactos de la obesidad en las relaciones laborales de las enfermeras. Esta es una revisión bibliográfica descriptiva, realizada en 2019. El ambiente de trabajo representa una consideración importante debido a la naturaleza recíproca entre la obesidad y el empleo. Se descubrió que la prevalencia de obesidad entre las enfermeras era estadísticamente más alta que entre otros profesionales de la salud, como los profesionales de la salud aliados que, aunque categorizados en la misma clasificación socioeconómica, tienen menos probabilidades de trabajar en turnos y tienen patrones de trabajo disruptivos que contribuyen para la obesidad Especialmente en relación con la obesidad, se encontró su prevalencia entre enfermeras, asociada a la falta de práctica de actividad física y alimentación saludable, por lo que debería ser objeto de preocupación de las instituciones hospitalarias, considerando que, en estos entornos de trabajo, los efectos son más drásticos debido a la dinámica establecida en el sitio.

Descriptores: Obesidad; Enfermeros y Enfermeras; Salud del Trabajador

Resumo

Objetivou-se identificar os impactos da obesidade nas relações de trabalho do enfermeiro. Trata-se de uma revisão bibliográfica de cunho descritivo, realizada em 2019. O ambiente de trabalho representa uma consideração importante devido à natureza recíproca entre obesidade e emprego. Verificou-se que prevalência de obesidade entre os enfermeiros foi estatisticamente maior do que entre outros profissionais de saúde, como profissionais de saúde aliados que, embora categorizados na mesma classificação socioeconômica, têm menor probabilidade de trabalhar em turnos e têm padrões de trabalho disruptivos que contribuem para a obesidade. Especialmente em relação à obesidade, verificou-se a sua prevalência entre enfermeiros, associada à falta de prática de atividade física e alimentação saudável, motivo pelo qual deve ser objeto de preocupação das instituições hospitalares, considerando-se que, nesses ambientes de trabalhos, os efeitos são mais drásticos em razão da própria dinâmica estabelecida no local.

Descritores: Obesidade; Enfermeiros e Enfermeiras; Saúde do Trabalhador

Introduction

Because it is one of the most serious public health problems, overweight and obesity stand out among the causes of morbidity and mortality, seen as a complex pathology that has numerous consequences. Given the nutritional characteristics present in Brazil, it is essential to share health care that seeks to promote, prevent, and care for Chronic Noncommunicable Diseases (NCDs)[1,2].

Obesity can be defined as an NCD that arises from the high amount of lipids in our fat cells. There is a positive energy balance in which there is a large intake and little fat burning, mainly due to excessive consumption of caloric foods and sedentary lifestyle. As it is a multifactorial pathology, covering biological, psychological, and social situations, the treatment of obesity is difficult, and changes must be seen according to the way of acting of each obese person. In many extreme cases, surgical intervention is necessary[3-5].

Obesity increases the risk for several chronic diseases, such as diabetes mellitus, cardiovascular diseases, neoplasms, among others. The development of obesity involves genetic and environmental factors. The accumulation of fat mass appears to result mainly from an imbalance between food intake and energy expenditure. The increase in energy intake due to the increase in the supply of processed foods and the reduction in physical activity have been identified as factors responsible for weight gain[6].

The most widely used method to assess obesity in adults is the Body Mass Index (BMI), calculated from weight (in kilograms) divided by height squared (in meters) and classified as follows: underweight (BMI < 18.5), normal weight (BMI between 18.5 and 24.9), overweight (BMI between 25.0 and 29.9), grade I obesity (BMI between 30.0 and 34.9), grade II obesity (BMI between 35.0 and 39.9) and grade III obesity (BMI ≥ 40.0)[7].

The distribution of body fat plays an important role in the development of obesity-related comorbidities. Mainly central obesity and the accumulation of visceral adipose tissue are related to metabolic diseases and cardiovascular risk, while individuals who have peripheral adiposity have been associated with a better metabolic profile[8].

Central obesity, assessed by waist circumference, has been considered an important cardiometabolic risk factor. The increase in waist circumference reflects the accumulation of visceral and subcutaneous adipose tissue, which are related to metabolic changes. Subcutaneous adipose tissue, especially its deep portion, is a strong indicator of IR. Visceral adipose tissue contributes to insulin sensitivity, glucose intolerance, elevated blood pressure and dyslipidemia[9].

Although subcutaneous adipose tissue is an important component associated with metabolic risk, visceral adipose tissue plays a stronger role. Visceral adipose tissue appears to be more susceptible to lipolysis than subcutaneous adipose tissue, in addition to being related to the production of tumor necrosis factor-alpha (TNF-α), interleukin-6 (IL-6), C-reactive protein (PCR) and plasminogen activating factor-1 (PAI-1) inhibitor[8].

The increase in the levels of inflammatory cytokines and CRP are responsible for the pro-inflammatory state observed in MS. In addition, MS is strongly associated with systemic inflammation. PAI-1 acts by inhibiting the fibrinolytic system and, consequently, high levels of PAI-1 are associated with the prothrombotic state, also characteristic of MS[10].

Abdominal obesity and insulin resistance (IR) seem to be the main factors involved in the pathogenesis of the metabolic syndrome. IR leads to increased levels of triglycerides and glucose, increased blood pressure and reduced levels of HDL cholesterol[7].

Abdominal obesity is associated with the development of IR and one of the suggested mechanisms is the increase in free fatty acids (FFA). The visceral adipose tissue, responsible for energy storage mainly in the form of triglycerides, has a capacity for hypertrophy, however, when the adipocytes reach their expansion limit, they undergo lipolysis, resulting in the release of AGL that is taken to other tissues, such as the liver. and muscle. Due to the limited capacity of these tissues to oxidize and / or store FFA, the ectopic accumulation of fat can lead to IR. In the liver, due to the increase in AGL carried by the portal vein, the presence of IR causes an increase in glucose production. Thus, the increase in AGL concentrations in cells stimulates gluconeogenesis[10].

Obesity is also associated with an increase in circulating levels of oxidative stress markers, as well as MS, which normally accompanies obesity. Oxidative stress has been associated with all components of MS and the appearance of cardiovascular complications. It has been shown that the increase in oxidative stress parameters in overweight and obese individuals seems to be related to the presence of the components of MS[11].

Regarding psychic factors, obesity is often accompanied by suffering and symptoms such as anxiety and depression, although it is not a psychiatric disorder. Obesity is also related to the occurrence of neoplasms, including breast cancer[12,13].

Studies have also found an indirect association between excess body weight and job security. Claims rates were twice as high, medical claims costs seven times as high and claims costs 11 times as high among overweight employees and those with average weight. Compared to employees with normal weight, those with a higher BMI requested more days off 2.92 versus 8.59[14-16].

In view of all the etiological factors of obesity, it must be taken into account that it is also a problem for society, and it is relevant to identify the entire trajectory that the obese makes to treat their health[17].

The obese takes a social stigma, because the standards of beauty turn to thinness, bringing limitations for those who do not fit this standardization. It is reported that the experience with discriminatory facts discourages the

follow-up of diet plans and physical activity, because even with the desire to reach the ideal weight, the prevalence of social prejudice hinders the chances of coping[18,19].

Coping with obesity is related to at least two categories: overcoming everyday situations, such as discrimination, food re-education, and psychological disorders. It also involves behavioral changes that include, going to the doctor, practicing physical activity, and psychological monitoring for bariatric surgery[20].

Obesity should not be seen only as a pathology, but as a phenomenological set that impacts on body volume, since its causes derive from numerous etiological factors[21].

Having made these initial clarifications, the question that guided this research was: What are the impacts of obesity on nurses' work relationships?

Literature Review

The historical view of the obese individual

Addressing the origin of the word “fat”, negative attributes are noted in its context. Derived from the Latin crassus, which means thick, coarse, it originated the term grasso in Italian, graisse in French and greasy in Portuguese. In relation to obese, it comes from the past participle (obesus) of obedere, which denotes consuming, devouring. In this way, we can see that looking at history, obesity was full of bad definitions, even if in certain groups it meant something pleasant[22].

This phenomenon involves a difficult issue between the body, health, food, and social aspects, since people have different views on obesity, which change according to cultural values[23].

In the historical context, obesity was analyzed in different ways. In some ancient societies being overweight meant success. In Western Medieval times, obese people had prestige, seduction, signaled health and wealth[24].

In Medieval Japan, obesity was demoralizing. This discrimination derives from Greece in the time of Aristotle, where those who were obese were someone of bad character. In ancient times in Greece, the body meant an attribute of glory, of interest to the state, especially in its healthy, fertile, and defined form[25].

In the Middle Ages, this public referred to a connection with gluttony and laziness. Religious values disapproved of bodily representations that did not follow the church's dogmas. In traditional society, physical attributes such as weight, height and skin color determined the varieties[17,25].

In the Renaissance, the body came to be an object of studies and tests, in the face of manipulations. A moment of innovations in science, obesity began to present stigmas, concerns with the image and food, starting to symbolize laziness[22].

In the 16th century, interest in more rounded shapes increased, with terms such as “plump”, “fatty”, with a denotation of inferiority and “fatty” designating someone slow, “injured”. However, it is stated that the concern was not based on aesthetic purposes for weight loss, but on a vision of health. In the Industrial Revolution, in the 17th century, the body was a machine, aiming only at capital increase through intense production[17].

In the 18th century, fat was already associated with profit, the wealth of kings, so criticism of the king was based on his body shape. But when the king received criticism, the image of the pig, being a fat animal, began to be associated with the failure of monarchy issues. In the Enlightenment the view on being fat changed, attention to weight increased, began to be quantified, where the scale was becoming present, with several notes from doctors about weighing body volume[22].

In the 19th century, the numbers gained more strength, with gauging of circumferences and body shapes, establishing the statistic in the weight and height ratio, starting the parameters to evaluate eutrophy. Weight was written in fractions, and android obesity1 was linked to the image of the paunchy bourgeois. The limbs perimeter and body density began to be studied[22].

From the twentieth century, the female public in the West began to value the thin body and, what was once a sign of beauty, started to represent a disease. Thus, an exaggerated cult to the thin body began, through plastic surgeries, dietary restrictions, and consequent eating disorders. The 20th century went down in history with the reframing of obesity from a negative point of view and in this century, diets gained greater importance[25].

In the 21st century, obesity started to be a disease, and a body with less body weight became a standard of beauty. Despite excess weight progressively increasing due to inadequate eating habits with great industry appeal and physical inactivity, this ideal of thinness only prevails[26,27].

In the contemporary world, the body is linked to consumerism, with extreme appreciation of appearance, where it aims at an ideal body. This exaggerated consumerism causes people to become prisoners of beauty and a perfect body, which is dominated by this new society[28,29].

In this way, thinness has become essential, and anyone who does not achieve it is considered a failure. If overweight was previously seen as a healthy situation, with the new values attributed to thinness it is seen as unsuccessful and full of exclusions. Because they are not within what society considers, with thin bodies or full of muscles, they come to be something negative, suffering this stigma[30].

Thus, obesity, as an aggravating factor for health, pervades all over the world, ranging from the beginnings of the history of food and nutrition, with agricultural and industrial revolutions, innovations in food industrialization, to the stigmatization of obese individuals[22].

It is possible to state that the overweight body is seen, understood, and is influenced by society. Cultural aspects related to excess weight can change from place to place, in different events in history. An example of this are young African women, who sought weight gain to attribute

beauty to their physical appearance and improve their emotional relationships[30].

Capitalism is said to be primarily responsible for the issue of obesity. Along with advertising it induces what to eat, what to try, and at the same time asks you to have a body within the aesthetic standards. On television, the program teaches an elaborate dish and in the same program is passed on as losing calories[25].

There are many contradictions in contemporary society, encouraging excessive consumption, binge eating and, thus, later, looking for something that facilitates weight loss, in a cycle that does not end, making obesity a consumer attraction. In this way, advertising encourages dietary foods aimed at weight loss, but at the same time produces offers of fast-prepared and caloric foods[23].

Obesity is seen as a chronic pathology, of several causes and the most common nutritional alteration in youth. The high rate of obesity in the world society reflects the great influence of the environment on the origin of the disease, with food, absence of physical activities and psychosocial factors, responsible for 95% of the diagnoses. Around 5% of obese patients will be identified by some factor, 2% related to rare genetic syndromes, and the rest to endocrine factors and secondary to drugs[31].

The evolution of man can be one of the causes of obesity. It is believed that genetic variability may have occurred in places with a lack of food. So, the organism learned to store energy in the body, having a biological adaptation[30].

Another assumption would be the theoretical model of the economic transition. Western economic and industrial progress has made it easier to transport food, increasing food availability, increasing purchasing power[22].

Changes in the face of food and sedentary lifestyle are characteristics present in the contemporary lifestyle. The biomedical area and common sense see food and exercise as the main external factors that determine weight control. It is also worth addressing meals outside the home, increased consumption in restaurants and products of quick preparation[31].

Research has shown that eating outside the home has a high caloric and saturated fat content, in addition to a lower nutritional value. Fat and sugar present in food improve acceptability, increasing your intake, and, consequently, acquiring a positive energy balance[17,18].

The media ends up influencing food culture as well, determining where and what to eat. Thus, international public health organizations are unable to have sufficient capital to combat this type of advertising, with the most consumed being the most caloric[31,32].

Thus, scholars say that the high level of obesity stems from industrialization, from more elaborate machines, the absence of physical activity and nutritional transition, bringing an increase in the consumption of caloric and low-nutritious foods[22].

In view of all these determinants, the literature divides the causes of obesity between endogenous and exogenous factors.

Endogenous factors

Endogenous factors are considered:

- Medicines: we can mention hormones, anabolic, antidepressants and other variations that can influence the increase in body weight[33].

- Metabolic and genetic: energy variation basically depends on three factors: Our energy expenditure can be affected by the basal metabolic rate, responsible for 60% to 70% of caloric burning, the thermogenesis of food that remains with 5% to 10%, and physical activity corresponding to 20 to 30% of energy expenditure in adult individuals. In relation to genetic inheritance, when one does not have it from the parents, the probability of a person being obese is equivalent to 9%, but when one of the parents is obese, this number becomes 50%, reaching 80% when the father and mother have obesity[34].

- Endocrine: the influence of endocrine factors on obesity is not as relevant as external factors. In obese people, changes in hormone secretion can lead to weight gain, such as insulin release[17].

Exogenous factors

Exogenous factors include:

- Food: the eating habits of a large part of the world population are changing, in which there has been a reduction in the intake of fresh or minimally processed foods derived from vegetables, and an increase in the consumption of processed foods. All of this causes inadequate nutrition and high caloric intake, leading to obesity and other NCDs, which previously prevailed in the elderly, is becoming increasingly prevalent even in children[35].

- Stress: Stress can cause obesity, as there is a psychological factor involved that relates the increase in consumption of caloric foods, rich in sugars and fats that can bring a sense of well-being, using food as compensation. This can subsequently occur in a more constant and unconscious manner. All of this hinders weight loss and elevates the hormone cortisol, which influences the accumulation of fat in the viscera and abdomen[34].

- Physical activities: Change in lifestyle and physical activity is essential to reduce sedentary lifestyle and, consequently, control obesity[33].

The social stigma of obesity

With the search for the perfect body in the middle of the last century, through a slimmer body for the female audience and muscles for the male group. The accumulation of body fat has become something of great prejudice, being a sign of laziness and little determination[36].

This disease has been a pathology that causes numerous physical, psychological, and social weaknesses, related to eating disorders. Social stigmas lead to mental problems, impair the follow-up of diets and behavioral changes, causing shame in daily life, when buying clothes, in

the need for mobility and accessibility. The symbolism of being obese in society is what aims to stigmatize this public, being linked to ugliness and relaxation. This view generates isolation, dissatisfaction, leading to new forms of exclusion[25].

The stigma of the obese is emphasized in this century because the desired aesthetic is established, offering more success to those who are inserted in the bodies proposed as ideals of beauty. The thinness pattern is associated with beauty and social well-being[37].

Unfortunately, due to all this social impact, some surveys report that obese individuals have lower levels of education and greater difficulty in being accepted into schools and jobs. Being significantly obese is different from the standards and can make the individual suffer. The stigma generated by obesity generates prejudice in living with others, leading to loneliness[38,39].

The word stigma originated in Greece and referred to the marks made with fire or cuts on the bodies of people not accepted in civilization, that is, whoever presented these signs had people's rejection, it was something demoralizing[30].

Stigma can occur in three ways: abominations of body image, together with its deformations; blame for character, lack of honesty, false and rigid values; stigmatization of skin color, nationality, and religion. Given the above, in relation to obesity, the first and second circumstances seem to predominate, that is, problems with the body shape and guilt in the character[30,40].

The abomination reflects on the accumulation of body fat since your body is seen as clumsy. Furthermore, he is seen as a failure, as people believe that he is fully responsible for this fact[41].

The problem affected by obesity goes beyond the health sciences, from observing nutritional values, to encompass politics, ideology, and economics. Thus, health professionals must go further, expanding discussions with people from other fields to facilitate understanding. It is necessary to understand the history of obesity over time, so that it can be articulated in the best way today based on the stigma present in this century[22].

The sense of discredited and discreditable is also reported. In the first case, the weaknesses are already known and notorious by society. For the unbelievable, the particularities of stigma are still not noticed. Thus, the discredited seek to reduce the problems by manipulation, and the discreditable alter the information to omit their brand, which generates great psychological damage for both types[40].

The relationship between health and disease goes through both the body and the social sphere, going ahead with all the difficulties of being. It is stated that obesity is the pathology that most causes a negative social view in humanity and should be seen not only with a biological view, but as a psychosocial issue in the world[42,43].

The influence of obesity in the workplace

Obesity is highly contextual - obesity can be considered a consequence of the reciprocal way in which individuals interact with their environments[44]. The work environment represents an important consideration due to the reciprocal nature of obesity and employment. Although many researchers have studied the impact of obesity on performance and productivity, it is equally important to note the potential influence of work on obesity.

Obesity is responsible for diseases that can lead to temporary or permanent leave of the company worker, which can lead to loss of productivity and psychological problems that can impact relationships in the work environment.

A study[45] based on the National Health Interview Survey 2002 found that the 9636 workers with obesity had more than twice the work limitation of normal weight workers. Obese workers had a prevalence of 6.9% of limitations at work versus 3.0% among workers with normal weight. Authors[46] reported 56,971 respondents to the 2009-2010 Canadian Community Health Survey and found that obesity is marginally associated with absenteeism and presenteeism. BMI has been found to be associated with a few other medical conditions among workers, including emotional exhaustion, menopausal vasomotor symptoms and metabolic risk factors related to diabetes in workers in China[47].

With increasing levels of obesity among workers, employers are assessing the impact of weight gain not only on health costs, but also on accidents at work, absenteeism, presenteeism and, therefore, with a focus on workplace interventions for address this public health problem[47].

The work has already been recognized as a source of adverse environmental exposures associated with obesity (or excess weight gain). The activities to be considered in the conceptual frameworks include multilevel influences (ie, individual, group, organizational and community level), corporate vision (for example, leadership, cultural norms and values and worker involvement) and environmental approaches, including conditions of work (eg physical environment, psychosocial factors, socioeconomic environment and work tasks and demands)[48,49].

Risk factors associated with obesity among workers include social stressors, psychosocial work factors, working hours, night and night work and sedentary behavior[50].

Factors in psychosocial work, such as job demands, job content, job control, social interactions and future and career problems, can affect health and well-being. Health behaviors can be intermediate factors between the psychosocial work environment and health-related outcomes, such as obesity or excessive weight gain[50].

Researchers[51] followed Danish health professionals (3982 men / 152 women) as part of a 3-year

cohort study and studied environmental factors of psychosocial work and weight change. Specifically, they analyzed the pace of work, the workload, the quality of leadership, the influence on the work, the meaning of the work, the predictability, the commitment, the clarity of the role and the conflict of roles. The high-quality leadership predicted weight loss among men. Among women, high role conflict and living alone predicted weight gain, while high role clarity predicted weight gain and weight loss.

Obese workers are overrepresented in relation to the general population in certain occupations. For example, a study found that non-Hispanic white men who worked in health services (36.3%), protection services (34.3%) and transportation and handling of materials (33.7%) had the highest prevalence of obesity, while among non-Hispanics, the highest prevalence of obesity was in agriculture, fishing and forestry (35.9%), transportation and material handling (31.5%) and production (30.4%)[52,53].

Although there are positive impacts on measures such as voluntary increase in activity in the workplace, additional research on social factors in the workplace can provide additional information and mitigation strategies for the growth of the obesity problem. By understanding some of the organizational and psychosocial factors of these jobs, more targeted and perhaps more effective interventions can be carried out, which justifies this research.

Regarding obesity and absenteeism, it has been defined as being away from work due to overweight and obesity, absenteeism is probably due to the ease of measurement, the most common measure of indirect costs. Some studies have evaluated the annual costs of short-term sick leave from work, comparing the days of leave of employees with normal weight and the days of leave of overweight and obese employees. Excess costs of excess weight were estimated between US $ 54 and US $ 161 and obesity-related costs between US $ 89 and US $ 1586[54,55].

Another study assessed costs for men and women separately. For women with obesity, the cost was $ 170 to $ 1,391, higher than the cost for men with obesity ($ 89 - $ 1130)[54].

Some studies also report the effect of reduced productivity at work (presenteeism) due to overweight or obesity, which was assessed using an employee survey[56].

Likewise, authors[54] estimated lower costs among overweight men compared to normal weight men. The excessive cost of obesity ranged from $ 429 to $ 4175 for men and from $ 927 to $ 3341 for women.

Authors[57] estimated $ 158 for overweight and $ 242 for obesity. The lifetime cost of disability and disability pensions varied substantially depending on the methodology; while cost estimates based on the human capital approach (HCA) ranged from $ 31,037 (overweight) to $ 32,686 (obesity), cost estimates based on the attrition cost method (FCM) were US $ 2649 (overweight) and $ 3115 (obesity)[58].

Job loss due to early mortality was assessed by two studies. The excess productivity costs related to these indirect costs were US $ 29 for overweight and US $ 212 to US $ 1170 for obesity grade I-III[59]. Authors[58] calculated lifetime productivity losses and found $ 87 184 (HCA) or $ 20 066 (FCM) for being overweight and $ 114 626 (HCA) or $ 23 070 (FCM) for obesity.

In Korea, productivity loss due to overweight was proposed at $ 872 million due to premature death, hospitalization, nursing costs and fees and transportation costs[60].

Obesity in nurses

The prevalence of obesity was especially high among older nurses. Since almost half (47.1%) of English nurses are over 45 years old, this represents a probable future burden of health problems for the health workforce[61].

Studies show that the prevalence of obesity among nurses was statistically higher than among other health professionals, such as allied health professionals who, although categorized in the same socioeconomic classification, are less likely to work in shifts and have disruptive work patterns that contribute to obesity. In these studies, the prevalence of obesity among nurses was significantly lower than in unregistered health professionals. This reflects the inequalities in the population level in the prevalence of obesity, where obesity is more common in people with low education, low income or in manual occupations[62,63].

These findings on the prevalence of obesity have important implications for the health of the health and social care workforce, the effectiveness of health promotion offered by health professionals and patient safety. Given the link established between obesity and an increased risk of illness and injury, obesity among healthcare professionals potentially harms your health. Obese individuals may have problems associated with obesity, including fatigue, shortness of breath or arthritis, which can reduce productivity in the workplace[54].

Workforce capacity can be reduced by increasing absenteeism and premature departure from the workforce. Together, these two factors can increase the cost of providing services through sick leave payments for existing employees, increased salary costs for temporary employees (agency), increased training costs to replace employees and the consequent loss of employment. experience and knowledge. The high prevalence of obesity among the health workforce should urge policy makers and employers to provide solutions, such as supporting staff to maintain a healthy weight through workplace initiatives[64].

The team's investment in health, in turn, would benefit the health service in terms of sustainability and high-quality patient care, through positive impacts on productivity, retention and absence rates, through improved morale, satisfaction at work and well-being[65].

Obesity among health professionals can hinder effective patient care through impaired performance that

affect patient safety. Obese nurses may have considerable difficulty in performing certain physical aspects of patient care activities that require access to tight spaces, range of motion and mobility and may have difficulties in performing nursing tasks such as cardiopulmonary resuscitation, movement and handling and care personal needs of patients care needs due to limited space in the bathrooms. Even physically fit nurses are at risk of injury in the workplace and performing certain physical aspects of the nursing function while obese can further harm nurses' health or increase the likelihood of injury[66].

Nurses report low levels of physical activity and diets with low consumption of fruits and vegetables, but with high sugar content. Finding ways to improve nurses' health is an important challenge not only because nurses make up the largest occupational health group in the world, but also because many nurses have a poor health profile[67,68].

Existing reviews of workplace health interventions to deal with obesity suggest that the most effective interventions to improve employee health behaviors combine individual and environmental strategies, such as pairing personalized messages with support and environmental reinforcement[69].

The evidence is inconclusive as to whether it targets specific behavior, such as the assumption that physical activity is more effective than a healthy lifestyle approach.

The National Institute of Excellence in Health and Care (NICE) guideline on obesity prevention (CG43) suggests that workplaces that provide health screening for employees should ensure that they address weight, diet and activity and provide ongoing support for maintain membership. The guideline recommends that workplaces support actions to improve the supply of food and beverages in the workplace (including restaurants, vending machines) and offer personalized educational and promotional programs, such as behavioral interventions or environmental changes (for example, changes on food labeling or provision of healthy food)[70].

There are additional factors that make treating obesity in nurses a challenge. The nursing workforce is predominantly female and includes shift workers and many low-paid employees, factors associated with a higher prevalence of obesity[71].

Night shift workers are less likely to engage in leisure-time physical activity, which can lead to weight gain. A literature review found that night shift work was also associated with irregular meals, higher carbohydrate intake, animal fats and proteins, along with low consumption of dietary fiber and frequent snacks. Sleep deprivation and interruption of circadian rhythms are other potential causes, and short-term sleep restriction is associated with impaired metabolism, increased blood pressure and unregulated appetite. In the absence of choice, readily available vending machines and common sharing of snacks can also contribute to weight gain in nurses[72].

Finally, we searched the literature for interventions and strategies used to deal with obesity in nurses. Some studies have focused on physical activity and dietary interventions, while other studies have focused only on physical activity[73,74].

Other studies recommend changes in the activity of nurses in the workplace (for example, walking meetings) or exercise routines incorporated into the workday. There are also studies that recommend incentives or challenges to motivate nurses to increase their physical activity or consumption of fruits and vegetables and suggest motivational strategies, such as setting goals, personalized health training or motivational emails[74,75].

The included interventions provide limited evidence on what works to deal with obesity in nurses. Most intervention studies sought to address individual behavior change through diet or physical activity. It was observed that few of the included studies addressed organizational factors, such as stress or professional life, which can be a factor in the inability to maintain a healthy weight.

If nurses are chosen to develop interventions to deal with obesity, the complexity of nurses' professional lives must be addressed. Nurses face potential barriers to leading healthy lifestyles, both inside and outside the workplace, including shift work, lack of breaks, the accelerated nature of work and the emotional work of nursing. This makes them less likely to participate in health promotion programs in the workplace than other health professionals.

The acceptance and satisfaction of nurses is crucial for the success and sustainability of any health promotion program in the workplace. Previous research with obese nurses found that understanding the norms, needs and structures of their work environment was crucial for adopting healthy habits. Interventions that build social support and increase self-efficacy have been identified as important predictors of the adoption of healthier behaviors specifically among health professionals. Co-production of interventions with nurses and participatory approaches to intervention design are desirable[75,76].

Conclusion

It is well known that work, in human life, demonstrates its essentiality, associating itself with the way it is developed to the subjective and objective experiences of workers. In view of this, the aggravations caused to the worker's health present a multicausal development, considering the interaction of pathogenic factors for this purpose.

In this sense, studies on the illness of workers and the forms of interaction between them and work have been gaining ground in the scientific community, providing greater understanding of the occurrence and health problems, highlighting, in the same way, the consequences, both direct and indirect, that arise for individuals, their families and society as a whole, the recipient of which is the

provision of their services and the effects resulting from such impact.

In the specific case of Nursing, it must be a very painful activity, which constantly deals with suffering, demanding a lot from the worker, both in physical and emotional aspects. To this, as demonstrated, there is the frequent deficit of these professionals in health units, which, considering, also, long working hours, inadequate working conditions, limited decision-making power, among other factors, contribute to greater wear and tear on workers, resulting in their illness.

Especially in relation to obesity, its prevalence among nurses was found, associated with the lack of practice of physical activity and healthy eating, which is why it should be the object of concern of hospital institutions, considering that, in these work environments, effects are more drastic due to the dynamics established at the site.

Thus, for all the above, it is believed that the research objectives were achieved, as well as the research problem was answered. For future studies, it is suggested to deepen the theme addressed here, considering the aspects listed here, to confirm - or refute - the results found.

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