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FAMILY OBESITY: CASE STUDY

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Abstract: Objective: Assess the family with familial obesity; individually assess family members; and identify nursing interventions according to the assessment carried out. Method: Case study, according to the Case Report guidelines, regarding a family with obese members, focusing on family assessment and intervention in the context of primary health care. The Dynamic Family Assessment and Intervention Model was used as a theoretical and operational framework and the nursing consultation for the individual assessment of family members, regarding the variables: age, education, profession, existing comorbidities and body mass index. **Results:** In this study, the following family diagnoses were identified: Insufficient family income; Inadequate water supply, Safe and non-neglected residential building; Demonstrated safety precautions; Marital satisfaction not maintained; Adequate parental role; Inadequate caregiving role and Dysfunctional family process. Individually, a body weight problem was identified in all family members. **Conclusion:** The nursing diagnoses identified indicate the need for intervention by the family health nurse, directed both at the family as a whole and at its individual members. **Descriptors:** Obesity, Family, Family nursing, Family health, Multigenerational family, Relationship between generations.

INTRODUCTION

Obesity, according to the World Health Organization (WHO), is defined by excessive fat accumulation and is associated with a greater risk of non-communicable diseases, disability and mortality.(1).

The World Health Organization report on the state of obesity in Europe published in 2022, states that around 60% of adults live with obesity or overweight(1)due to genetic predisposition to obesity and/or inadequate eating habits and physical inactivity(1,2).

Data from the same report demonstrate that 13% of total deaths in the World Health Organization of European region, around 1.2 million per year, are due to overweight and obesity, considering this to be the fourth leading cause of death.(1). It is a major public health challenge worldwide, which is why it is essential to promote healthy habits among the population capable of stopping the growing obesity epidemic.(1.3).

The World Health Organization recommends strategies aimed at life stages associated with greater vulnerability to prevent and control obesity, encouraging the promotion of environments with less influence on driving the obesity epidemic(1). The main family factors that influence the transmission of obesity between generations are the environment, eating habits, hereditary character, family loyalties and beliefs(4).

The family environment is made up of human, physical, political, economic, cultural and organizational elements that influence each other and give rise to patterns of reciprocity and interdependence.(5). Family beliefs bring together a system of values, knowledge and practices and influence the family's ability to find solutions to problems. This way, they are understood, on the one hand, as a factor that promotes effective family functioning and, on the other, by defining the family's identity and regulating its interaction, they can also be an impediment to change and reduce the options for a solution. of problems(5). Some authors add that family ties, developed since childhood, interfere with individual development and influence eating habits that will continue throughout life.(6).

In Portugal, obesity is considered one of the most significant risk factors that considerably increase the burden of disease, while at the same time having a substantial influence on people's quality of life and well-being.(7).

Obesity is an individual condition for each family member, however a study(8)defines familial obesity, in families where more than 66% of members have a body mass index (BMI) compatible with the definition of obesity class 1: 30>34.9Kg/m2; Class 2 obesity: 35>39.9 kg/m2 and class 3 obesity: >40 kg/m2(9).

In the context of obesity in the family, analysis through different nursing theories offers a comprehensive understanding of family dynamics and possible intervention strategies(10). The theoretical and operational framework for this case study was the Dynamic Family Assessment and Intervention Model (MDAIF), which takes into consideration, the General Systems Theory oriented towards family processes, highlights the interconnection between family members and the reciprocal influence between the whole and the parts(11). Its theoretical sources are the Calgary Family Assessment Model and the Calgary Family Intervention Model and Systems Thinking as its epistemological reference.(5.12).

Family assessment and intervention is enhanced by the systemic family interview, by providing a deeper understanding of family dynamics and guidance for effective interventions, promoting changes in the family system or acceptance of the need for change(13).

Obesity can be perceived as a phenomenon that affects the family as a whole, while family functioning shapes individual health-related choices.(4).This way, it is in the family system that change occurs, through the acquisition of healthy lifestyle habits, playing a fundamental role in the development of eating patterns and physical activity, through healthy behaviors, attitudes and choices.(14).

Since the family system is the context of the obesity phenomenon, the present study aims to:

- Assess the family with familial obesity;
- Evaluate family members individually;
- Identify nursing interventions according to the assessment carried out.

METHOD

In this article we present a case study, according to the Case report (CARE) guidelines, regarding a family with obese members, focusing on family assessment and intervention in the context of primary health care according to the MDAIF recognized by the International Family Nursing Association(15).

The individual assessment of each family member was carried out during a face-to-face consultation and through data collection in the individual process and focused on the variables age, education, profession, existing comorbidities and BMI.

The family assessment and intervention program were carried out in a Family Health Unit in the northern region of Portugal, starting in November 2023 and ending in February 2024.

This study meets ethical considerations, having obtained a positive opinion from the health ethics committee of the Local Health Unit where the study took place (Opinion no. 76/2023, of November 30) and free, informed, informed and signed by the family.

RESULTS

At this point, the results obtained regarding the evaluation are presented the structural, developmental and functional dimensions of the family and the individual assessment of each member.

Such as it was evidenced in the genogram presented in figure 1, this is an extended family, made up of three generations, six individuals aged between twenty-one and ninety-four years old.

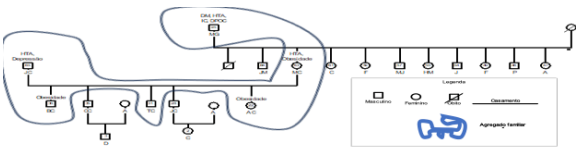

Figure 1: Family genogram

In the structural dimension, by applying the adapted grafar scale, the social classification of the Lower Middle-Class family was obtained (Occupation-5, Education- 3, Source of income- 4, type of housing and place of residence- 3). These data give rise to the diagnoses: Insufficient family income and Safe residential building.

The water supply is from the private network, the family does not control it or demonstrate knowledge about water quality control. This way, the diagnosis was obtained: Inadequate water supply.

An assessment of family members' knowledge about the gas supply, heating system and architectural barriers was carried out, and a diagnosis was made. *Safety precaution demonstrated.*

In the development dimension, the diagnosis Marital satisfaction not maintained was obtained, due to dysfunctional dynamic elation, ineffective communication, inappropriate sexual interaction and compromised sexual intercourse.

Regarding the functional dimension, the role of unsuitable care provider arose due to role saturation. In the same dimension, in the area of nursing care, Family process, there was ineffective family communication, as well as a dysfunctional dynamic relationship.

The Smilkstein and Faces II family Apgar scales were also applied.

The application of the family Apgar resulted in the classification of a highly functional family. Based on the result obtained from the Faces II scale, the family was classified as moderately balanced, with a categorization of separate in competent cohesion and very flexible in adaptability. These evaluative data guided the formulation of the diagnosis Dysfunctional family process.

As described in the figure2, the needs identified by the family represent the areas of care that require nursing intervention. Furthermore, aspects that do not require intervention are highlighted as they represent the family's strengths and resources.

Dimension	Needs	Strengths and resources
Structural	Family income	Residential building
	Water supply	Safety precaution
Development	Marital satisfaction	Parental role
Functional	Role of the care provider	------
	Family process	

Figure 2: Family needs, strengths and resources

The individual assessment was carried out through a face-to-face nursing consultation and data collection from the clinical process.

With regard to the education of family members, it was shown that 17% of its members do not have any academic training, 50% have completed primary education and 33% have completed secondary education.

Regarding their profession, J and M are retired, C is a domestic worker, B and T are construction workers and A recently started working in a grocery store. The presence of obesity in all family members stands out.

Regarding the assessment of comorbidities, M's dependence on activities of daily living, diagnosis of Diabetes Mellitus in J and M, very high Type 2 Diabetes Risk for C and mild for T, A and B. The diagnosis of Arterial hypertension is present in J, C and M. Of note is the bariatric surgery to which a member C underwent as a treatment for obesity, in 2012. The BMI before surgery was 49 kg/m2, after surgery it was 34, 5 kg/m2 and currently has a BMI of 43.8 kg/m2.

Diagnostics	Family Health Nursing Interventions
Insufficient family income	Apply for social services (social service technique) Guide the family to social services (social work technique)
Inadequate water supply	Teach about the importance of controlling water quality Instruct on water quality maintenance strategies Guide to water quality control services
Marital satisfaction not maintained	Promote expressive communication of emotions Promote couple communication Plan family rituals Motivate for joint activities Teaching about sexuality Teach about non-pharmacological strategies for resolving sexual dysfunctions Guide to medical services
Caregiver role not appropriate	Promote expressive communication of emotions Assess paper saturation (explore which situations generate saturation) Promote coping strategies for the role Encourage family members to redefine roles Negotiate the redefinition of roles by family members Requires health services (psychology) Guide to social services Requires social service
Dysfunctional family process	Optimize connection pattern Promote expressive communication of emotions Promote family involvement Optimize family communication
Body weight problem	Support the family Support decision-making processes Contract positive behavior Facilitate ability to participate in care planning Facilitate impulse control Provide advance guidance to the family Provide support in self-management Refer to healthcare professional Strengthen priority setting Monitor BMI

Figure 3: Family health nursing diagnoses and interventions

Regarding the individual assessment, the presence of obesity was detected in all family members, which, according to the International Classification for Nursing Practice 2019(16),refers to the diagnosis: *Body weight problem*.

In figure 3, the nursing diagnoses and the respective interventions of the family health nurse directed at the family as the target of care and at its members individually (Body weight problem) are presented, based on the assumption of nursing intervention with the family as the context of care.

DISCUSSION

The assessment carried out detected areas of care in which the family demonstrated the capacity to adapt and readjust, which were identified as strengths and resources. These contribute to the success in solving problems and achieving the objectives of the family system and guide the nurse's gaze towards what is working well and to enhance the protective effects of the family.(17).

Taking into consideration, the results presented, referring to this case study, in which all family members have a BMI corresponding to obesity, the presence of familial obesity can be considered, according to a study(8) which identifies the phenomenon in families where at least two out of three of their members are obese.

In the structural dimension, as indicated in the results, it appears that two thirds of family members have education up to basic education, which some authors(18)relate to maintaining a family environment that promotes obesity, since individuals with less education show a preference for higher-calorie foods in relation to healthy foods and demonstrate obligation when consuming them.

It is also possible relationships between other variables present in this family were highlighted, such as insufficient family income, low socioeconomic position and persistence of obesity, as well as lack of success in changing healthy lifestyle habits(14). The low levels of education and undifferentiated professions of the members of this family promote the risk of adopting unhealthy behaviors, associated with low literacy on adequate nutrition, healthy lifestyle habits and the risks associated with obesity(19).

In the assessment of the water supply, an inappropriate judgment was obtained, due to the consumption of water from the private network without controlling its quality. In Portugal, the quality of water intended for human consumption must guarantee healthiness and prevent the occurrence of damage to human health resulting from water contamination, reinforced by the National Health Plan 2030 which adds the objective of guaranteeing the population a minimum value of 99% of the safe water indicator(20).

In the development dimension, it was found that the elements that make up the marital subsystem present obesity, difficulties in sharing feelings and experiencing sexuality. Some authors(21)describe the relationship between marital satisfaction and the effects of excess weight, referring to obesity as responsible for depression, changes in sexual interaction and function.

They also mention that these conditions cause difficulties in the couple's communication and the lack of consensus on roles in the family system. In situations of marital dissatisfaction, behavioral patterns are perceived as ineffective, contributing to ineffective communication that increases the likelihood of acquiring unhealthy habits(22). Given that obesity may be linked to marital conflict, it is crucial to implement interventions that promote effective communication, essential to improving and preserving the health of family members(21–23).

In the functional assessment of the family, the presence of a member with a deficit in self-care requires the definition and assumption of roles within the scope of the role of care provider. As the caregiver is one of the members of the family, there was saturation of the caregiver due to his/her request in the various roles he/she plays within the family system. The role of care provider played by C and the care provided to M, identified as uninterrupted(24), is an overload enhancer, which some authors(25) indicate that it is related to the excess of domestic tasks performed by female caregivers. Often, these women face tasks individually, without social or family support, which exposes them to high levels of physical exhaustion, emotional exhaustion and potential health risks.(25).

Regarding the evaluation data of the Family Process, the systemic family interview provided information regarding communication deficits within the system, reinforced by the result of applying the Faces II scale, which demonstrates that there is a separate family in terms of cohesion. Data related to adaptability reveal a very flexible family(13), that is, it demonstrates a high degree of adaptation to events that generate instability, which constitutes an increased risk for the development of pathology over time and difficulty in adapting to change(26,27).

In this context, family beliefs were identified in relation to healthy lifestyle habits, physical exercise, food and meals, identified as moments of conviviality and a source of energy for work performance by members of the system.

On the one hand, the adult eating patterns are accompanied by cultural and symbolic representations that influence their change(18)and on the other, the occurrence of eating disorders that lead to obesity, are influenced by family ties(6).

The persistence of obesity can be interpreted as a strategy adopted by families who have difficulties in expressing feelings for their members, being used as a means of preserving stability in family relationships(27).

The existence of three generations within the family nucleus encourages the maintenance of lifestyles throughout the generations, identified as family generational transmission(28), when mentioning which aspects that are intrinsic to family functionality, such as loyalty, values and family beliefs, interact in an integrated way and, at times, imperceptible by most members, resulting in the transgenerational transmission of obesity(29).

Besides, in this study, the existence of Arterial Hypertension, Diabetes Mellitus and Heart Failure was verified concomitantly with obesity in several members of the family, which meets the definition of obesity as a chronic disease, as one of the risk factors that most contributes to the onset of diabetes and cardiovascular diseases(1,19,30).

Surgical treatment to treat obesity to which a limb was subjected brought immediate results, however, after thirteen years, the recovery of BMI revealed its ineffectiveness, as demonstrated in some studies in this area, in which the importance of multidisciplinary surveillance is highlighted. in the pre- and post-surgical period for an effective and lasting result(2,31,32).

Due to the social, demographic, economic and health magnitude attributed to obesity, more studies are needed in which we can evaluate and intervene in families with familial obesity, listing for the future which interventions are most relevant to families with these characteristics.

CONCLUSION

In the family assessment, the following diagnoses were highlighted that required family health nursing intervention: insufficient family income, inadequate water supply, marital satisfaction not maintained, inadequate role of the caregiver and dysfunctional family process. The interventions were taken from the MDAIF operational matrix.

Through individual assessment, the presence of obesity in all family members was verified, therefore confirming family obesity. It is verified through this study that the systemic approach in family assessment and intervention carried out by nurses is extremely important, as it is carried out with the family as a unit of care. Furthermore, the concomitant intervention in its members allows interventions carried out individually to have repercussions on the system as a whole. The impact of transgenerationality must be present in decision-making regarding family intervention, especially in extended families, to promote attitudes that avoid the perpetuation of behaviors that are harmful to family health.

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