3nd NATIONAL CONGRESS OF ONCOLOGY

MONTES CLAROS - 2019

Associação Presente

Associação Presente de Apoio a Pacientes com Câncer - Padre Tiãozinho

REVISTA
UNIMONTES CIENTÍFICA
(ISSN 2236-5257)

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REVISTA
UNIMONTES CIENTÍFICA
(ISSN 2236-5257)

3nd NATIONAL ONCOLOGY CONGRESS ASSOCIAÇÃO PRESENTE: CANCER AND QUALITY OF LIFE WERE THEMES OF THE 3RD NATIONAL CONGRESS OF ONCOLOGY

With the objective of bringing humanization in care and education among professionals from different health areas, Associação Presente, which this year celebrates 15 years of existence, held the 3rd National Congress of Oncology - scientific event of excellence, which, between days 29th and 31st of August of 2019, brought to Montes Claros reflections about the prevention of cancer, Integral Care of Health, Cancer Treatment and Palliative Care. Renowned speakers throughout Brazil discussed themes and relevant strategies in the world related to breast cancer, melanoma, sarcoma, urological tumors, gastrointestinal tract, immunotherapy, contribution of genetics in oncology, management of the adverse effects of treatment, health care and palliative care.

In addition to Associação Presente, the event counted on support of the following partners: Oncovida Hospital Dia, Bristol, Roche, Hermes Pardini, Drogaria Pacheco, Novo Nordisk, Teva, Libbs, Janssen, AstraZeneca, Dr Reddy´s, Sociedade Brasileira de Oncologia, Sociedade Brasileira de Mastologia, Liga acadêmica de Cancerologia do Norte de Minas, Liga Acadêmica de Cuidados Paliativos, Revista Brasileira de Cancerologia (INCA) and Revista Unimontes Científica (RUC) of State University of Montes Claros. More than 500 subscribers were recorded, and 70 scientific papers were submitted in simple summaries and full articles modalities.

This special issue of the Journal Unimontes Científica comprises 18 articles approved and presented in this 3rd National Congress of Oncology. The disclosure in English of this edition, just as the previous one, gives greater visibility to knowledge produced and discussed in this such successful event.

Thank you very much to everyone who contributed so that this special issue of the Journal Unimontes Científica was possible and that much validated the commitment of love to life of Associação Presente!
Peace and good to all.

Priscila Bernardina Miranda Soares
Founder of Associação Presente and Mentor of the 3rd National Congress of Oncology

Cristina Andrade Sampaio
Chief Editor of the journal Unimontes Científica

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REVISTA
UNIMONTES CIENTÍFICA
(ISSN 2236-5257)

ANALYSIS OF THE QUALITY OF LIFE OF CHILDREN AND TEENAGERS IN ONCOLOGICAL TREATMENT IN THE MUNICIPALITY OF MONTES CLAROS-MG

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Abstract: Objective: This work aims to analyze the quality of life of children and teenagers in oncological treatment registered at the Fundação Sara Albuquerque Costa, a reference center in the northern region of the State of Minas Gerais, Brazil, located at in the city of Montes Claros. **Methods:** This is a descriptive, prospective, and transversal investigation. It consisted in the implementation of the questionnaire "Pediatric quality of life cancer module (PedsQL)" in order to analyze the impact of therapeutic procedures, symptomatology, collateral and toxic effects, social changes, and aspects of the daily and psychological routine upon the quality of life of these patients. **Results:** This study found that many times children and teenagers in oncological treatment present some special difficulties. Most of them experienced nauseas during the treatment and, specifically regarding certain situations. One of the great fears of these children is related to the needles and injections they frequently have to deal with. Further, half of the participants reported that, with a certain frequency, they do not consider themselves attractive. **Conclusion:** The importance of adopting measures and actions that might reduce the anxiety and fear experienced by children and teenagers is highlighted in this investigation, therefore contributing to the improvement of the quality of life.

Descriptors: Quality of life; Treatment; Oncology; Children; Teenager.

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ISSN 2236-5257

INTRODUCTION

Since Antiquity, many philosophers have tried to define the term "quality of life". Currently, this concept is not only linked to the absence of disease but also involves aspects regarded as important in the life of a person, like freedom, spiritual and religious particularities, economic conditions, and situations related to interacting environment, among others.[1]

Therefore, many factors related to the health of an individual might interfere in his quality of life, such as the appearance of any chronic disease like cancer. The number of cases of this disease grows increasingly worldwide, being considered one of the major public health problems.[2]

Under this perspective, studies point out that 80% of the patients with cancer present pain at any particular stage of this disease, mainly in the advanced stages, which might interfere in the quality of life. In consequence, such patients try to avoid the social environment and develop functional changes, besides presenting depressive syndromes. Such changes present damaging, immediate, and long term implications, especially for children and teenagers when they experience situations in which they are exposed to stressing factors. These might be internal, such as pain and fever; or external, like changes in the environment and social life.[1]

Thus, since the beginning of the cancer diagnostic, children, teenagers and their relatives suffer great impacts in their lives, since this is a time of stress, full of doubts, uncertainties, and anxieties. In addition, the diagnostic is regarded as a catastrophe, being a reason for great psychological disruption, since it reveals the existence of a terrible and violent disease.[3]

In treatment time, there is another moment of impact, since children and teenagers are exposed to an environment different than that to which they are used, facing strange people and being exposed to invasive and painful exams, strong drugs that cause many adverse effects and, many times, involving the separation from friends and from social environments like the school. The oncological treatments has an unpleasant consequence upon the child and teenager that, independent of his/her age and cognitive ability, make him/her vulnerable, especially to psychological disorders due to the rapid change of habits in their lives.[4]

So, due to the nature of the oncological disease that exposes the patient to many stressing factors, such as long term medical interventions, hospital admissions, environmental changes, many restrictions, and invasive procedures, the treatment needs to become more comprehensive, providing attention to the physical, psychological, spiritual, and social demands of the patients.[5]

Keeping the child calm, confident, and optimist will reduce the suffering related to the disease, since these attitudes will result directly in an improvement of the quality of life and dealing with this chronic disease.[6]

Accordingly, the goal of this study consists in analyzing the quality of life of children and teenagers submitted to oncological treatment in order to contribute to the quality of life of these patients.

METHODS

This investigation was conducted in the city of Montes Claros, Minas Gerais, Brazil, being a descriptive, prospective, and transversal study. A specific instrument, the Pediatric quality of life cancer module (PedsQL), was used to collect the data It consists in a questionnaire based on information

about the impact of the therapeutic procedures, as well as the symptomatology, collateral and toxic effects, social changes, and aspects of the daily and psychological life of the pediatric patients with cancer.

For this purpose, children and teenagers (between 5-18 years) diagnosed with cancer and submitted to oncological treatment were interviewed. They were registered in the Fundação Sara Albuquerque Costa and were hosted in this institution from August 2018 to December 2018. After their giving their written consent, 14 participants were interviewed. The number of participants was reduced because most of the patients spent their days at the hospital and then soon after travelled to their home town, which hindered the collection of the data.

The choice of the age group was motivated by the fact that from five years the child is able to better understand what happens to him/her, being capable of answering with greater certainty the applied questionnaire.

Subsequently, the data were analyzed by descriptive statistics, with the results presented through charts in the "Microsoft Word 2007" software.

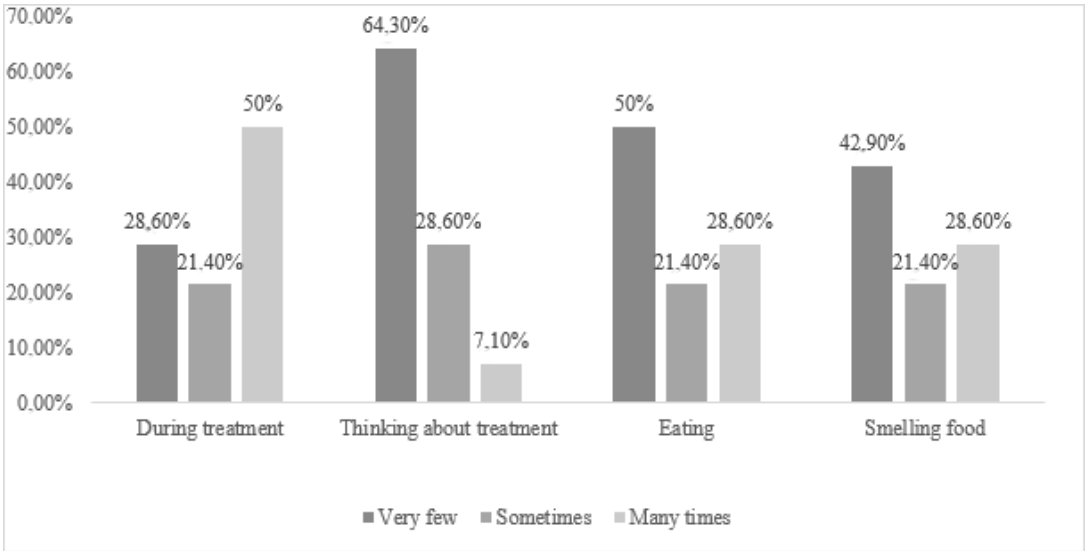
The interview and data collection occurred after the submission and approval of the investigation project that guided this study by the Committee of Ethics of the Faculdades Integradas Pitágoras, from Montes Claros (FIP-MOC), according to the regulations found in the Resolution 466/12, from the National Council of Health, approved by the Report nº 2.702.468.

The privacy of the personal information, the anonymity of the participants, as well as the information about their relatives were assured. The results obtained were analyzed only by the investigators involve in this study, preserving the ethical aspects related to the anonymity of the individuals.

RESULTS

Many times children and teenagers in oncological treatment are found to present some special difficulties. During the data collection certain situations were identified that led children and teenagers to experience nauseas. Figure 1 shows that nauseas are experience by 50% of the patients during the oncological treatment. Other situations, such as feeding, sensing certain scents, and thinking about the treatment, also result in less intense nausea among the participants.

Figure 1 - Percentage of children with nausea in particular situations.

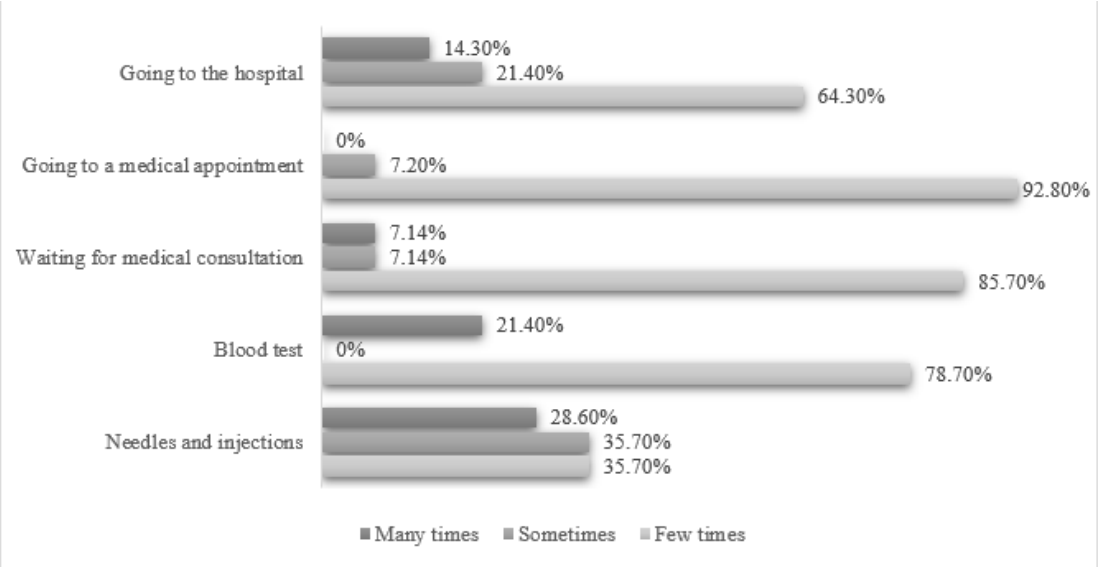


Source: Data from the authors

ISSN 2236-5257

Regarding the anxiety that the children present due to the several procedures and treatments through long treatment, this study revealed that most of them are able to control this symptom, especially when going to a medical appointment, waiting for it, going to the hospital, and when performing blood tests, with respectively 92.80%, 85.70%, 64.30%, and 78.60% of the answers (Figure 2).

Figure 2 – Percentage of children with anxiety regarding procedures and treatment.

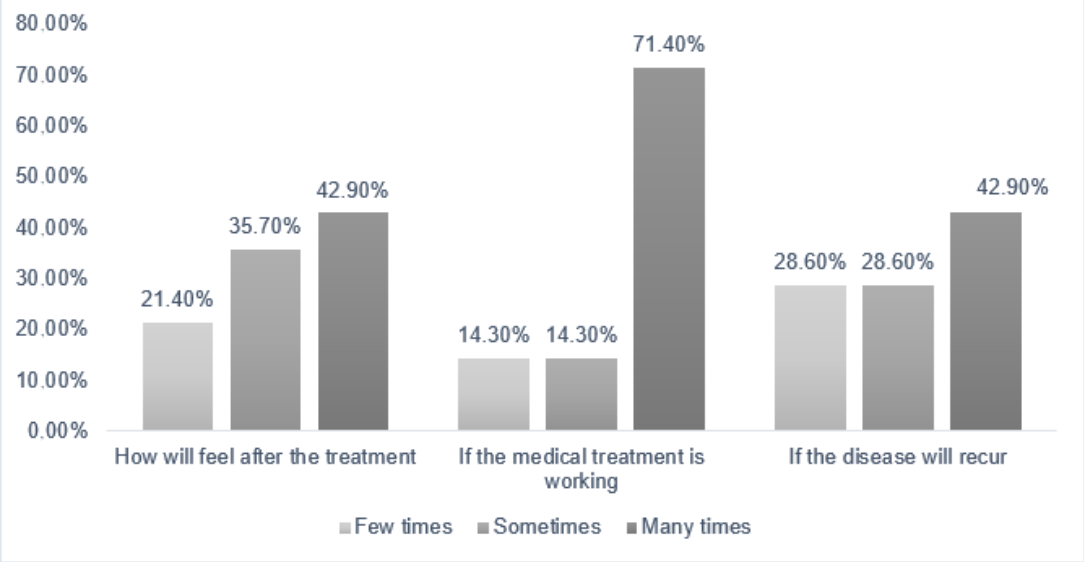


Source: Data from the authors

However, anxiety regarding tests that use needles to collect samples of material and drug administration through injections has shown to be much higher than the aforementioned situations.

Regarding the worries and anxieties of these children and teenagers during the oncological treatment, this analysis presented different results from the previous ones, since most of them were related to the efficacy of the medical treatment (71.4%). Among children and youngsters, 42.90% are afraid of the recurrence of the disease and about how they will feel after the treatment sessions (Figure 3).

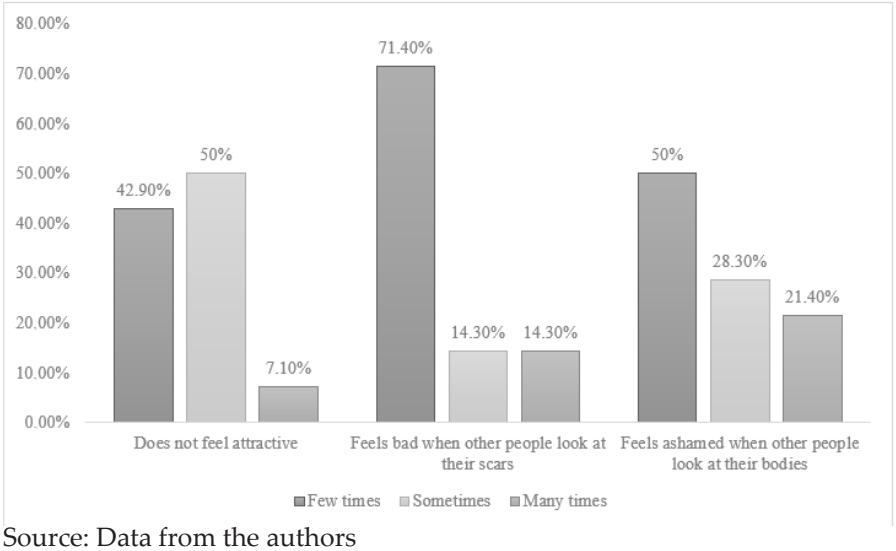
Figure 3 – Percentage of children with certain worries during the treatment.



Source: Data from the authors

With respect to the opinions of children and teenagers about their perceptions about their physical appearance, this study showed that only in a few situations (71.40% of the patients) the participants felt uncomfortable about other people seeing their scars. Yet, it is important to mention that when it comes to feel attractive, half of the interviewed patients reported that sometimes do not consider themselves to be good looking (Figure 4).

Figure 4 – Percentage of children analyzed according to their perceptions about their physical ap-

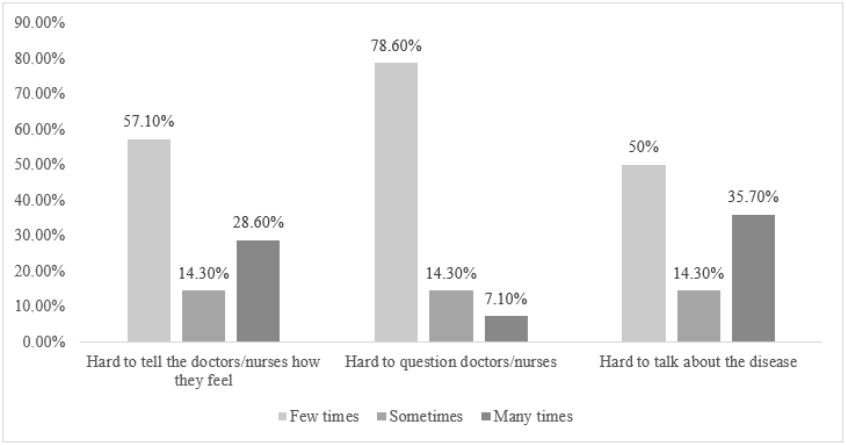


Source: Data from the authors

When the data were separated by age in children (between 5-12 years) and teenagers (between 13-18 years) it was clear that the group that has reported more worries related to their physical appearance was the children group, mainly considering self-esteem (find himself/herself good looking) and the fact that other people looked at their bodies. Regarding the answers of the teenagers, most of them did not report worries about their physical appearance, although some of them have mentioned that, in certain occasions, they felt embarrassed about their scars and appearance of their bodies.

About the communication of the participants with the doctors and nurses, this investigation has shown that children and teenagers did not feel intimidated and/or embarrassed to expose their feelings and fears (57.10%), clarify their doubts (78.60%), and talking about the disease (50.0%) with the doctors and nurses in charge of the treatment (Figure 5). When assessing the data of children and teenagers separately, the patients younger than 13 years answered that they "faced difficulties many times" with a higher frequency than those with 13 years old or more.

Figure 5 – Percentage of children analyzed according to their communication difficulties.



Source: Data from the authors

ISSN 2236-5257

DISCUSSION

The oncological treatment, especially regarding chemotherapy and radiotherapy, usually results in many collateral effects in short and long term effects in children and teenagers.[7]

This problem was found when analyzing the results of this study, with 50.0% of the interviewed children and teenagers having reported nauseas especially after treatment and 21.40% of them having it twice. In addition, nausea was reported in several occasions, showing that it is not related only to a particular situation. A study conducted by Cicogna *et al.* has also found that the most commons collateral effects are nauseas, malaise, and vomits. Besides that, in the investigations made by Souza *et al.* and Santana *et al.*, nausea was also one of the most common complaints, and associated to it, a state that is both physically and emotionally debilitating, which impairs the execution of the daily tasks. [8,9,10.]

The studies of Cicogna *et al.*, Souza *et al.* e Marques have concluded that many times the hospital é regarded as an unpleasant place, being responsible for several procedures that cause pain and suffering in many children and teenagers. However, in the present study, most of the children and teenagers have not reported experiencing anxieties regarding hospitalization and medical appointments. These findings might be related to the fact that going to these places might also yield feelings of hope and relief since they are places responsible for cancer treatment and cure. [3,8,9.]

Another important issue is the anxiety related to the medical procedures, especially those that involve needles and injections. In the present study, 71.40%% of the children and teenagers reported they felt “sometimes” and “many times” anxiety and fear related to receiving “injection pricks”. This was similar to the work of Galli *et al.*, which sustained that injections and needles are a cause of great worries, since they are considered invasive procedures that cause pain, therefore causing stressing moments to children and youngsters.[11]

During the treatment process the children and teenagers are anxious for the cure. Also present are the fear of recurrence and of an inefficient treatment. Among these three situations, most of the participants reported many times worries about the efficiency of the treatment. In a study by Pontes *et al.*, this worry was also present in the daily life of children, although the reason for this unease were linked to the fear they felt about disappointing and causing sorrow or pain to their relatives and the people closer to them, especially the parents.[12]

According to Dias *et al*[12] another problem that might be found in children and teenagers that are submitted to chemotherapy is the esthetical issue. Due to the use of strong drugs and frequent procedures such as injections, blood tests, and others, the patients go through changes in their physical appearance like hair loss, scars and bruises. When analyzing children, Pontes *et al.* have shown that many of them reported feeling ashamed of their bodies and uncomfortable to deal constantly with other people looking at their wounds and scars.[13.]

However, in the present study, this topic presented a different result, since most of the children did not feel ashamed, uncomfortable, or insecure about their physical appearance. However, some of them told that in certain occasions self-esteem weakens and feelings of inferiority and shame about their lesions and scars appear. Even so, in the face of this situation, these feelings might be explained as the result of the impact of this disease and of the limitations that are imposed to the lives of these children and teenagers.

Regarding difficulties of communication with doctors and nurses that many children and teenagers usually present, this study noted that most of the patients felt free and confident to ask questions, clarify doubts, eliminate fears, and talk about the disease. An investigation conducted by Morais *et al.* mentions that a good communication with the health professionals is critical since it creates a bond between them, resulting in more compliance and confidence in the treatment, which might even lead to the elimination of the fears and expectations felt by the patients, followed by a greater efficacy in the treatment.[14]

CONCLUSION

Since cancer is a disease feared by everybody and usually regarded as something painful, terminal, and many times incurable, it interferes directly in the quality of life of affected patients and their more intimate people. This fact becomes even more worrying when dealing with children and teenagers, since they experience a traumatic situation in a stage of life that is usually full of discovering and learning.

Based on these results, this study highlights the importance of developing measures and actions that might reduce the anxiety and fear related to some of the medical procedures employed, especially needles and injections, and that increase self-esteem and knowledge about this disease, bringing more comfort and compliance to the treatment. Further, it is vital to increase the emotional support provided to parents and other people in charge of the children, since all their fears and anxieties might be transferred to them, yielding feelings of inferiority and guilty, which interferes in the quality of life.

It is important to remark that a more trustworthy evaluation of the present results found requires a larger number of interviewed patients'.

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(ISSN 2236-5257)

ANALYSIS OF FOOD QUALITY IN STUDENTS IN NORTH MINAS GERAIS

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Abstract: Objective: To evaluate the feeding quality of high schools students from public and private schools from the north of Minas Gerais, Brazil. **Method:** This is an epidemiological, transversal, and analytical study entitled "Online students: internet use and addiction", conducted in the municipality of Montes Claros – Minas Gerais, with high schools students enrolled in public and private schools. **Results:** From the 966 participants, 62% have reported to ingest fruits at least 3 times a week and 74% eat any type of greenery. Regarding the consumption of non-healthy foods, the percentage of teenagers that eat treats such as candies, chocolates, and chewing gums more than once a week was of 85.9%, while the ingestion of fried snacks at least 3 times a week was reported by 34.1% of the participants. Besides that, 72.3% of the youngsters drink soft drinks at least once a week. **Conclusion:** The majority of the teenagers that took part in this investigation eat healthy food at least 3 times a week. In addition, more than half of the interviewed teenagers eat unhealthy food in the same frequency. Thus, the need to reinforce actions of promotion and support to healthy feeding that target teenagers.

Descriptors: Nutrition; Teenagers; School; Food Consumption; Health.

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INTRODUCTION

Adolescence is a period of intense changes, with the habits acquired in this period having a crucial influence upon many aspects of the adult life, related to feeding, health, preferences, and psychosocial development, among others. The diet of teenagers has been characterized by a high consumption of ultra-processed foods (rich in fats, sugars, and sodium) and also by the insufficient ingestion of foods *in natura*, such as fruits and greenery[1,2].

The feeding habits are not related only to the ingested foods, but to a set of actions related to feeding, starting with decision, availability, preparing, tools, time of feeding and ending with the consumption. Eating meals family members, having breakfast, and drinking the recommended amount of water are considered healthy life habits [3].

Along the last three decades globalization has established new visions and intense changes regarding food choices. This context, together with the increased use of electronics (television, cell phones, videogames, and computers), by children and teenagers hinder the adoption of more healthy life styles, leading to the choice of fast foods and to the reduction of physical activities [4].

Inadequate feeding in childhood and adolescence is considered one of the major risk factors for the appearance of early obesity and other chronic non-transmissible disease (DCNT), such as cardiovascular diseases, diabetes, and cancer, with severe consequences in adulthood. The excessive weight gain and the DCNT result in inadequate patterns of feeding, requiring the identification of the different food groups ingested and the analysis of these patterns according to sociodemographic and behavioral characteristics, as well as other risk factors for DCNT [5].

Since many studies relate feeding habits to the development of certain diseases, it is important to know the feeding quality of these individuals for the development of actions of health promotion and education, in order to effectively reduce the rates of morbimortality associated to inadequate feeding habits. Therefore, this study aims to evaluate the feeding quality of high schools from private and public schools from the north of the State of Minas Gerais, Brazil.

METHODOLOGY

This is an epidemiological, transversal, analytical study entitled “Online students: internet use and addiction”, conducted in the urban area of the municipality of Montes Claros - MG, with students that attended public and private high schools. At the moment of the study the students totaled 16,216 individuals in high school, of which 12,839 studied in state public schools and 3,377 participants in private ones.

The sample size was defined considering an event prevalence of 50%, a level of confidence of 95%, and a standard error of 5%. The correction for the design effect (Deff=2.0) was adopted and established an addition of 15% as a non-response tax. Therefore it was estimated that a total number 884 of high school students was required to conduct this investigation.

The sample was taken using the method of probabilistic clustering, being done in the following way: first, the schools were drawn by probability, proportional to their size. Second, the classes were drawn by simple random sampling. The students included in this research were regularly enrolled in the teaching institution and in the selected class and the excluded were those that due to difficulty in interpretation were not able to answer the questionnaire.

Before collecting the data the interviewers underwent a training process and a pilot study was

performed with students from institutions that were not selected in order to standardize the methods of this investigation. The data collection occurred between the second semester of 2016 and the first semester of 2017, in one private and four public schools by a multidisciplinary team that consisted of professionals from the areas of Medicine, Nursing, Nutrition, Psychology, Exact Sciences, and by undergraduate research students.

The data collection was made through a questionnaire that addressed sociodemographic characteristics (sex, age), schools (study shift), and dietary questions. The rate of feeding was measured in a six-point Likert scale with the following options: 1 to 2 days in a week, 3 to 4 days in a week, 5 to 6 days in a week, all the days (including Saturday and Sunday), and almost never/never. This scale was used to assess the number of days the students consumed the following types of food: fruits, greens/vegetables (lettuce, cabbage, carrot, chayote, and zucchini), treats (sweets, candies, chocolates, and chewing gums), fried snacks (French fries, coxinha, pastry), hamburgers and processed food (sausage, salami, boloney, and ham), and soft drinks.

The data were typed in duplicate, organized and analyzed through the statistical software "Statistical Package for the Social Sciences (SPSS) for Windows", version 18.0. The investigated variables were described by their absolute and percentage frequency distribution, corrected by the design effect (deff). Then, bivariate analyses were carried out between the outcome variables (feeding) and each independent variable. The variables related to feeding were classified in: ingestion at least once in a week and almost never/never.

This study has fulfilled all the ethical principles of Resolution n°466/2012 of the National Health Council (CNS) , and the project of this investigation was approved by the Research Ethics Committee (CEP/ Unimontes, nº1.520.173). Regarding the students with less than 18 years and their caregivers, they have both signed the Free Informed Clarified Assent Form (TALE) and the Free Informed Clarified Consent Form (TCLE). The participants with 18 years or more signed the TCLE.

RESULTS

A total of 966 students from high school took part in this study, most of them being women (512 individuals, 53.0%) with 16 to 17 years (79.1%) that were enrolled to the morning shift (94.9%) of public and private schools.

In the analysis of healthy food consumption, 596 youngsters (61.6%) reported to ingest fruit at least 3 times in a week and 713 (73.8%) ingest some type of greenery in the same period. A total of 232 participants (24.0%) consume fruit 1 to 2 times in a week and 135 (14.0%) individuals say they almost never/never eat this type of food. Regarding the ingestion of greens, 250 (25.9 %) eat them every day, 153 (15.8%) eat them only once a week, and 97 (10.0%) declare they almost never/never ingest this food (Table 1).

Regarding the ingestion of unhealthy food, the amount of teenagers that ingests treats like candies, sweets, lollipops, chocolates, chewing gums, etc., more than once in a week totaled 828 (85.9%) participants. While the ingestion of fried snacks at least 3 times a week was found in 328 (33.9%) teenagers, a total of 285 (29.5 %) individuals have reported that almost never/never eat fried snacks. In addition, 72% of the youngsters (696 participants) drink any type of soft drink at least once in a week (Table 1).

Table 1- Frequency of consumption of certain foods per student that attend high school. Montes Claros, MG, Brazil, 2019

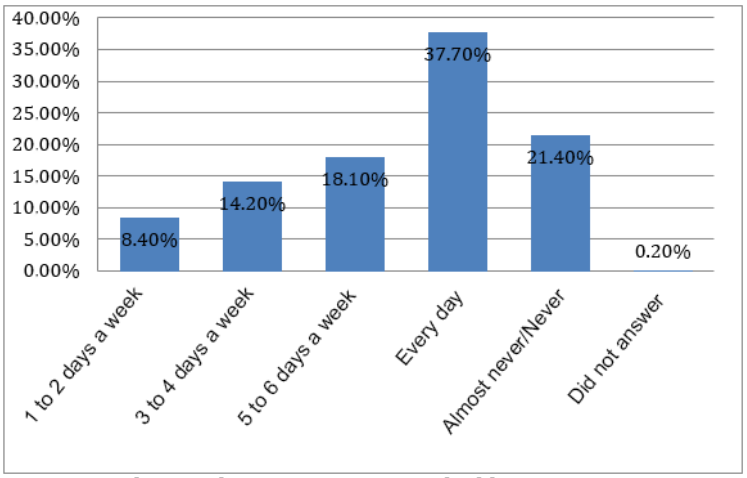
	1 to 2 days per week	3 to 6 days per week	All the days (including Saturday and Sunday)	Almost never/ Never	Total
How many days a week do you eat fruit?	232 (24.0%)	418 (43.2%)	178 (18.4%)	135 (14.0%)	963 (99.6%)
How many days a week do you eat at least one type of greens or vegetables (except potato, manioc, or yam)?	153 (15.8%)	463 (47.9%)	250 (25.9%)	97 (10.0%)	963 (99.6%)
How many days a week do you eat treats (sweets, candies, chocolates, chewing gums, lollipops, etc.)?	218 (22.6%)	434 (44.9%)	176 (18.2%)	136 (14.1%)	964 (99.8%)
How many days a week do you eat fried snacks?	350 (36.2%)	295 (30.5%)	33 (3.4%)	285 (29.5%)	963 (99.6%)
How many days a week do you have soft drinks?	307 (31.8%)	314 (32.5%)	75 (7.7%)	267 (27.6%)	963 (99.6%)
How many days a week do you eat hamburgers and processed food?	388 (40.2%)	298 (30.9%)	32 (3.3%)	246 (25.5%	264 (99.8)

Source: Online students: internet use and addiction 2016/2017

A total of 388 (40.2%) individuals eat hamburgers and processed meat (sausage, boloney, salami, or ham) at least 1 to 2 times a week, followed by 298 (30.9%) participants that eat it from 3 to 6 days a week, and 246 (25.5 %) teenagers say they almost never/never ingest food from this group (Table 1).

A relatively high percentage of high school teenagers (757 individuals, 78.4%) ingests food while watching TV, use the computer, or study, while the ones that never or almost never (< 1 in a week) perform these activities while eating is of 207 individuals (21.4%), as shown in Fig.1.

Figure 1- Frequency of teenagers that usually eat watching TV, using the computer, or studying. Montes Claros, MG, Brazil, 2019.



Source: Online students: internet use and addiction 2016/2017

When questioned about the rate of home meals in a week, 628 (62.9%) participants said they ate at home every day, 298 (30.9 %) teenagers did so in 3 to 6 days in a week, and only 40 (4.1 %) individuals reported that they almost never or never have lunch or dinner at home.

DISCUSSION

The findings highlighted in this study show that there is an inappropriate consumption of fruits and greens by teenagers since most of teenagers eat them in 3 to 6 days a week, while the prescribed by the Health Ministry is of at least 3 portions a day, both for greens and fruits[6]. In addition, there is a significant percentage of frequent consumers of unhealthy foods such as treats, fried snacks, and soft drinks that do not exhibit any balance between the ingested foods.

A similar study with teenagers based on the 2015 data from PeNSE, showed data that has confirmed this study. The highest weekly rates of consumption were observed for the ingestion of beans (4.57 days/week) and greenery (3.43 days/week) among the food markers of healthy feeding; and for the consumption of treats (3.76 days/week) and ultraprocessed snacks (3.26 days/week) among those food markers of unhealthy feeding. Regarding feeding behavior, almost half of the teenagers presented the habit (≥ 5 days/week) of feeding while studying or watching TV (48.8%), and approximately 1 in 20 has reported the habit of eating fast-food restaurants (5.5%) [5].

Regarding the ingestion of processed food, a significant number of teenagers consumes this food group, with more than half of them eating it at least one day in the week. The ingestion of such foods together with the adoption of sedimentary behavior have a strong association with obesity and chronic diseases. Studies that try to explain the high consumption of these foods show that they are easily prepared and that teenagers are prone to the publications and marketing related to such products[7].

A transversal study about obesity in teenagers from 12 to 17 years registered in public and private schools in the Brazilian cities have shown that private schools present a nutritional environment that is more obesogenic than public schools, with a predominance of processed food and drinking being sold. Also public and private schools from the North Region of the country exhibit a nutritional environment that is more favorable to obesity than the schools from the South [8].

Besides cultural issues, economic factors also play a decisive role in the ingestion of healthy food. Evidence shows that diets with a high content of vegetables are more expensive than the others and that the effect of economic restrictions upon the cost of food (a situation experienced by economically less favored families) results in diets with low ingestion of fruit and greenery and a higher consumption of very caloric foods (especially due to the high content processed grains, oil, and sugar) [9].

Most of the teenagers of this study (almost 80%) eat while watching TV, use the computer, or study at least once in a week. A similar picture was found in a study performed with 74,589 teenagers from 1,247 schools in 124 Brazilian municipalities, in which more than half of the students declared to almost always/always in front of the TV, although this practice was more prevalent in women and in students from public schools [4].

The analysis of home meals revealed that most teenagers presented this habit, working as protecting factor regarding healthy feeding habits. In addition, there are studies that show an inverse relation between the rate of home meals and un-

healthy feeding patterns. This association might be the result of the influence of the food habits of the family, especially of the parents, upon their children, making active food choices for the family (like higher ingestion of fruits, whole grains, and fibers), acting as role models for choices and feeding patterns[10].

One of the limitations of this study might be the underreporting of the real ingestion of food by teenagers, whether because of an attempt to reach the prescribed ideal or because they are afraid of being rebuked.

Among the positive points of this study is the public that was targeted, being formed by teenagers from both public and private high schools. In addition, the main theme of this study is quite relevant, since the definition of a good nutritional diet in teenagers helps in the development of public policies that might promote the choice of healthier food.

CONCLUSION

The results of this study point out that most of the teenagers that participated in this investigation eat healthy food at least 3 times a week, that is, in the other remaining 4 days they remain without nutrition coverage regarding the micronutrients required for health. In addition, more than half of the interviewed participants eat unhealthy food in this period of time, overloading the organism with food preservatives, sugars, artificial dyes, sodium, and other substances present in these foods. Therefore, there is a need to reinforce actions of promotion and support to a healthy diet that target young people, from providing healthy food in schools to public policies that promote the purchase these foods.

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EVALUATION OF THE SOCIODEMOGRAPHIC AND NUTRITIONAL PROFILES OF INDIVIDUALS THAT WERE ATTENDED AT THE 9TH CAMPAIGN OF CANCER PREVENTION

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Abstract: Objective: To evaluate the sociodemographic and nutritional profiles of the individuals attended at the Nutritional Tent at the 9th Campaign of Cancer Prevention in 2019, carried out in the city of Montes Claros – Minas Gerais. **Method:** This is an epidemiological and descriptive study conducted in the city of Montes Claros – Minas Gerais through data obtained in the attendance of the population at the Nutrition Tent in the 9th Campaign of Cancer Prevention. Care forms containing sociodemographic characteristics, cancer family history, habits and lifestyles, ingestion of sweeteners, and a diagnostic of the nutritional status. The data were tabulated in the statistical *software "Statistical Package for the Social Sciences"*, version 20.0 for *Windows*®. **Results:** A total of 339 individuals took part in this study. Most of them were women (78.5%) and the prevalent average age was 56.3 years. Among the participants, 57.6% reported not to have a cancer family history; 79.9% never smoked, and 67.2% never drank alcohol beverages. Weekly physical activity was practiced three times a week by 25.6% participants. Crystal sugar was the most used sweetener (69.9%), following by artificial sweeteners (17.9%). Regarding the diagnostic of the nutritional status the study revealed a prevalence of overweight (38.3%) followed by eutrophy (26.3%). **Conclusion:** Addressing a larger public is important, as well as encouraging the adoption of healthy feeding habits, in order to prevent the occurrence of non-transmissible diseases, therefore promoting a better quality of life.

Descriptors: Nutrition; Diseases; Nutritional Status; Cancer.

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INTRODUCTION

Cancer is a non-contagious disease that starts silently, being characterized as a group of more than 100 pathologies that share the uncontrolled growth of cells that might invade tissues and organs. Since cell division occurs in a fast and uncontrolled way and the cancer cells are generally very aggressive, they usually form tumors and might migrate to other regions of the body [1].

Tumors might be benign, that is, they are likely to grow in an organized way, usually slow, and are not able to spread to other tissues and organs. Despite the incapacity of expansion of the tumor, nearby organs and tissues might be compressed. Among the benign tumors are the lipoma (from fat tissue), the mioma (from smooth muscle), and the adenoma (from glands). Malignant tumors have the ability to invade adjacent tissues and organs and elicit metastasis, besides being resistant to treatment and causing the death of the individual [2].

According to the World Health Organization (WHO) cancer has caused 9.6 million deaths in 2018 and currently is considered the second major cause of mortality worldwide. In a global perspective, 1 in 6 deaths is caused by cancer, and approximately 70% of these deaths occur in low and medium-income countries [3]. The increasing number of cases of neoplasm reveals the urgent need to structure health services, especially in developing and underdeveloped countries, due to the relatively high cost of diagnostic and therapeutic procedures related to this pathology. In Brazil, malignant neoplasms were responsible for 105,275 deaths in 1990 and by 236,345 deaths in 2015, with breast cancer being the major death cause among women and prostate cancer among men. In the near future deaths by cancer will exceed those caused cardiovascular disorders[4].

In the Brazilian health system, cancer has been considered a major public health issue. The increasing number of cases leads to changes in the epidemiological profile of the population that is the result of a higher exposure to carcinogenic factors, aging of the population, improvement of diagnostic technologies, and an increase of mortality caused by this disease[5].

The etiology of cancer might be quite diverse. The genetic component affects the development of the pathology. However, there are currently few cancer cases in which the genetic background is the only cause. Feeding habits, sedentary lifestyle, and work conditions are among the major influencers for the development of cancer[6]. Therefore, primary preventive actions that aim to evaluate the current risks and to provide information and guidelines to the population are extremely important both for the early diagnostic and for neoplasm prevention[7].

Therefore, the current study aimed to evaluate the sociodemographic and nutritional profile of the individuals attended in the Nutrition Tent in the 9th Campaign of Cancer Prevention in 2019, carried out in the city of Montes Claros, Minas Gerais, Brazil.

MÉTODO

This is an epidemiological and descriptive study conducted in the city of Montes Claros – MG, using the data collected in the medical services provided in the Nutrition Tent to the public attended at the 9th Campaign of Cancer Prevention, organized by the Associação Presente de Apoio a Pacientes com Câncer – Padre Tiãozinho, in 2019. The sample consisted of 339 individuals and the data collection by a team of nutritionists and graduate students of Nutrition.

Care forms containing sociodemographic characteristics (age, sex, family status, educational

level, and color), cancer family history, habits, and life style (smoking, alcoholism, and weekly physical), ingestion of sweeteners, and diagnostic of the nutritional status.

The diagnostic of the nutritional status was determined using the Body Mass Index (BMI) through the following parameters: bellow 16.0 (thinness level III), from 16.0 to 16.9 (thinness level II), de 17.0 to 18.4 (thinness level I), from 18.5 to 24.9 (eutrophy), from 25.0 to 29.9 (overweight), from 30.0 to 34.9 (obesity level I), from 35.0 to 39.9 (obesity level II), ≥ 40.0 (obesity level III), proposed by the World Health Organization, that was evaluated through the calculation of the body mass index: BMI = weight (kg)/height $(m)^2$.

This study has followed all the steps of the ethical precepts determined by the Resolution 466, of December 12th, 2012, from the National Council of Health, following the approval by the Research Ethics Committee of the Universidade Estadual de Montes Claros - UNIMONTES, according to the Consolidated Report nº 3.289.344.

The data were tabulated in the statistical software *Statistical Package for the Social Sciences (SPSS®)*, version 20.0 for *Windows®*.

RESULTS

A total of 339 individuals took part in this study. Most of them were females (78.5%) and the prevalent average age was 56.3 years. Approximately half (49%) of the participants were married or in a stable union. Also, 46.8% of the participants have concluded the primary school e 46.6% declared themselves as brown (Table 1).

Table 1 – Sociodemographic profile of the individuals attended at the Nutrition Tent in the 9th Campaign of Cancer Prevention in Montes Claros - Minas Gerais, Brazil, 2019.

Characteristics	n*	%
Sex		
Female	263	78.5
Male	72	21.5
Age		
<20 years	8	2.4
21-30 years	8	2.4
31-40 years	17	5.0
41-50 years	50	14.8
51-60 years	96	28.4
> 61 years	159	47.0
Family Status		
Single	80	24.0
Married/Stable Relationship	164	49.0
Separated/Divorced	36	10.8
Widow	54	16.2
Educational level		
Illiterate	18	5.4
Primary school	155	46.8
High school	124	37.5
Superior	34	10.3
Color		
White	114	40.3
Black	32	11.3
Brown	132	46.6
Others	5	1.8

*Totals varied due to the loss of information.
Source: Data from the research

Among the participants, 57.6% have reported the absence of a cancer family history. There was a higher prevalence of individuals that have never smoked (79.9%) and never drunk (67.2%). Physical activity three times a week was practiced in 25.6% of the participants (Table 2).

Table 2 – Descriptive characteristics of the individuals attended at the Nutrition Tent in the ory9th Campaign of Cancer Prevention according to the cancer family history and life habits. Montes Claros - Minas Gerais, Brazil, 2019.

Characteristics	n*	%
Cancer Family History		
Yes	137	42.4
No	186	57.6
Smoking		
Yes	17	5.1
Never Smoked	271	79.9
Ex-smoker	51	15.0
Alcoholism		
Yes	86	25.4
Never drank	227	67.2
Ex-alcoholic	25	7.4
Weekly Physical Activity		
None	171	50.7
Once	31	9.2
Twice	42	12.5
Three times or more	93	25.6

*Totals varied due to the loss of information.

Source: Data from the research

Assessing the ingestion of sweeteners, there was a prevalence of crystal sugar with 69.9%, followed by the use of sweeteners with 17.9%. Some participants used more than one type of product (Table 3).

Table 3 – Ingestion of sweeteners by the individuals assisted at the Nutrition Tent in the 9th Campaign of Cancer Prevention. Montes Claros - Minas Gerais, Brazil, 2019.

Products	n*	%
Crystal Sugar	237	69.9
Refined Sugar	6	1.7
Brown Sugar	12	3.53
Artificial Sweeteners	61	17.9
Others	15	4.42
Did not use Sweeteners	9	2.65
Did not answer	7	2.06

*Totals varied due to the ingestion of more than one option by the participants.

Source: Data from the research

Regarding the diagnostic of the nutritional status of the participants, the data have shown the prevalence of overweight with 38.3%, followed by the eutrophy with 26.3% (Table 4).

Table 4 – Nutritional Status of the individuals attended at the Nutrition Tent in the 9th Campaign of Cancer Prevention. Montes Claros - Minas Gerais, Brazil, 2019.

Nutritional Status	n*	%
Malnutrition Level III	2	0.6
Malnutrition Level II	1	0.3
Malnutrition Level I	3	0.9
Eutrophy	89	26.3
Overweight	130	38.3
Obesity Level I	77	22.7
Obesity Level II	23	6.7
Obesity Level III	14	4.1

Source: Data from the research

DISCUSSION

Regarding the possible factors involved in cancer, heredity might play a role in the etiology of cancer with a potential negative contribution for the development of these pathologies. According to Table 2, from the 339 participants of the investigation, approximately 42.4% have reported a cancer family history.

The syndromes of hereditary cancer might characterized by several DNA changes in normal cells, with malignant neoplasms being be more prevalent in individuals of the same family. Genetic counseling might be an important ally in these cases, since once the genes responsible for this disease are discovered, more adequate conducts might be designed for the diagnostic of the patient, which might be essential for its prognostic[8].

Some medical characteristics might be related to hereditary cancer, such as the age of the early diagnosis, many types of cancer in a single person, multiple members of a family with the same or associated malignant neoplasms and several generations affected[9]. However, some evidence point out that only a small number of the cancer cases is inherited. Since some of the changeable risk factors

(smoking, radiation, infectious agents, pollution, drugs, malnutrition, and a sedentary lifestyle) are the most relevant and significantly affect the risk and prevention of cancer, this pathology might be prevented[10].

Regarding smoking, 339 individuals (approximately 5.1%) reported smoking, 79.9% never smoked, and 15% were ex-smokers. This was lower compared to that found in the National Health Investigation (NHI) of 2013, in which the percentage of smokers was 14.7%, with 12.7% being daily smokers[11].

According to INCA, smoking is characterized as a chronic disease that is caused by the dependence to nicotine, found in tobacco-based products (smoked/inhaled, aspirated, chewed and/or absorbed by the oral mucosa). Tobacco is responsible for up to 90% of all lung cancers, besides being a significant risk factor for stroke and heart attacks. Besides these pathologies, smoking is also responsible for bladder, pancreatic, liver, larynx, esophageal, cervical, kidney, mouth, pharynx, stomach, acute myeloid leukemia[12].

Smoking is one of the main causes of non-transmissible chronic diseases and the major preventable cause of morbidity and mortality in the world, being responsible for approximately 6 million deaths per year[13].

A total of 25.4% individuals reported the habit of ingesting alcoholic beverages, 67.2% never drank alcohol, and 7.4% are ex-drinkers. These are lower numbers compared to the study of Almeida and Coutinho, where 52% of the participants have declared to drink alcoholic beverages[14]. When compared to another study, there was a prevalence of 71.3% individuals that ingested alcohol, and 13.4% faced alcoholism[15]. That is, this result was even higher than the ones previously mentioned.

Alcohol is widely consumed throughout the world and its harmful use causes several pathologies like: liver cirrhosis, alcohol addiction, and cancer[16]. It is also a decisive component for many deaths caused by diabetes, traffic accidents, tuberculosis, AIDS, and cancer. Estimates show that it affects approximately 3.6% people in the world, from 15 to 64 years, being most prevalent in men[17].

Regarding weekly physical activity, 50.7% of the participants of this investigation have reported none physical activity throughout the week, 9.2% reported it once a week, 12.5% twice a week, and 25.6% three or more times in a week. In another research, conducted in Brazil by the National Diagnostic of Sport - DIESPORTE in 2015, a total of 45.9% participants (67 million of inhabitants) were found to be sedentary[18]. Comparing the two results, physical activity seems to be increasing approximately 4.8% from 2015 to 2019.

According to Gualano and Tinucci some epidemiological studies have revealed that the sedentary lifestyle is independently associated to obesity, higher rate of falls in elderly, mortality, dyslipidemias, depression, dementia, anxiety, changes of humor, considerable increase in the number of cases of coronary artery disease (45%), hypertension (30%), breast cancer (31%), heart attack (60%), diabetes type II (50%), colon cancer (41%), and osteoporosis (59%)[19]. The regular practice of guided physical exercise aids in the reduction of the levels of insulin and some hormones, besides playing a protective role in some types of cancer, such as in colon, breast, endometrial, liver, pancreatic, and stomach cancers[20].

The most used sweetener by the participants was crystal sugar (69.9%). The WHO recommends a low ingestion of sugars both in adults and children, being important to reduce the consumption to less than 10% of the total caloric input and, for greater health benefits the consumption might be

reduced to 5% of the ingested calories (or 25g of sugar per day). This percentage is comprised both by table sugar, as used in the preparation of meals and/or added to processed foods (soft drinks, honey, syrups, among others). Sugars usually found in natural fruits, vegetables, and foods should not be counted, since the consumption of these foods should be encouraged in all age groups. Among the benefits of controlling the ingestion of sugar is a better body weight, a lower prevalence of non-transmissible diseases (such as diabetes), and the reduction of teeth cavities[21].

The nutritional status of the participants of this investigation showed a prevalence of overweight, with 38.3%; followed by eutrophy (adequate), with 26.3%; obesity level I, with 22.7%; obesity level II, with 6.7%; obesity level III, with 4.1%; malnutrition level I, with 0.9%; malnutrition level III, with 0.6%; and malnutrition level II, with 0.3%.

Obesity may be defined as the excessive storage of body fat that can be harmful to health. This is a chronic disease with several causes and a caloric ingestion higher than the energy expended the principal characteristic for the development of this pathology. Overweight is considered a risk factor for non-transmissible chronic diseases, being associated to several other pathologies such as cardiovascular diseases, diabetes, and cancer[22].

An investigation conducted by Vigitel in 2017 in the capitals of 26 Brazilian States and also in the Federal District has shown that the number of adults diagnosed with overweight was 53.7%. It was more prominent in men, with 61.6%, than in women, with 47.6%. The overall percentage of obese adults from the 27 cities was 17.4%, being higher in men, with 19.7%, than in women, with 15.5%. The diagnostic of the nutritional status was made based on the Body Mass Index (BMI) of the participants of this investigation, and overweight was diagnosed from a BMI equal or higher to 25 kg/m ². Obesity was diagnosed with a BMI equal or higher than 30 kg/m^{2}[23].

One third of 560,000 deaths might be attributed to inadequate feeding habits, alcohol use, sedentary life style, and obesity. Also, about 171,000 cancer deaths are caused by smoking. Estimates alert that 50% to 70% of the deaths by cancer might be potentially avoided with changes in lifestyle [24].

CONCLUSION

A small number of the interviewed participants had a familiar history of cancer, were smokers and ingested alcoholic beverages. Regarding the practice of weekly physical activity, half of the participants reported to have a sedentary life style. The ingestion of crystal sugar was predominant and the nutritional status of most individuals in this investigation was overweight.

These results show the importance of addressing this issue with the population and the need of favoring the introduction of healthy habits in order to prevent the occurrence of non-transmissible chronic diseases (DCNT) in order to obtain a better life quality.

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FUNCTIONAL CAPACITY OF ELDERLY WITH SENILE CATARACT

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Abstract: Objective: Evaluate the functional capacity of elderly affected by senile cataract attended in a reference private ophthalmological institution in the city of Montes Claros/Minas Gerais. **Methodology:** This is an exploratory, descriptive, quantitative, transversal, and prospective study, in which the adopted procure was field work. For this purpose, a specific instrument for the collection of data was used, the questionnaire "*National Eye Institute - Visual Function Questionnaire* 25 (NEI-VFQ 25). This study was approved by the Ethics Committee of the FIPMoc - Resolution nº 2.702.521/2018. **Results:** In most of the elderly interviewed the disease has impaired their visual function since 78.2% have reported problems with the vision. The lack of visual quality was mentioned as the first and major symptom of cataract, related to an impairment of the perception of their health status. **Conclusion:** This study has shown that due to the harm elicited by the disease in the functional capacity of the elderly, there is a need to develop measures that target a higher efficiency in the early diagnosis of cataract, reducing therefore the sociofunctional impairments generated by this pathology in order to increase the self-esteem of the affected elderly.

Descriptors: Cataract; Quality of Life; Elderly Assistance; Ophthalmology.

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INTRODUCTION

According to Meuleners *et al.*, cataract is considered the major cause of blindness and reversible visual losses worldwide, affecting 75% of the people with more than 70 years old. It is important to mention that this visual loss elicits the reduction of the functional capacity of the individuals affected and, therefore, reduces the quality of their lives.[1]

It is estimated that, according to data from the World Health Organization (WHO), in 2025 Brazil will have approximately 32 million individuals with more than 60 years, becoming the sixth country with more elderly people in the world. Thus, diseases directly related to aging, such as cataract, present a great potential to increase their numbers.[2]

Cataract might have many different causes with aging being the most common of them. It might also be the result of traumas, such as injuries, perforations, electrical shocks, or be the consequence of using some drugs, such as steroids, miotics, and anti-psychotics. There is also a pre-senile form that is related to diabetes mellitus.[3]

Finally, cataract presents several risk factors that favor its appearance, with advanced age being the main cause for the development of senile cataract. With aging there is an increase in the time of exposition to harmful factors (such as ultraviolet radiation) and, besides that, there is also a reduction in the amount of antioxidant agents, which are considered protective factors.[4]

According to Wevill, an important point in addressing the patient with cataract is the evaluation of the interference of the visual loss upon the functional capacity of this individual, analyzing the extent to which the disease affects his/her quality of life. Therefore, it is important to identify the clinical manifestations of the comorbidities, which might include visual blurring (generally bilateral, progressive, asymmetrical, and painless), loss of contrast (difficulty of visualizing objects in places with very low light), and myopia due to nuclear changes that change the refraction index.[3]

The clinical exam is crucial due to the need of identifying these clinical manifestations. The major exams are the test for visual acuity (checking if there is visual loss), the red reflex test (in which cataract might be revealed by decreased transparency or by the presence of dark spots) and fundoscopy, that might be performed only at the early stages of the disease, due to the lack of visualization of the eye fundus in patients with advanced cataract.[5]

It is noteworthy to mention the importance of complementary exams, such as the biomicroscopy and ocular ultrasound. Biomicroscopy is the best exam for the evaluation of the crystalline, allowing the diagnostic and a better classification of its opacity level. The ocular ultrasound is performed when fundoscopy is impossible, being a viable alternative.[6]

According to Alves and Arieta, every patient with more than 50 years, with recent myopia, or reduction of the corrected visual acuity, in use of corticosteroids or diabetics must be regularly consulted for the possible presence of cataract. For its diagnoses, besides the aforementioned exams, other tests are employed in the patient evaluation, such as the Snellen table, which assesses the visual acuity of the patient, and the Pelli-Robson test, which analyzes the sensibility to contrast.[7]

Moreover, the slit lamp is very important for the diagnosis and staging of the cataract. The recommended treatment is surgical, named facectomy, in which the affected crystalline is removed followed by the implant of an intra-ocular lens.[8]

Thus, since it promotes a reduction in the visual acuity of the patient, cataract has a great influence in the quality of life of the elderly. Such visual loss result in adverse reactions since it yields psychological problems in the social life and in the

functional capacity of the individual, consequently reducing the self-esteem of the patient.[9]

So, the aim of this study was to assess the functional capacity of elderly affected by senile cataract, attended in an ophthalmological private reference institution in the city of Montes Claros, Minas Gerais.

METHODOLOGY

The present study was performed in the city of Montes Claros, Minas Gerais, Brazil, with an area of 3,568,941 km² and a population estimated in 2017 in 402,027 inhabitants, according to IBGE. This is an exploratory, descriptive, quantitative, transversal and prospective study that adopted the methodology of field research. For this purpose, a specific instrument for the collection of data was used, the questionnaire "*National Eye Institute - Visual Function Questionnaire* 25 (NEI-VFQ 25)", that evaluates life quality, sociodemographic data, and the functional capacity of the studied population. The analyzed variables were: age; sex; color/race; married status; educational level; region of residence; monthly family income; attended by private healthcare plans, and frequency of utilization of the public Unified Health System (SUS) [10]. The questionnaire consists in 25 questions divided in three parts: general health and vision; difficulties in performing daily tasks, and questions about visual impairments. The 25 questions have evaluated 12 domains of the visual function: general health; vision; eye pain; near vision activities; far vision activities; social aspects; mental health; daily activities; dependency; ability of driving cars; color vision, and peripheral vision. Each question has 5 or 6 answer options that correspond to a score of 0 to 100 (0, 25, 50, 75, and 100), in which the higher the score, the better is the life quality of the patient. If the patient opts for the sixth answer (when this option is available), this question does not contribute to the total score.

The implementation of the questionnaire occurred after the submission and approval of the Research Project of this study by the Ethics Committee of the Faculdades Integradas Pitágoras de Montes Claros (FIP-MOC), according to the Consolidated Report nº 2.702.521/2018, fulfilling the norms of Resolution 466/12 of the National Health Council.

Thus, the source of the data used in this study was interviews made with elderly patients affected by cataract. The calculation of the adequate sample size considered that 30 patients were attended at the time, a confidence level of 95%, and a margin of error of 5%, resulting in a sample of 28 patients. This study was carried out at the Instituto de Oftalmologia de Montes Claros (Ophthalmology Institute of Montes Claros), a private institution that attends an average of 10 patients with cataract per month. A total of 23 interviews were made from October 2018 to December 2018, after the person in charge of facility signed the term of consent. The patients attended come from all the northern part of the State of de Minas Gerais and, mostly, from the city of Montes Claros, Minas Gerais.

The implementation of the questionnaire was done by the one of the investigators, in a confortable and adequate space. In addition, all the patients that took part in this study signed the Term of Free and Informed Consent, ensuring the possibility of leaving the research of abandoning the research if they decided to.

The only potential risk the patients were submitted to was the breach of secrecy about the collected information. However, the data were completely confidential, since the patients were

identified by codes, assuring the anonymity of the data. Only the investigators in charge of this investigation had access to the information collected.

The criteria to be included in this study were to be at least 55 years old and have a medical diagnosis of cataract. The patients excluded were those with other types of visual deficiencies and the ones without physical of psychic conditions to answer the questionnaire.

Then, the data were tabulated and analyzed by descriptive statistics using the statistical software "*Statistical Package for the Social Sciences* (SPSS)", version 22.0.

The privacy of the personal information, the anonymity of the patients, as well as eventual information about their relatives were adequately safeguarded. The obtained results were analyzed only by the investigators, preserving the ethical aspects related to the anonymity of the individuals.

RESULTS

The data were collected from 23 patients, since other five were excluded from the investigation due to the presence of other visual deficiencies.

The age of the participants varied from 55 to 91 years, with an average of 72.5 years and a standard deviation of 8.04. A total of 13 patients were men, representing 56.5%. The most prevalent color/race (according to self-declaration) was brown, followed by the white and black, with 52.2%, 39.1%, and 8.7%, respectively. Regarding the marriage status 14 of the patients (60.9%) were married or live with a partner (Table 1).

Table 1. Description of age, sex, race, and family status of the patients that formed the sample attended in Montes Claros, Minas Gerais, Brazil, 2018.

	n = 23	
Age (years)	**F**	**%**
≤60 years	1	4.3
61-65 years	3	13
≥66 years	19	82.6
Mean: 72.5 years		
Standard Deviation: 8.0		
Sex	**F**	**%**
Men	13	56.5
Women	10	43.5
Color/Race	**F**	**%**
White	9	39.1
Brown	12	52.2
Black	2	8.7
Yellow	0	0
Native-American	0	0
Married Status	**F**	**%**
Single	2	8.7
Married or living with a partner	14	60.8
Divorced or separated	1	4.3
Widow	6	26

Regarding the educational level, 43.5% (10 individuals) of the participants declared to have at least a complete primary level. A total of 17.4% patients were illiterate or had less than one year of education;73.9% of the patients (17 individuals) who received education studied entirely or mostly in public schools. Most of the participants (21 individuals, 91.3%) lived in the urban zone and two of them lived in the rural zone (8.7%). The majority of the respondents (73.9%, 17 patients) has a monthly family income of at least R$1,500.00 and 65.2% of the interviewed (15 patients) regarded their income as sufficient to keep themselves. The largest number of individuals (65.2%, 15 patients) did not have any private healthcare, although eight patients (34.8%) have declared to use the Unified Health

System (SUS) com frequently or always (Table 2).

Table 2 - Sociodemographic description of the sample of participants obtained in Montes Claros, Minas Gerais, Brazil, in 2018.

	n = 23	
Education	**F**	**%**
Illiterate or less than one year of education	4	17.4
Elementary incomplete	9	39.1
Primary complete	1	4.3
Secondary incomplete	1	4.3
Secondary complete	6	26
Superior	2	8.7
Type of education	**F**	**%**
Entirely or mostly public	17	73.9
Entirely or mostly private	2	8.7
Never attended school	4	17.4
Region of Residence	**F**	**%**
Urban Zone	21	91.3
Rural Zone	2	8.7
Monthly Family Income (Reais)	**F**	**%**
Less than a minimum salary (R$954/2018)	2	8.7
954 to 1500	4	17.4
1500 to 2500	8	34.8
2500 to 3500	7	30.4
3500 to 5000	2	8.7
Higher than 5000	0	0
Perception About Family Income	**F**	**%**
Sufficient	15	65.2
Insufficient	8	34.8
With Private Healthcare Plan	**F**	**%**
Yes	8	34.8
No	15	65.2
Frequency of Using SUS	**F**	**%**
Never	7	30,4
Rarely	8	34,8
Frequently	4	17,4
Always	4	17,4

When asked about the perception about their own health status, only three patients (13%) chose the option “Excellent” and only two (8.7%) answered “Very Good”. Further, only 21.7% (5) said they had a “Good” or “Excellent” perception (Table 3).

Table 3 - Perception about their own health and vision status in the sample of participants obtained in Montes Claros, Minas Gerais, Brazil, in 2018.

		n = 23
Perception about their own health status	**F**	**%**
Excellent	3	13
Very good	2	8.7
Good	11	47.8
Regular	7	30.4
Bad	0	0
Perception about their own visual status	**F**	**%**
Excellent	1	4.3
Good	4	17.4
Regular	6	26
Bad	8	34.8
Very bad	4	17.4

Three questions of the VFQ 25 have assessed the domain “near vision activities” (questions 5, 6 e 7). In the topic “difficulty to read”, an important difference was observed between the interviewed patients, since a similar number of pa-

tients have declared not to have any difficulty reading (5 individuals, 21.7%) and said that they have abandoned reading due to visual problems (4 individuals, 17.4%).

Regarding the domain "Mental health" a higher impairment was found in the topic "Worried about his/her own vision", in which seven patients declared to be worried "Most of the times" and four answered "All the time", representing 47.8% of the total.

The domain "eye pain" is evaluated in two questions (4 and 19). This was a little affected domain among the interviewed patients, since 56.5% of them (13 individuals) have not reported any eye pain or discomfort, and 60.8% (14 individuals) declared they have never abandoned to do any activity they like due to any related issue (Table 4).

Table 4 - Presence of pain or discomfort in the eyes and the influence of daily activities in the sample of participants from Montes Claros, Minas Gerais, Brazil in 2018.

		n = 23
Presence of pain or discomfort in the eyes	**f**	**%**
Don't feel	13	56.5
Weak	5	21.7
Moderate	3	13
Strong	2	8.7
Very strong	0	0
Rate in which pain or discomfort in the eyes led the patients to quit activities he/she likes to do.	**f**	**%**
Always	1	4.3
Most of the time	1	4.3
Sometimes	2	8.7
Few times	5	21.7
Never	14	60.8

DISCUSSION

The sociodemographic characteristics of the elderly addressed in this investigation are in accordance with those of other studies already carried out by Domingues *et al.* and by Larrinaga *et al.*: the majority of the participants was 65 years or more, male, had an incomplete primary education that occurred entirely or mostly in public schools, and presented a family income between 1 to 2 minimum salaries.[9;11]

The analysis of the study of Mendonça revealed a positive influence of cataract in the visual function of the patient since, in this study, 89% of the participants answered unfavorably to the question: "How do you think is your vision?". This is in accord with the results of this study, in which 78.2% of the patients have reported a bad vision.[12]

Further, in the studied made by Domingues *et al.*, the loss of visual quality is mentioned as the first and mainly symptom of the cataract and, associated to it, a loss of perception about their own health status. This fact was confirmed in the present study, in which one third of the interviewed patients declared their health status as "Regular", yielding an average score of 50%.[9]

A fact recorded in the present study that deserves to be mentioned is that 78.2% of the interviewed participants never felt pain or discomfort in the eyes or its intensity was weak. In addition, 60.8% told that they have never quit doing the daily activities due to pain or discomfort elicited by cataract, confirming the study of Domingues *et al.*, which sustains that it very difficult to identify cataract in its initial stages, therefore compromising the early diagnosis.[9]

During the progression of the disease, mobility, functional capacity, and mood of the patient are progressively affected. The present study has revealed that 47.8% of the individuals said they were worried about their vision most of the time or all time, therefore concluding like Paz *et al.* that the progression of cataract might affect the mood of the patient.[13]

According to Menezes *et al.*, the loss of the acuity vision caused by the disease increases the risk of falls in elderly and, consequently, discourages the patient to perform daily activities due to fear of falling down. However, such fact contradicts the present study, since 43.5% of the patients have mentioned that they had never abandoned "the things they like to do because of vision". Furthermore, 47.8% of them have also declared that they have never experienced limitations or were prevented from working due to the pathology.[14]

The main restriction of this study was the small size of the sample, limiting the application of these results to other populations.

CONCLUSION

Despite the limited coverage of the results of this investigation for the general population due to the small sample size, the results obtained characterize senile cataract as a harmful factor to the functional capacity of the patient, especially regarding the mental health of the participants and their self-perception about their health status, mainly in elderly patients that already present other functional limitations caused by the advanced age.

Thus, the implementation of measures that target a higher efficiency in the early diagnosis of cataract is required and, consequently, and efficient correction of the visual loss caused by the disease, therefore reducing the sociofunctional harm elicited by the pathology and increasing the self-esteem of the elderly patients.

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HEALTH CHARACTERIZATION NONAGENARIANS OF MINAS GERAIS NORTHERN, BRAZIL, A DESCRIPTIVE STUDY

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Abstract: Objective: This study aimed to describe the profile of Nonagenarians health enrolled in the Family Health Strategies in the northern part of the state of Minas Gerais, Brazil. **Method:** The study presents a quantitative , exploratory and descriptive nature. It was performed in the households of elderly people enrolled and treated by professionals of the Family Health Strategy, in the municipality of Montes Claros in northern Minas Gerais State. Among the 1750 participants 60 elderly patients aged 90 years or more were selected , who lived in the area of coverage of the Family Health teams of that city. The data collection was performed by trained interviewers for the use of questionnaires Vulnerability Index clinical and functional outcome for screening of fragility and the *Brazilian Older Americans Resources and Services Multidimensional Function Assessment Questionnaire*, which confers a multidimensional assessment of the elderly. **Results:** 60 elders were identified with respective ages between 90 and 107 years. **Conclusion:** The increase in life expectancy and the growing of the elderly population requires the implementation of public health policies with a focus in this age range, seeking continuously, the healthy aging. One must organize and provide positive measures in the elderly person-centered care at various levels of complexity of health care network.

Descriptors: Health of the elderly; Population Aging Syndrome of the fragility.

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INTRODUCTION

The exponential growth in the number of elderlies denotes a different epidemiological profile of the population that determines a strategic model of care, comprising political, economic and social contextualizations, with the aim of promoting and achieving a healthy aging. In this context, the measures focus on preventing or minimizing the clinical and functional vulnerability in order to reduce the physical disabilities and the possibility of growing functional dependence[1].

The aging process determines the progressive, irreversible changes that trigger multiple physiological changes (senescence) and may be associated to cellular and molecular dysfunction combined with pathologies (senility)[2]. The senility can negatively impact on health collaborating with the development of vulnerability and partial or total decline of functional capacity of the elderly, an evident situation, especially in more advanced ages[1, 3].

Moreover, the high percentage of chronic non-communicable diseases (NCDS) can contribute visibly to the cycle of fragility and increasing the degree of functional dependence of the elderly. In addition, another condition also relevant is the presence of several drugs that can determine risks and, therefore, impairment of health in this age group[4]. Thus, the potential risks of the use of multiple drugs cause concern in the context of public health, since they increase the complications and drug interactions, dysfunctions of the body and even the negative outcomes on the elderly person health[5].

Facing the prospect of aging, the issue falling becomes worrisome due to the high frequency of this event in elderly person, causing a high rate of dependence. The impairment of functionality emphasizes a setback both within the family, as in the public health services[3].

Another important point is the Syndrome of fragility (SF), multidimensional condition causing numerous injuries to the elderly person health[6]. It is characterized by sarcopenia and impairment of physiological functions (neuro-endocrine and immunological), contributing to increased vulnerability; comorbidities; Polypharmacy; Falls; hospitalizations; loss of autonomy and independence and death[3]. The elderly may be considered fragile, pre-fragile and robust according to clinical -functional stratification [7, 8].

This study aimed to describe the profile of Nonagenarians health enrolled in the Family Health Strategies in the northern part of the state of Minas Gerais, Brazil.

METHOD

The study presents a quantitative, exploratory and descriptive nature. It was performed in the households of elderly people enrolled and treated by professionals of the Family Health Strategy, in the municipality of Montes Claros in northern Minas Gerais State. Among the 1750 participants 60 elderly patients aged 90 years or more were selected , who lived in the area of coverage of the Family Health teams of that city.

The data collection was performed by trained interviewers for the use of questionnaires Vulnerability Index clinical and functional outcome for screening of fragility and the *Brazilian Older Americans Resources and Services Multidimensional Function Assessment Questionnaire*, which confers a multidimensional assessment of the elderly.

The data treatment was carried out by the *software* IBM SPSS. The research was approved by the Ethics and Research Committee - Opinion # 1.628.652. The elderly were informed about the study and agreed to participate by signing or

by digital collection in a specific field of the Free and Informed Consent Form (ICF). Anonymity and confidentiality were guaranteed, and the information collected was used only for scientific purposes.

RESULTS AND DISCUSSION

The study identified 60 elders with respective ages between 90 and 107 years. The participants were divided into two groups, those with 90 to 99 years amounted to 57 (95.0%) elderly and 100 to 107 years, 3(5.0%).

The screening of fragility performed by IVCF-20 identified 47 elderly patients (78.3%) fragile and 13 (21.7%) in fragilization and no robust was found among the nonagenarians.

In relation to the health characterization it was identified that 14 elderly patients (23.3%) presented falls in the last year; 27 (45%) made use of five or more continuous pharmacological agents and 26(43.3%) had chronic polypathologies (five or more chronic diseases). Widowhood was a common condition in this age range and corresponded to 30 (66.7%). Urinary incontinence (UI) was reported by 32 (53.3%) respondents and 37(61.7%) presented the positive perception of health. In relation to the recent history of hospitalizations in the last 6 months, 8 (13.3%) elderly reported this condition and impairment of activities of daily living (AVD'S), 57(95.0%) of the elderly patients showed impairment and 3 (5.0%) (TABLE 1).

Table 1 - Representative table of the study variables. Montes Claros, MG, Brazil 2019

Variables	N	%
Age Range		
90- 99 years	**57**	**95.0**
100- -107 years	**03**	**5.0**
Fragility		
Fragilized	**47**	**78.3**
In fragilization	**13**	**21.7**
Falls		
Yes	**14**	**23.3**
Five or more medications		
Yes	**27**	**45**
Poly pathologies		
Yes	**26**	**43.3**
Marital Situation		
Widowed	**30**	**66.7**
Health Self-perception		
Great	**3**	**5**
Good	**34**	**56.7**
Bad	**20**	**33.3**
Awful	**3**	**5**
Urinary Incontinence		
Yes	**32**	**53.3**
Hospitalization in the last 6 months		
Yes	**8**	**13.3**
ADV's Impairment		
Yes	**57**	**95.0**
No	**03**	**5.0**

This research described the characteristics of the population of nonagenarians and centenarians in Montes Claros related to their clinical characteristics and health care that they need[9]. It is perceived that the discussions are scarce on the health of these individuals, especially when it comes to weakness. In this study, the number of fragile elderlies was 78.3% and those who presented poly pathologies

was 43.3%. In the literature, fragility is associated with advanced age, presence of comorbidities, and polypharmacy resulting in injuries as events of falls, hospitalizations, institutionalization and functional decline[10].

The fragility associated with the increase of degenerative chronic comorbidities favor the prescription and the use of multiple pharmacological agents in the elderly population, also in combination with the pharmaco-kinetic and pharmaco-dynamic changes inherent to aging provide a greater risk of negative diseases in these individuals[5].

Widowhood this age is something very natural and likely to happen when compared with young people, and in this study, this variable showed high prevalence. It is verified that widowed elderly experience several consequences of this condition, such as the accumulation of loneliness, possible social isolation, in addition to changes in family and social aspects. Thus, the social aspects and particularities of the elderly deserve highlight and careful approach, whereas, moreover, the possible impairment related to conditions such as depression, which are timely[7].

In the literature, falls tend to increase considerably after the 60 years of age, since after 70 years or more, the proportion increases 42%, however, less than 1/3 of the evaluated presented two or more falls in the last year. However, the event of falls in the elderly audience, is one of the main causes of injuries and deaths, and even the high dependency, becoming an important concern in the context of public health[11].

The health positive perception is an important indicator in the health/disease process of the elderly, because it fits in with better health and greater survival of this population. It is emphasized the importance of knowing the profile of the perception of the elderly population, since it facilitates the identification of risk factors and greater vulnerability, providing stratification of specific interventions that may impact, positively in autonomy and independence that determine good aging. In this research, the majority of the elderly presented positive self-perception of their health (61.7%), despite the adverse conditions, which may be associated with measures of integral health care taken in primary care[9].

The urinary incontinence and its impact on the quality of life of the elderly was significant, whereas in this study, 53.3% of the participants had such condition. Typically, UI affects people of female sex and the elderly population presents a higher prevalence, including urinary incontinence is considered a giant of geriatrics and its presence brings negative repercussions on the quality of life of patients with this condition. The elderly who have this dysfunction can pass by relationships of suffering in the social and psychological sphere, because of the discomfort caused by the involuntary loss of urine. There may be the social isolation, the decline of self-esteem, depression, urinary tract infection and other complications such as falls, fractures and hospitalization. UI affects directly functions related to social relations, personal hygiene, sexual life, with negative impact on quality of life and at the same time making necessary the use of geriatric diapers and medications to stabilize and minimize the sphincter dysfunction[12].

Hospitalization was present in 13.3% among the elderly people aged 90 years and more of the research. Upon comparing with the literature this prevalence was considered high. A Brazilian study identified that the hospitalization in the elderly refers, with more frequency, for aggravation of their clinical signals, especially related to complications of comorbidities. Another issue that should be taken into consideration, since the mean residence time of the hospitalization of the elderly, when treated with young adults is greater, and the elderly have higher probability to develop injuries during hospitalization, including increased risk of

iatrogenesis. Facing this condition, care for the elderly should be refolded, broad and systematic, and the clinical conditions as well as the basic needs of the same should be evaluated[13].

In this study, it was found that 95.0% of the participants presented some of impairment of activities of daily living (AVD'S). It is crucial to consider that the accumulation of them provides greater dependence of the elderly, and the consequent loss of autonomy. It is a complex condition within the family, which requires more extensive attention to these elderly people in order to provide intervention measures that favor, satisfactorily, the maintenance of everyday needs. It is described in the literature strong relationship in terms of the accomplishment of AVD'S, functional mobility with the greatest risk of falls, thereby determining negatively the social isolation and the need for insertion of a formal or informal caregiver[14].

The functional capacity in this context is considered an important indicator of the quality of life in the elderly. The functional impairment in this audience is highly elevated in more advanced ages and the nonagenarians are characterized with a profile of the greatest manifestation of these conditions when assimilated to those individuals with inferior ages. The presence of dementia, for example, can be a condition that triggers increasingly functional impairment when related to the achievement of the basic activities of daily living[15].

CONCLUSION

The increase in life expectancy and the growing of the elderly population requires the implementation of public health policies with a focus in this age range, seeking continuously, the healthy aging. One must organize and provide positive measures in the elderly person-centered care at various levels of complexity of health care network. It is emphasized that the humanized and interdisciplinary approach must prevail in the care of the elderly with their particularities, since they require full and longitudinal care.

Thanks to the Fundação de Amparo à Pesquisa do Estado de Minas Gerais (Fapemig) for the financial support (Process no.: CDS -APQ-02965-17 and Process N:CDS-BIP00128-18) and to Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq).

CONFLICT OF INTERESTS

There is no conflict of interests.

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BREAST ADENOID CYSTIC CARCINOMA: CASE REPORT

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Abstract: Objective: Analyze the case of a patient with a rare type of invasive breast carcinoma. **Method:** A case report of a patient diagnosed with cystic adenomatous carcinoma through medical records available. This study is in accordance with ethical principles, according to Legal Opinion Embodied of Committee for Ethics in Research - $ 3.289 n.344. **Final Considerations:** A breast cystic adenoid carcinoma is a rare event. The report of this case becomes persistent by scientific contribution about this unusual cancer manifestation.

Descriptors: Adenoid Cystic Carcinoma; Breast Neoplasms; Triple-negative breast Neoplasms.

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INTRODUCTION

The breast adenoid cystic carcinoma is a histological type of neoplasm that corresponds to <1% of all cases of the breast invasive disease. Its main site are salivary glands. They are composed of neoplastic, epithelial and myoepithelial cells and can be classified in the cribriform, trabecular, tubular and solid ones. In spite of triple-negative histology of estrogen and progesterone receptors, HER2) and basal, it has a very favorable prognosis, with survival of 10 years in up to 90%. [1]

Genetically, the neoplasm has the fusion of gene MYB-NFIB as initial process in carcinogenesis. In contrast with the common forms of triple-negative breast cancer, the adenomatous cystic carcinoma has low rates of mutations and genomic instability.

By owning a rare presentation few population-based studies have been made, the majority of studies are cases reports.

The present report had the objective to analyze the case of a patient with a rare type of breast invasive carcinoma in order to contribute with the scientific community pointing further clarification about the course of the disease.

CASE DESCRIPTION

N. N. O. C., 54 years old, female, professor, coming from Porteirinha- MG sought for medical help in the second half of 2017 due to pain in the right breast. After evaluation, mammography was performed, which showed calcification suspicion, but which was attributed to the recent drop With the persistence of pain sought mastologist in the second half of 2018, and the clinical examination showed irregular and heterogeneous, palpable in upper quadrant of the right breast nodulation, breast biopsy was requested, concluding that it was an atypical breast epithelial cribriform neoplasm.

She was admitted to the day 01/21/2019 in Hospital Dias Oncovida forwarded by Mastologist for outpatient follow-up. Breast biopsy was requested. The result exhibited breast atypical epithelial cribriform neoplasm. Immunohistochemistry was suggestive of adenoid cystic carcinoma. She underwent quadrantectomy with right axillary lymphadenectomy. The anatomopathological exam showed a ductal carcinoma *in situ* with areas compatible with ductal invasive carcinoma. However, the anatomopathological exam was revised, along with the immunohistochemistry, concluding that it was a cystic adenoid carcinoma.

Patient without indication of chemotherapy, adjuvant radiotherapy was performed in the right breast.

TECHNIQUE OR SITUATION

Currently, two months after completion of adjuvant radiotherapy, the patient remains in monitoring on the response to radiotherapy treatment, performing routine exams.

DISCUSSION

Even though it is realized a limitation on the number of cases, the most common presentation of breast adenoid cystic carcinoma (CAC) is the presence of a palpable mass in the breast upper outer quadrant. Some patients assure feeling pain on palpation, while in other cases are asymptomatic and found incidentally on screening mammograms. The average size of the adenoid cystic carcinoma is 3 cm, with a variation from 1 to 12

cm, and rarely causes metastasis to axillary lymph nodes. Distance metastases are uncommon and can be observed many years after the initial diagnosis, being the survival rates prolonged. There are reports of involvement without positive axillary lymph nodes being the most common organ, the lungs. Nevertheless, they were found in other locations such as the liver and the kidneys.

Thus, from the discovery of local mass, a diagnostic mammography and/or ultrasound of the breast is requested. In the imaging modalities in question, it can typically be observed, irregular mass with spiculated margins. A thick needle biopsy is performed, followed by surgical excision. The diagnostic criteria for this type of neoplasm require cellular biphasic pattern composed of epithelial and myoepithelial cells. Histologically, it can be likened to the invasive ductal carcinoma, which may lead to incorrect diagnosis of samples collected for biopsy.

In relation to the differential diagnosis, there are few other cancers that could be mistaken as the collagenous spherulosis, which must be properly distinguished for the correct diagnosis. The formation of ductal epithelium is one of the main distinguishing features between them, since that in the spherulosis, cellular lobes are noticed as well as the formation of the ductal lumen of various sizes; a phenomenon that is rare in the CAC.

In addition, other possible diagnosis that should be excluded is the cribriform carcinoma, once that if shows, as well as the CAC, a cribriform pattern that can be seen histologically. For the purposes of differentiation, it is recommended an immunohistochemical staining to examine the materials of the basal membrane or an ultrastructural examination. The majority of these cancers cannot be precisely identified based only on intraoperative frozen piece and require other tests to confirm.

There is no consensus regarding the ideal treatment for the breast CAC due to its rarity. Surgical treatment options include wide mastectomy excision with or without radiation radical or modified radical mastectomy. Rates of local recurrence after quadrantectomy or local excision are not rare and vary from 6% to 37% in patients who did not receive adjuvant radiotherapy, which reduces the rate of local recurrence. Modified radical mastectomy is the surgical procedure most frequently reported to breast CAC, due to the fact of being the standard treatment for breast cancer.

However, the results of the conduct of the case in a conservative manner of the breast, which includes the adjuvant radiotherapy, seem to be equivalent to the isolated mastectomy, regarding the survival.

CONCLUSION

The breast CAC is an extremely rare tumor and there are few specific studies about it. It is responsible for less than 0.1% of all breast cancers and, although it does not represent a high risk of morbidity or mortality, still requires more attention, with the aim of formulating better treatment guidelines for the clinical management. The treatment currently available is the mastectomy with axillary lymph node dissection in patients with positive sentinel lymph nodes, or conservative treatment of breast cancer that includes adjuvant radiotherapy. Due to the excellent prognosis of CAC, the benefit of the survival of the systemic therapy is insignificant. Due to the late start of local recurrence, as well as to distance metastasis, a long-term follow-up is very important and mandatory for these patients. Other clinical investigations, comparing the treatment options for CAC are inevitable to define the ideal treatment.

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LATE DIAGNOSIS OF AN EPIDERMOID CARCINOMA: A CASE REPORT

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Abstract: Objective: Report the case of a patient with esophageal carcinoma epidermoid type, the most common esophageal neoplasm, whose main risk factors are alcohol and tobacco use. **Method:** The information was obtained through review of medical records, interview with the family of the patient, photographic record of diagnostic methods to which the patient was submitted and review of the literature. **Case report:** Male, 57 years old, with clinical signals of inappetence, intense epigastric pain, melena and weight loss. By performing video esophagogastroduodenoscopy and esophageal biopsy it was diagnosed as a medium esophageal neoplasm. **Conclusion:** The late diagnosis and the rapid progression of the epidermoid carcinoma allowed the evolution with metastasis of the neoplasm to the gastric fundus, preventing the patient from performing curative treatment. Due to the bad prognosis, the alternative adopted therapeutic consisted of palliative care with multidisciplinary team, for a period of 11 months, which resulted in a greater quality of life to the patient.

Descriptors: Esophageal neoplasms; Squamous Cells Carcinoma; Palliative Care.

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ISSN 2236-5257

INTRODUCTION

The esophageal cancer (EC) represents an entity relatively common in Brazil. It is the sixth most common among men and the thirteenth among women.[1] Approximately 20% of patients with epidermoid carcinoma survive at least five years after diagnosis.[2] The National Institute of Cancer (INCA) estimates that for each year of the biennium 2018/2019, 10,790 new cases are diagnosed of EC. The risk of developing the disease throughout life is about 1 in 132 in men and about 1 in 455 women.[3] the etiology of EC involves an interaction of several risk factors, among them: age, family history, alcoholism, smoking and infections.[4] The EC may be classified according to the histology, in squamous cell carcinoma and adenocarcinoma, the first being the most common of them.[5]

The initial clinical signals of EC can include an asymptomatic phase and, later on, tend to appear obstructive and hemorrhagic symptoms.[6] The most important metastases consist of liver and lung.[7]

EC can be diagnosed by contrasted radiological examination of the esophagus and by high digestive endoscopy. Endoscopic ultrasonography, computed tomography and magnetic resonance imaging are used for staging. The treatment is defined from the staging and can be performed by means of endoscopic resection, lymphadenectomy, radiotherapy and/or chemotherapy.[6]

CASE DESCRIPTION

MRS, 57 years old, male sex, faioderm, single, four children, born and resident in São Romão, sought treatment in his hometown with complaint of "pain in the mouth of the stomach".

Patient reports that 8 months ago, had clinical signals of inappetence, strenuous epigastric pain (8 in pain scale) without aggravating or mitigating factors, in addition to melena and weight loss (about 20 kilos). Absence of nausea and vomiting. It was performed on 06/06/2017, esophageal biopsy and video esophagogastroduodenoscopye on 06/26/2017, in Brasília de Minas, being diagnosed medium esophageal neoplasm.

After the diagnosis, the patient, forwarded to Montes Claros, performed 22 radiotherapy sessions of the 28 initially stipulated. The interruption of the sessions occurred due to the result of the computed tomography scan of the abdomen that revealed the presence of bulky, solid expansive lesion, with areas of central necrosis, located in close contact and with no cleavage plans with distal esophagus and gastric fundus.

The chemotherapeutic treatment was started, and in August 2017, nutrition through a nasogastric tube was introduced. In October of the same year, it was replaced by abdominal probe, having his feeding changed to pasty/liquid diet of vegetables, legumes, chicken, egg, beans, pasta and rice. Due to blood loss, the patient had asthenia, dizziness and fainting episodes, being necessary to perform blood transfusions (approximately 70 bags in 6 months), without significant improvement of the anemic framework.

In the sequence, the patient reported persistence of epigastric pain and melena, plus dysphagia, productive cough and dyspnea on mild efforts. He made use of dipyrone, paracetamol, buscopan, tramadoln twenty drops (100mg/ml), cimeticona, transmin (250 mg 1 pill every 8 hours, until an improvement of bleeding in the feces), omeprazole, and dietary and vitamines supplementation. He denied Diabetes mellitus and hypertension and other comorbidities.

Teetotaler of tobacco for twenty years (with nicotine load of thirty years of packet) and alcohol for 2 years (used to ingest distilled beverages three times a week). Father died 74 years due to cancer of the prostate, mother died (he does not know the causes), 60-year-old sister under esophagus cancer treatment, 4 healthy children.

Under ectoscopy, the patient was well-oriented in time and space, conscious, atypical facies, analgesic posture, anicteric, acyanotic, afebrile, pale conjunctival membranes, preserved turgor and elasticity, skin appendages without alterations, presence of scaly cicatricial lesions. 3-cm palpable, painless and mobile cervical lymph,. Thyroid of anatomical conformation and fibroelastic tissue. Absence of edema in lower limbs.

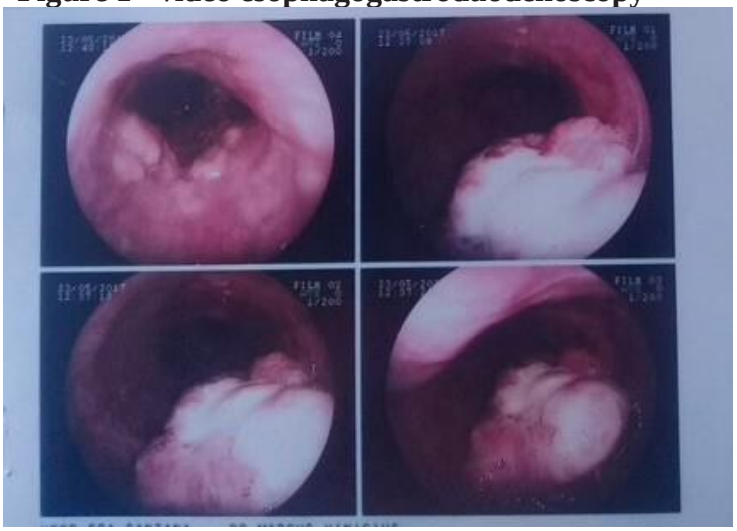
Upon examination of the respiratory apparatus, it was observed atypical chest, tach dyspnea, saturation of O_2 to 93%, expandability increased bilaterally, FRÊMITO TORACOVOCAL present and symmetrical, clear pulmonary sound to percussion. Physiological vesicular murmur, no adventitious sounds. Regarding the cardiovascular system, it was found physiological peripheral arterial pulses, flat jugular, *ictus cordis was* not visible and palpable, regular cardiac rhythm with norm phonetic and normo rhytmic, normocardic and normotensive, absence of murmurs, frictions and crackings. Finally, upon the assessment of the digestory apparatus it was found globous abdomen, without ascites. Absence of bulging, retractions and collateral circulation. Air-fluid noises present. Predominant tympany. Free traube space, liver and spleen impalpable. No signals of peritoneal irritation.

COMPLEMENTARY PROPAEDEUTIC

The following laboratory exams were requested to assess the organic impairment, staging and classification of the tumor to direct the best therapeutic armamentarium. Thus, the following results were found: Red blood cells 2270000, ematocrit 23.5%, Mean Corpuscular Volume 103.5 Ma, HCM 31.3pg, Mchc 30.2 g/dl, 21.1% RDW, leucocytes 8240 global mcl, myelocytes 0%, metamyelocytes 0%, rods 0%, segmented 71%, eosinophils 15%, basophils 0%, monocytes 6%, typical lymphocytes 8%, platelets 503000, fasting glucose 95 mg/dl, potassium 4.70 mmol/L, urea 19 mg/dl, serum creatinine 0.78 mg/dl, direct bilirubin 0.19 mg/dl, indirect bilirubin 0.27 mg/dl, total bilirubin 0.46 mg/dl, aspartate aminotransferase (AST/SGOT) 28 U/L, alanine aminotransferase (ALT/GPT) 21 U/L, gamma glutamyltransferase 142 U/L.

It was performed on 06/06/2017, esophageal biopsy with the following conclusion: Histology compatible with squamous cell carcinoma, poorly differentiated, invasive of esophagus fragments. video esophagogastroduodenoscopy was performed (Figure 1) on 06/26/2017 with the following report: video esophagogastroduodenoscopy compatible with esophageal neoplasm.

Figure 1 - video esophagogastroduodenoscopy



Source: video esophagogastroduodenoscopy , 2018.

On 07/18/2017 a computed tomography scan of the chest (Figures 2, 3, 4 ,5) revealed: Calcified nodules in the lungs compatible with granulomas. TRAVE DENSA RESIDUAL Dense residual dense in the right lower lobe.

Figures 2, 3, 4 ,5 - computed tomography scan of the chest

Source: Computed tomography scan of the patient, 2018.

On 07/28/2017 it was performed again the gastroduodenoscopye, having as a diagnostic impression: endoscopic accentuated ulcerated esophagitis, ulcerated lesion in gastric fundus which may characterize neoplasm and light enanthematous endoscopic duodenitis.

DISCUSSION

The most frequent type of EC in black people is the squamous epidermoid carcinoma.[1] Another type, adenocarcinoma, which is more common in the white race population, has been increasing

significantly.[3]

Although the infant mortality rate in EC is high, having been considered the sixth leading cause of cancer death in the world in the year 2008, the treatment has improved the survival rate. During the years 1960 and 1970, only 5% of the patients survived for at least five years after the diagnosis.[2]

The etiology of EC involves an interaction of several risk factors (RF), such as: age, family history and genetic association, in addition to many extrinsic factors. Among these are the intake of alcohol, smoking, use of nitrosamines and aflatoxins, local infections by fungi, deficiency of Riboflavin and vitamin A (low intake of fruits and vegetables) and excessive ingestion of yerba mate. Some infections as the megaesophagus, caustic stenosis of the esophagus and Barrett's esophagus have their important contributions in the etiology of EC. Some occupational factors as long-term exposure to silica dust, polycyclic aromatic hydrocarbons and metals have also been studied as risk factors for this type of cancer.[4]

The EC's may be classified according to the histology, in epidermoid carcinoma (or squamous) and adenocarcinoma. The first is derived from the non-keratinized stratified epithelium, characteristic of normal mucosa of the esophagus. This tumor affects mainly the middle and lower thirds of the esophagus. There is intimate correlation between alcoholism and smoking in patients with this neoplasm. It is worth noting the existence of variants of epidermoid carcinoma: verrucous carcinoma, epidermoid carcinoma type basiloide and sarcomatoid carcinoma (epidermoid). [5]

The adenocarcinoma arises in the distal part of the esophagus in the presence of chronic gastric reflux and chronic gastric metaplasia of the epithelium (Barrett's esophagus). There is a strong relationship between its incidence and obese individuals (BMI>30 kg/m 2). The adenocarcinoma develops inside the dysplastic columnar epithelium mainly in esophageal-gastric/cardia junction. Even before the neoplasm become detectable, aneuploidy and mutations of the p53 in the dysplastic epithelium were observed. Rare variants of the adenocarcinomas include the mucoepidermoid carcinoma and adenoid-cystic carcinoma.[5]

The malignant tumor of the esophagus in the early stages is usually asymptomatic. Whereas in the advanced stages, it is observed dysphagia in 80 to 90% of the patients, initiated when there is obstruction, from half to one third, of the light by the tumor. For this reason, in most individuals, the diagnosis is delayed. The weight loss is frequent, but nonspecific. The symptoms resulting from complications are cough and fever (secondary to respiratory tract fistula), hematemesis or melena, hoarseness (involvement of the recurrent laryngeal nerve) and hiccups (involvement of the phrenic nerve).

The physical examination is the first step for staging, which may not have changes or show signs of emaciation, palpable lymph nodes, increasing in the volume of the liver and nodular aspect for metastatic disease.[6]

The spread of the esophagus carcinoma can occur by contiguity, lymphatic, hematogenous and intramural route. The appearance of hardened, palpable lymph nodes in the supraclavicular fossa (Troisier-Virchow nodule) and in the axilla (Ireland Nodule), usually means metastatic disease. The most important distance metastasis are the liver and lung.

Some examinations are needed to confirm the diagnosis and staging of cancer, aiming to identify the local extension and possible spread to the distance of the lesion. Nutritional evaluation and research of other pathologies should be performed. EC can be diagnosed by contrasted radiological

examination of the esophagus and by the high digestive endoscopy, which allow visualization of the tumor and extent of its extension. The endoscopic examination, however, is the only one that allows the lesion biopsy for histopathological confirmation and, therefore is the best diagnostic method of EC. In cases of risk for epidermoid carcinoma, the dye of choice is of Lugol's solution; and in the event of ade-nocarcinoma it is indicated the use of methylene blue, with a view to facilitating the detection of minor changes of the mucosa and direct the collection of biopsies.[7]

The laboratory examinations are not specific. Anemia with or without iron deficiency may be present, as well as an increase in the erythrocyte sedimentation rate (ESR). The increase of serum alkaline phosphatase or transaminases suggest hepatic involvement. Decrease of albumin reflects malnutrition. Increase in prothrombin time suggests liver disease, metastasis or malnutrition. Hypercalcemia due to bone metastasis may be present.[6]

The endoscopic ultrasonography enables to evaluate the invasion of the wall of the esophagus and the biopsy of suspicious periesophageal lymph nodes. Computed tomography (CT) and magnetic resonance imaging (MRI) are used for the staging of the EC.[6]

After the staging, it is defined what the appropriate treatment is. In suspected cases of early neoplasia with diameter smaller than 3 cm, circumference committed up to three quarters of the total and less than four lesions, curative treatment can be performed by endoscopic resection. Surgical resection and lymphadenectomy are indicated in cases in which there is no involvement of adjacent organs and can be followed or not by radiotherapy or chemotherapy. In the cases of nonresectable tumor, one can opt for surgical derivation, such as chemotherapy, radiotherapy, endoscopic placement of prostheses and photodynamic therapy.[7]

The five-year survival of patients with early cancer of the esophagus, without metastases in lymph nodes and at distance, surgically treated is 75 to 88%, while patients who present lymph node metastases have survival rates of 40 and 55% without including the operative mortality rate. These numbers indicate clearly the importance of the EC finding still in the initial phase. The possibility of better survival of patients with epidermoid carcinoma depends, fundamentally, on the diagnosis at an early stage followed by the tumor resection.[6]

CONCLUSION

It should be noted that due to the late diagnosis and the accelerated progression of epidermoid carcinoma, the patient evolved with metastasis in gastric fundus and has not fulfilled the criteria for curative treatment with surgery, radiotherapy or chemotherapy. Associated to this fact and, due to the bad prognosis, remained in the palliative care with a multidisciplinary team for 11 months, which resulted in a greater quality of life for the patient and his family. He died on 05/31/2018.

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RIGHT OF ACCESS TO PHOSPHORYLETHANOLAMINE

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Abstract: Objective: Analyze the existing conflict between access to synthetic phosphorylethanolamine and the control of potentially harmful substances, exercised by the regulatory agency of medicines. **Method :** For the development of research, as the method of research, bibliographic and documentary ones were , and, as a method for exposure, the dialectical one. **Results:** By the results obtained, it was recognized the importance of protecting public health by the National Agency of Sanitary Surveillance with control of the distribution of medicines and the supervision of the stages of research and development, but also the preponderance of the dignity of the human person and the right to health on other legal standards when it comes to terminal patients,by the necessary appreciation of private autonomy. **Final Considerations:** It is concluded, thus, that the tutelage of private healthcare on the public health aspect should prevail, which added to the legitimacy of the legal authorization for access to phosphorylethanolamine by Law 13.269/2016, highlights the legality of right of access.

Descriptors: Malign neoplasm; Phosphorylethanolamine ; National Health Surveillance Agency.

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INTRODUCTION

This article aims to analyze the existing conflict between the right of access to medicine known as synthetic phosphorylethanolamine, observing the potential benefits for the treatment of malignant neoplasms, and the need to prevent that potentially harmful substances be distributed as medicines.

The discussion about the right of access to the synthetic phosphorylethanolamine is current, since it is large the number of lawsuits over the issue, and there are changes regarding the jurisprudence in the Brazilian courts, in 2016 there was the publication of a specific law on access to synthetic phosphorylethanolamine, and the same law has its constitutionality discussed in the context of the a direct action on unconstitutionality no. 5.501, pending trial.

Moreover, such a discussion involves sensitive legal goods, such as life and health, with an intense influence of the dignity of the human person and the principle of reservation of possible, bringing to the debate political and philosophical elements. The theme gains greater prominence through direct involvement with the maintenance of life and the hope of cure of diseases that are potentially fatal.

METHODOLOGY

It is a bibliographic research, having for its object the specialized literature on the subject, documental research with emphasis on analysis of the Constitution of the Federative Republic of Brazil, 5th October 1988 (Federal Constitution) and the Federal Law no. 13.269, of 13th of April 2016 (Law 13.269/16), which authorizes the use of synthetic phosphoryl ethanolamine for patients diagnosed with malignant neoplasia, in addition to the Direct Action on Unconstitutionality # 5501 - Distrito Federal. It was chosen the dialectical method of exposure, which justifies the presentation of results and discussion in a single section.

RESULTS AND DISCUSSIONN

The Synthetic Phosphorylethanolamine in Brazil

For several years of research, the professor and chemist Gilberto Orivaldo Chierice, developer of the substance in question, could explain the functioning of phosphorylethanolamine in the organism. According to this author, the phosphorylethanolamine acts in the body as a kind of marker of cells with cancer and works anaerobically, i.e., without oxygen, while the healthy cells need oxygen to keep themselves[1]. Thus, the phosphorylethanolamine helps the patient's immune system diagnosed with cancer to combat the disease, causing the cancer cells to be killed and preventing them to return[2].

Although there are no conclusions of a methodical study on the substance, according to Chierice[1] an experimental research was conducted on the effectiveness of phosphorylethanolamine by Amaral Carvalho Hospital of the City of Jaú, town near São Carlos/SP, by the following method: the hospital chose 5 areas of incidence of cancer, namely, urology, gastro (stomach/intestinal cancer), head and neck, breast and Gynecology (uterus), with 11 patients in each area, reaching a total of 55 patients, among these, according to Chierice[1], on average 9 of each area obtained success in the treatment, and by political and economic issues the research was not published.

Even though there was no disclosure by Chierice or by USP, several patients had access to information that the phosphoryl ethanolamine "healed" several types of cancer, causing the demand by the pill grow so exorbitantly over the years. The subject never deserved social highlight

or expressive investment in deeper research, however after the retirement of Chierice in 2013, USP stopped providing the substance, and thus the patients began to file lawsuits to gain access[1].

The distribution of phosphorylethanolamine was not a reason for which the judiciary was driven by several patients in order to continue to use the drug in their treatments, forcing the Chemistry Institute to produce and provide the substance to patients who had judicial authorization[3].

The Right to Health

The Federal Constitution provides, in Article 6, as citizen's rights to education, health, food, work, housing, transport, leisure, security, social security, the protection of motherhood and childhood, assistance to the destituted people. Such rights may be more or less enforced, depending on the quality and efficiency of public services. Some of these relate directly to the right to life, such as the right to health, food and housing, so that they occupy a prominent position in the sphere of protection of individual rights, without which life itself would be compromised[4].

The field of connection between economy and health, as highlighted by Oterno and Massaruti[3], has complicated harmony again that generally does not set limits for spending on health, view this as well of unsurpassed importance , but in reality always dependent on restrictions of economic nature, i.e., there are no resources to cover all needs, making it imperative to choose on what needs will be less cared for. The impossibility of total and complete coverage by economic limits cannot be understood as the absence of State responsibility for health care, being necessary the pursuit of completeness and the maintenance of minimum limits of coverage.

Rocha[5] still talks about the need to accomplish the minimum content of health guarantee, under penalty of becoming such content of fundamental rights mere speech always repeated, but never observed in practice. Such a function would fit both the Executive and the Legislative branch, in order to translate into concrete measures, the constitutional will to ensure this minimum content.

The definition of what would be the minimum content of fundamental rights, including the right to health, is a cause of many doctrinal discussions in Brazil and outside it, but the precise definition has found barrier at the subjectivity of the establishment of the ideal reference pattern for the determination of this content[6].

In fact, the principle of reservation of possible should be seen as the limit of liability of the manager who, although cannot meet all the needs of each individual in isolation, employed all the efforts needed to ensure that the constitutional priorities were met within the limits of his or her function to allocate and make efficient the existing public resources[5].

For Fernandes[7], some considerations should be taken into account regarding no excesses in the confrontation between the health and other constitutional values, being that the flexibilization of the right to health is more restricted due to the intense connection with the right to life. This apparent conflict between values and constitutional principles can only be solved case-by-case basis in accordance with the in-depth analysis of the involved principles.

Therefore, compliance with the administrative matters and budget, the right to health is a subjective arguable individual right before the judiciary by any citizen who has not his or her right respected, either by the provision of medicines or by the lack of other services essential to the maintenance of their health. The principle of the dignity

of the human person linked to the right to health prevents that due to minor financial matters be counteracted in the provision of health services, allowing, for example, that medications or high cost effective treatments be provided to the citizens who need them at the expense of the State.

The right to Access to Phosphorylethanolamine

The right of access to the synthetic phosphorylethanolamine generates conflict between the protection of public health and the protection of private health, both of which are protected by the legal system, which creates varieties of placements.

The sum of the dignity of the human person with the right to life cause expansion of the spectrum of minimum protection to which the State undertakes to ensure. It should be highlighted that the dignity of the human person has advance and topological highlight in the Federal Constitution, even in relation to the right to life, since this only comes to be mentioned in Article 5 (2), when the dignity is described in article 2nd. This organization by itself indicates that it is impossible to reflect on the lives taken in an exclusive way and requires that one takes the right to life inexorably as the right to a dignified life[6].

The legal position in this matter requires attention to the guiding principles of the Brazilian legal system, in particular Articles 1st, Section II; 196; 198, section II and paragraph 2; 204; all of the Federal Constitution, from the standpoint of the situation of a bearer of serious illness not to have compatible treatments provided by the State. All these rules and principles should be interpreted in the light of the dignity of the human perso as appreciates the man as such above other legal interests.

Thus, in the specific field of terminal patients, the private autonomy and dignity of the human person gains a different connotation, standing opposite to the other rights.

In this context, the supply of non-registered medicine, even though there is the consent of that individual potentially protected by the standard, should, in theory, be restricted, being observed the duty of maintaining security on the medicines whose procedure for the evaluation of safety and efficacy has not yet been completed, i.e., the distribution of substances whose effects are unknown violates the dignity of the human person[6].

It should be noted, however, that in the specific case of terminal patients there is no abstract aspect of health to be protected, because even if taken in relation to indeterminate individuals, the restriction may not negatively affect the life or health in way worse than the situation already established by the pathology. In this situation, the dignity of the human person is identified with the hope of preserving life and the prohibition of access to the substance potentially effective for the preservation of life shows itself illegitimate.

If health is not an absolute right, neither is security, in a way that the own health rules allow access to medicines at an experimental stage of approval, as regulated by Resolution of the Board of the National Agency of Sanitary Surveillance No 38 of 12th of August of 2013.

Public health should be readily defended by ANVISA (National Agency of Sanitary Surveillance) by assessing the effectiveness and safety of new drugs, but one cannot forget that the nature of the disease that affects those interested in access to the phosphorylethanolamine is very special in relation to other diseases due to lethality, being often a synonym of death[8].

The private autonomy for the terminally ill patient is raised to the last consequences on grounds of extreme characteristic of threat to life, so that the maximum freedom of this patient must be respected, especially in relation to the treatment, even if it means to choose how he or she wil die[9].

For the specific case of terminal patients,

it should still be considered that the right to life is fully vulnerable, causing an extremely sensitive sphere of legal interest, since all other interests of the individual will lose importance. In these cases, absolutely everything that matters is the maintenance of life and recovery of health, and there is no possible justification which makes it reasonable to prevent such people try to keep their life.

At this point, one will notice that all the principles point to the autonomy of the individual, even if it leads toward his or her own death.

The Brazilian law protects the right to chance, civilly penalizing those who destroy the chances of a person to accomplish certain purposes. In this case, the State itself would be eliminating the chance of the person to maintain one of the most important rights in the legal structure, namely the right to life[10].

Thus, it would not be legitimate the destruction of the right of the patient to try, although it is not certain his or her recovery or that there are risks for himself or herself.

In this sense the Federal Law no. 13.269, of 13th of April 2016 was sanctioned, authorising the use of synthetic phosphorylethanolamine for patients diagnosed with malignant neoplasm.

The edition of the law ended the legal discussion as both the legality and the principles of protection passed to admit the right of access to phosphorylethanolamine, being treated as a legislative exception to the procedures for the approval of ANVISA. However, the Brazilian Medical Association (AMB) proposed Direct Action of Unconstitutionality of no. 5.501, which has as rapporteur the Minister Marco Aurélio Melo, in the headquarters of the Federal Supreme Court injunction, on 19th of May 2016, decided to

> [...] suspend the effectiveness of the Law No. 13.269/2016, until the final adjudication of this action, defeated, in part, the Ministers Edson Fachin , Rosa Weber, Dias Toffoli and Gilmar Mendes, who granted the injunction to give interpretation according to the constitution. Doctor Carlos Magno Michaelis Júnior spoke by the requesting party Brazilian Medical Association. Absent, justifiably, the Minister Celso de Mello. The trial was presided by the Minister Ricardo Lewandowski. Plenary, 05.19.2016.[11]

In his vote, the Rapporteur Minister Marco Aurélio de Melo, pondered that the maintenance of the effectiveness of the law could cause immediate damage to the health of the population, observed that the drug is not registered in ANVISA, although it has recognized the duty of the state to provide medicines and medical treatments free of charge to people who cannot pay. The rapporteur also emphasized that it is the duty of the State to protect the citizen from substance harmful to human being, whereas only the scientific methodology is the best guarantor of security on the numerous treatments and new substances created every year. He assigned that numerous treatments are offered with false promises, others with evasive purposes, but that only science is the one that should lead the judgment on medical treatment[11].

Afterwards, the reviewer, Minister Edson Fachin, attributed interpretation according to the Law 13.269/16, maintaining its effectiveness and the possibility of supply of synthetic phosphorylethanolamine to terminal patients, highlighting that the private use of the substance, even if it has any harmful effects is within the sphere of private autonomy, being immune to State interference in criminal scope, as judged by the Supreme Court in RE 635.659. The minister mentions that there are cases when compared to the severity of the disease,

ANVISA itself admits simplified procedure for release of medicines, such as the Resolution no. 38, 08/12/2013[11].

The Minister Luiz Roberto Barroso following the rapporteur, considering not to be prudent to guarantee the right of access to synthetic phosphorylethanolamine while clinical studies are not conducted that attest to its efficacy and safety, so that the provision would harm the fundamental right to health, in so far as it represents a serious risk to public health, even though patients may have reported positive results with its use. However, the minister pointed out that for the terminally ill patients already without satisfactory therapeutic alternative, ANVISA has a compassionate use program that enables the provision of medicine promising even without registration at ANVISA, as regulated by the Resolution RDC No 38, 08/12/2013, so that the own ANVISA may authorise the use of are not conducted in these institutes. Also followed the rapporteur ministers Teori Zavascki, Luiz Fux, Cármem Lúcia, Ricardo Lewandowski. Followed the divergence of the Minister Edson Fachin, the ministers Rosa Weber, Dias Toffoli, Gilmar Mendes. Thus, injunction suspending the effectiveness of the Law 13.269/16[11] was delivered.

ADI nº 5.501, has still not been judged, in a way that the distribution of phosphorylethanolamine remains prohibited, since that the injunction of suspension of Law 13.269/2016 still prevails.

Nevertheless, it seems clear the divergence as to public health, or the legitimacy of ANVISA, for the approval of medicine, the point of convergence that takes shape in the context of ADI-5501 lies in a more sensitive way, in the discussion regarding the human dignity. As the Minister Rosa Weber highlighted in one of the votes of divergence.

> This issue, in the final analysis, involves some cases in which the last hope of those who have so little hope will be removed, [...] sometimes, a hope of healing leads to satisfactory results, at least with respect to quality of life.[11]

In this horizon, in addition to existing law legitimately approved law guaranteeing access to the medicine, with relevant interest of terminal patients in obtaining access to the alleged drug, and, in addition to supremacy of the right to life, and more dignified life and healthy, is not suited to the Brazilian constitutional legal system-the prohibition of access to synthetic phosphorylethanolamin .

FINAL CONSIDERATIONS

The right of access to phosphorylethanolamine is broader than the mere discussion about the right of access to medicines not registered in ANVISA yet. The involvement of right to life, to health, to the primacy of private autonomy in patients in terminal stage, in direct relation with the dignity of the human person, makes the special situation be characterized, which requires legal solution equally special.

This specificity of the subject still stands by the existence of specific law that guarantees access to medicine for patients with malignant neoplasm.

In this sense, the function and duty of ANVISA to ensure the safety and efficacy of medicinal products placed at the disposal of society must follow the special treatment that the phosphorylethanolamine situation generated.

When the patient is confronted with the diagnosis of malignant neoplasia, or, to use the term always avoided, cancer, what is observed is that the same is faced with a threat to life itself, in a way that few risks are relevant when compared with it , a situation which is similar to the state of need. In this situation, the principles of security used as a guide for all the other medicines become insufficient.

In this specific situation the private autonomy gains prominence as a requirement of the dignity of the human person, foundation of the Brazilian State, in a way that the State remains forbidden to interfere in the choices on the path to be trodden by the one that many times is already preparing to face death.

The lack of clinical studies on synthetic phosphorylethanolamine does not mean that the substance is harmful, but that its effects are unknown, and there is chance that it is effectively the solution against cancer, and there is a chance that it cannot help the patient. In any case the chance exists, and the mere possibility of survival is the object of legal interest, cannot fail to be safeguarded, as well as with the theory of loss of a chance. In fact, the State harms the citizen upon extirpating the chance to maintain his or her life.

No risk can be worse than the certainty of loss of life, as it occurs in cases of terminal patients.

Thus, despite the need for security and record so that there may be free access to medicines, in the case of patients in terminal stage, the prohibition of access to synthetic phosphorylethanolamine presents itself as a breach of the right to life, or the chance to preserve it, violates the right to health under the individual perspective, which has greater emphasis on collective health because of the preponderance required of private autonomy in extreme situations, in addition to being a situation duly excluded by law regularly approved.

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EFFECTS OF EARLY PHYSIOTHERAPEUTIC TREATMENT IN THE POSTOPERATIVE PERIOD OF BREAST CANCER - CASE REPORT

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Abstract: Objective: Report the physiotherapeutic treatment in patients with a history of breast cancer, emphasizing the therapeutic evolution after mastectomy and Lymphadenectomy. **Method:** Clinical case report of a patient submitted to therapies for the treatment of breast cancer, referring pain and a feeling of numbness. After the completion of the kinesiofunctional evaluation, there was a decrease of muscle strength for flexion and restriction in abduction and extension of the shoulder. For the evaluation, the methods Goniometry, Perimetry and Oxford were used, plus the visual analogue scale for measurement of pain. The physiotherapeutic therapy was begun 02 times a week, for a period of 60 days, based on passive joint mobilisation and active-assisted areas of left shoulder flexion and abduction; active mobilization of the left elbow and wrist; manual lymphatic drainage in the upper left limb and breast; and training with diaphragmatic breathing exercises. **Results:** After the treatment and physiotherapy, the patient had increased muscle strength for flexion, abduction and improvement in shoulder extension, improvement in pain and remission of dormancy. **Conclusion:** The physiotherapeutic treatment was relevant in the patient's rehabilitation after the completion of invasive oncologic surgery. The study showed the minimization of the limitations of movements and improvement of muscle strength.

Descriptors: Breast cancer; Physiotherapy; Rehabilitation; Prevention; Therapeutic exercise.

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INTRODUCTION

Breast cancer (CA) has a high incidence in the Brazilian female population, with high rates of mortality. Approximately 29.5% of the cases of breast cancer in women are recorded each year, an estimate of 59,700 new cases, with a risk of approximately 56.33% every 100 thousand women[1]. The statistical data suggest an increase in the incidence of breast cancer in developed countries as well as those in development, being necessary the adoption of measures to control, because it is a serious problem of public health. Although the numbers of morbidity and mortality are still high, the breast cancer, when detected and treated early, has a high rate of survival[2].

The therapeutic approaches for the treatment of breast cancer are diverse, and its election is based on clinical staging (severity and extension) and histological evidence. The patient's medical history must also be taken into consideration, before the presence of congenital heart, renal and hepatic failure, rheumatic diseases and psychiatric disorders[3]. Conservative therapies include the resection of a segment of the breast (sectioniectomy, tumorectomy and quadrantectomy), with removal of the axillary lymph nodes or lymph nodes. Those designated as non-conservative involves the completion of the mastectomy, considering the modalities: (1) simple or total mastectomy; (2) mastectomy with preservation of one or two pectoral muscles accompanied by axillary lymphadenectomy (radical modified); (3) mastectomy with removal of the pectoral muscle(s) followed by axillary lymphadenectomy (radical); (4) mastectomy with immediate reconstruction; (5) skin sparing mastectomy. As adjuvant and/or neoadjuvant therapy to chemotherapy, radiotherapy and hormone therapy can be elective[5].

The sequels of cancer treatment need to be measured in relation to the patients' physical and psychological limitations[6]. The submission to various procedures eligible for the treatment of breast CA can present complications, postoperative complications, such as the occurrence of local infections, skin necrosis, headaches, respiratory dysfunction, edema, lymphedema, functional alterations, disorders of sensitivity, alteration and/or dysfunction of the ADM (range of motion) of the shoulder[6-10]. The adjuvant/neoadjuvant treatment (radiotherapy, chemotherapy and hormonotherapy), in addition to the surgical sequelae, increase the risk of such complications[10].

For an adjustment to the new health condition, it is of utmost necessity a multiprofessional assistance. In this aspect, the physiotherapeutic approach during the postoperative period, acts in the prevention and rehabilitation spheres, reducing the occurrence of complications and sequelae, having its main benefits reduction of pain, lymphedema and functional improvement[11]. It is essential the performance of the physiotherapeutic therapy in the treatment of complications after the surgery, interfering directly in the quality of life of these patients, as well as the recovery of self esteem and active body image [11, 12.]

The inactivity in the postoperative period can lead to the gradual impairment of muscular strength and flexibility and predispose to the onset of pain[5]. The muscle strength training must be inserted in the rehabilitation of all patients affected with CA breast, either after the therapies or as postoperative monitoring for prevention or recovery of muscle capacity[13].

The objective of this case report was reporting the physiotherapeutic treatment in patients with a history of breast cancer, emphasizing the therapeutic evolution after mastectomy and lymphadenectomy with complaint of pain, numbness, limitation of movement and decreased muscle strength.

ISSN 2236-5257

CASE DESCRIPTION

Female patient, 47 years old, divorced, attended the Hospital Dia Oncovida, forwarded by Associação Presente de Suporte ao Paciente com Câncer - in the city of Montes Claros, MG, for physiotherapy assessment, with functional complaint [pain in the left shoulder, feeling of numbness in the posterior region of the arm (triceps), weakness and limitation of movement to perform her ADLS (activities of daily living)]. During the anamnesis, the patient reported that in 2009 was diagnosed with breast cancer in the right region, whose treatment consisted of the realization of total mastectomy with right axillary emptying, without reconstruction. The patient was also submitted to chemotherapy and radiotherapy, followed by hormone therapy for 05 years. In the year of 2015, she was diagnosed with cancer of the endometrium, being subjected to surgery of total hysterectomy followed by a new chemotherapy and radiotherapy protocol (brachytherapy). In November 2018 upon performing the self-examination, it was noticed that a nodule, promptly seeking medical evaluation. Imaging exams and incisional biopsy were performed, obtaining the diagnosis ofInvasive ductal carcinoma Grade 2. Initially, she was submitted to the surgical procedure, and later, the results of the surgical pathological evidenced compromised margins requiring new surgical approach, held in February 2019. The present study was approved by the Ethics Committee of the State University of Montes Claros (UNIMONTES), with Legal opinion No. 86613718.9.000.5146.

After 15 days of completion of surgery a physical examination was performed, observing: no change in skin color; absence of edema in her arms - confirmed by perimetry; presence of atrophic scars and adhesions in the mastectomized region to the right (former surgery); Surgical incision to the left still in the healing process; and the sensitivity test without change.

At the kneiofunction evaluation, it was observed limitation of movement for internal and external rotation, decreased muscle strength for flexion and restriction of abduction and extension of shoulder, presenting a degree 3 of force according to the Oxford test[14].

The instruments used for making the treatment and physiotherapy assessment were: *physio Ball*: rubber ball to exercise the hand and promote an isometric contraction of the ipsilateral limb; Ball Switzerland: rubber ball small to assist the elongation maintained the scapular waist and the ipsilateral limb; rubber roll for the desensitization of the ipsilateral limb; dumbbell: weight of half a kilo to assist the concentric and eccentric exercises of the ipsilateral limb; rubber strip (*thera band*): average compression for active-resisted exercises of the scapular waist and the ipsilateral limb.

TECHNIQUES

Before the clinical exposed signals, the physiotherapeutic treatment was performed 02 times a week, for a period of 60 days, totaling 18 sessions. The physiotherapeutic procedures consisted of: passive joint mobilisation and active-assisted areas of left shoulder flexion and abduction (both within the limit of 90°) with internal and external rotations; active mobilization of the left elbow and wrist; manual lymphatic drainage in the upper left limb and breast cancer; and diaphragmatic training, with breathing exercises (abdominal and thoracic expansion, active cycle). Guidelines were passed to the patient on the measures needed to be adopted

during the healing process, as well as the correct positioning of the members and effective expansive breathing exercises. From the 6th session, the patient was instructed to perform active exercises in her home with the aim of greater mobility and muscle strength, impacting positively on the return of daily activities.

The variables, amplitude of the shoulder, the muscle function of the shoulder and scapula, perimetry of limbs and the pain, were measured in the physiotherapy assessment, according to the following protocols: (1) Method Goniometry - for measures of joint range of motion: measured in degrees through the universal goniometer, following the manual of Marques (2003)[15], showing the following data: external and internal rotation presenting 40 degrees, 90 degrees flexion and abduction 90º degrees; (2) test of Oxford for assessing muscular strength, showing degree 3 [14] ; (3) Perimetry - a standardized metric tape was used, with markings in centimeters [16]. The measurements were performed at the elbow joint line - olecranon (point 0) and 7 in 7 cm supra and infra olecranians, evidencing normality when compared with the contralateral ipsilateral limb; (4) *EVA (Escala Visual Analógica* - Visual Analogue Scale - VAS): one-dimensional instrument for the assessment of pain intensity[17].

To analyze the degree of muscular strength, the classification of Oxford describes, such as: Grade 0 - There are no signs of muscle contraction; degree 1 - signs of mild contractility, without joint movements; Degree 2 - mobility in all senses normal, with elimination of gravity; Degree 3 - normal amplitude movements against the action of gravity; Degree 4 - integral mobility against the action of gravity and degree of resistance; and, Degree 5 - complete mobility against strong resistance and against the action of gravity [15]. Comprising the aid on physical examination during the anamnesis, the perimetry consists of determining measures of body, with accurate and validated results. Its implementation enables the referring of individualized treatment for each patient [16].

THERAPEUTIC EVALUATION

At the beginning of the sessions the patient was a bit distressed and anxious with the expectation of how it would be the protocol of chemotherapies. Complained of pain in the nipple and the posterior region/medial of the arm, in this same region of the arm reported a feeling of numbness, he complained of feeling of forming the scar and limitation to perform some activities, such as: washing small pieces of clothing, arranging the bed, grab some object that was in a certain height above her head. In the first 02 sessions the manual therapies were prioritized for pain relief and improvement of ADM as the myofascial release, cicatricial release, desensitization of the posterior region/medial of the arm and shoulder joint mobilization grade 1 (for pain relief) and grade 2 and 3 to ADM gain. From the 3rd session with a significant improvement in range of motion, the patient evolved from 90º to 180º abduction and shoulder flexion measured by goniometry, which according to the same brought great relief to perform their daily activities, such as, for example, bathing alone and washing her hair (AVDs). It should be emphasized that the answers of this magnitude have an extremely positive and important effect for the emotional of the patients. The following sessions were carried out with the aim of gaining ADM with active assisted stretching exercises and also muscular strength gain gradually using the resources already mentioned. In the assessment of muscular strength through the test of Oxford, it was evidenced initially degree 3, defined as regular, where, through the physiotherapeutic treatment, it was obtained a gradual evolution to grade 5, amended by the normal muscle strength,

without mobility limitations. There was an unforeseen event during the 6th session, when the patient reported much discouragement, feeling of tiredness, intense headache- however when contacting the responsible medical oncologist - the same underscored that it could be emotional issues, generating a high degree of anxiety, once the chemotherapy was scheduled to begin on the following day. On that day the same also reported pain in the cervical and thoracic region, due to the awkward position adopted to sleep because of the surgery. In this perspective, only muscle relaxation therapies, inhibition of trigger points, cervical and systemic Relaxation Relaxation were used using some points of Shiatsu. The assessment of the level of pain was performed prior to submission to the physiotherapeutic treatment, through EVA, being observed degree 8 of intensity. At the end of the sessions, the evaluation was performed again, noting intensity degree 1.

After the other sessions the patient evolved very well performing the exercises gradually, and at the end of the treatment she was oriented to the achievement of the active exercises at home, which could contribute to her independence and autonomy to develop her skills.

DISCUSSION WITH LITERATURE REVIEW

The surgical cancer removal presents some adverse effects related to physical and/or psychological interocurrences, with significant impact on the patients' life[18, 19]. The physiotherapeutic treatment is essential in prevention and in the reduction of collateral events subsequent to the submission to the antinoeplastic therapeutic of breast CA, acting in the restoration of the kinetic and functional integrity of the organs and systems[20]. Changes/ complications after the surgical procedure may influence the quality of life, exalting the need of physiotherapy follow-up for prevention and rehabilitation[21]. In the present study, the performance of physiotherapy was essential in the patient's recovery forward to anticancer treatments carried out. Limitations of motion, muscle pain and reduction of the degree of muscular strength were evidenced after the specific treatment of breast cancer. Nascimento et al., (2012)[9] found that after completion of surgery to the treatment of breast cancer, some patients may present physical limitations. The most frequently observed signs and symptoms were: headache, pericicatricial adhesion, restriction of movement amplitude, scar dehiscence, sensation of weight and lymphedema. Bregagnol, Dias (2009)[7] found that patients undergoing total axillary lymphadenectomy, evidenced articular functional alterations, pulmonary and respiratory muscles function, especially in the immediate postoperative period[7]. Before the signals of limitations and inconveniences to the patient, the multidisciplinary actions were present during all stages of treatment which the patient in the present study experienced.

The health prevention consists of the principal forces of physiotherapy, which should be present, playing a multidisciplinary work, throughout the patient's period affected by breast cancer, before the diagnosis, treatment and palliative cares[22]. Before the countless benefits obtained by physical therapy, the study by Santos et al., (2017) noted an increase of body temperature and improvement of the threshold of cutaneous sensitivity in patients diagnosed with CA breast, with more advanced age[22]. The role of physiotherapy in multidisciplinary health team is of fundamental importance for the monitoring, treatment and evolution in the reinsertion of the patient to social, professional and personal coexistence [18].

Nascimento et al., (2012) emphasize that the performance of exercises at home demonstrated to assist in improving physical performance of these patients[9]. After the accomplishments of live sessions of physiotherapy, it was passed on to the patient in the present study, instructions of exercises beneficial to be performed at home, for attenuation of the resolution of her functional complaint. In the study of Silva et al., (2004)[22], the authors considered that the completion of exercises themselves with free amplitude since the first postoperative day, allows a satisfactory recovery of the functional limitations, without the increase of seroma or dehiscence[10].

Changes and complications after the surgery of breast CA can influence the patients'quality of life, with a negative impact, emphasizing the need of physiotherapeutic approach. Physiotherapy plays an important role in the recovery (after surgical procedures), minimizing the adverse effects, as well as the patient's general rehabilitation, regarding the physical range and improvement of his or her physical condition of life - AVDs. Sets of therapeutic possibilities can be used for the purpose of functional recovery, reducing the recovery period, allowing the return to daily activities and reintegration into society without functional limitations [12]. The implantation of physiotherapeutic attendance for patients submitted to treatment of breast cancer has as purpose to prevent effects by means of therapeutic conductions, domicilary guidances nd early interventions, aiming the well-being of the patient as well as the reduction of personal and hospital costs[23].

FINAL CONSIDERATIONS

The clinical case in question showed significant improvement of the patient with a history of breast cancer, submitted to physiotherapeutic treatment after mastectomy and lymphonodectromy. The methods of analysis of the effectiveness of the treatment consisted of satisfactory answers, directly associated with the patient's quality of life.

The physiotherapeutic treatment is very important in the the patient's physical rehabilitation of patients submitted to surgical procedures related to breast cancer, together or not to the adjuvant therapies. Some physical limitations may comprise the adverse effects after the mastectomy and the lymphonododectomy. In addition to the preventive and rehabilitation roles, physiotherapy plays an important role in the context of the quality of life of these patients and the participation in the multidisciplinary team, with a focus on control, reduction and prevention of sequels, reintegration of the patient to their normal daily activities, self-esteem and physical performance.

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(ISSN 2236-5257)

EPIDEMIOLOGICAL STUDY OF SKIN CANCER: DATA FROM THE NATIONAL CANCER INSTITUTE

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Abstract: Objective: Describe the epidemiological profile of patients with skin cancer in the state of Minas Gerais, Brazil, in the period from 2016 to 2017. **Method:** Descriptive quantitative study with secondary data from the system of hospital record of cancer from the National Cancer Institute, referring to the skin malignant neoplasm attended in Minas Gerais. The following variables were considered: gender, age, race, education, family history of cancer, consumption of tobacco, alcohol, detailed location and the basis of the diagnosis. The data were analyzed in *Microsoft Office Excel*® 2010, by means of descriptive statistics, bivariate analysis, Student's t test and ANOVA. **Results:** The cancer occurred with greater frequency in male individuals; aged 70 years or more; with basic education and white race/color. In the majority of cases family history of cancer showed no records and the majority of individuals pointed out have never consumed tobacco and alcoholic beverage. Regarding the detailed location, the exposed area of the face were more frequent, and the histology of the tumor was the first choice for diagnosis. **Conclusion:** The research has provided relevant information about skin cancer in the state of Minas Gerais and may contribute to the development of actions for health prevention.

Descriptors: Risk factors; Melanoma; Health Profile; Health Promotion.

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INTRODUCTION

Cancer (CA) is characterized by the loss of control of cell division and the ability to invade other organic structures[1]. According to the National Institute of Cancer (INCA), the appearance of this disease occurs when a normal cell undergoes change starting not to respond to the body commands, thereby changing its activity, being able to migrate to other parts of the body and divide rapidly[2].

The incidence of CA in the world, in 2017, covered more than 14 million people and its mortality rate was 8.8 million. It is estimated that in 2030, around 21 million new cases will be reported[3].

Cancer generates great demand for investment in policies of prevention and assistance, especially when considering the long period of exposure to environmental factors and individual risk, as well as the population aging[4]. In Brazil, the distribution of the different types of cancer suggests an epidemiological and demographic transition in progress[5]. This fact demonstrates the need for investments in health promotion, in search of modifying the patterns of exposure to risk factors for cancer, in the diagnosis and treatment[6].

According to the estimates of cancer in Brazil, the skin CA, is a neoplasm of higher incidence, representing 30% of the malignant tumors, more prevalent in people with light skin and older than 40 years[7].

Regarding the risk factors for skin cancer chronic sun exposure, radiation, immunosuppression, exposure to arsenic, hereditary diseases and advanced age are highlighted[2]. There are two types of skin cancer, namely: the melanoma and non-melanoma cutaneous.

The cutaneous melanoma originates in the melanocytes, which are the cells that produce melanin, present with low incidence and high mortality with more severe repercussions when there is metastasis at diagnosis, more frequent in elderly people and clear skin may affect both the skin and the mucous membranes, in the form of spots, spackles or signs[3]. This pathology represents 3% of malignancy and is considered to be serious due to its great possibility of metastasis. Despite this, the prognosis can be considered good, if discovered in the early stages, and the early detection is an important indicator of the patient's survival[1,3].

Regarding the non-melanoma it is considered the most frequent in the population and it is a slow-growing tumor, and good prognosis if treated appropriately and in a timely manner. However, the delay in diagnosis can lead to ulcers and severe physical deformities. The most frequent types of non-melanoma skin cancer are basal cell carcinoma (BCC) and spinocellular carcinoma (SCC)[2].

The skin neoplasm is responsible for 80% of all deaths by cancer in recent decades, in Brazil, with an incidence of 165,580 thousand cases of people in the year 2018, showing a significant increase in the last decades, becoming a public health problem[3].

In this sense, there are three levels of prevention programs for the skin CA, namely: the primary consists of the effective solar protection that includes appropriate clothing and the use of sunscreens. Concerning the secondary consists of the early diagnosis and has a fundamental role to the improvement of the prognosis and reduction of neoplasia, and tertiary which consists of the prevention of deformities, recurrence and death[7]. The update of health professionals about the preventive measures in particular to primary and secondary prevention has a fundamental role for the improvement of promotion and prevention actions and the prognosis.

The characterization of the epidemio-

logical profile of patients diagnosed with skin CA contributes to a better understanding about its prevalence and can serve as an instrument for alerting and public health campaigns, as well as improvements in public policies. Before what was exposed above, this study aimed to describe the epidemiological profile of patients with skin cancer in the state of Minas Gerais, Brazil, in the period from 2016 to 2017.

METHOD

It is a quantitative study with descriptive survey of secondary data obtained in the hospital records of Cancer (RHC) of INCA. The studies of this type have as their primary objective to describe the characteristics of certain populations or phenomena, one of the peculiarities of this method is the use of standardized techniques of data collection[8].

For data collection, all records of cancer accounted for in the system of hospital record of Cancer SisRHC, with primary malignant neoplasm of the skin, diagnosed and treated in Minas Gerais in the period from 2016 to 2017 were adopted as inclusion criteria. The following variables were analyzed as mandatory requirements in the hospital tabulation System: gender, age, race, education, family history of cancer, consumption of tobacco, alcohol, detailed primary location and the basis of the diagnosis.

The data were inserted in the *program Microsoft Office* Excel® 2010 and analyzed by means of descriptive statistics and bivariate analysis by Student's t test and ANOVA, in each variable of collection by comparing the mean values per year and in each category. It was considered the significance level of 95% of form of P-values below 5% as statistically significant and presented in tables.

Due to being secondary data, governmental basis of public domain and not directly involving human beings and their possible identification, in addition to not to use biological material and originated from the same, as recommended by the Resolution 466/12 of the National Health Council, the present study did not require the involvement of the Committee of Ethics in Research.

RESULTS

The data analyzed are presented according to the sociodemographic characteristics and the characteristics of the individuals affected. Regarding the sociodemographic characteristics, 9,659 people were diagnosed with skin CA in the state of Minas Gerais, of these, 4,858 were in 2016 and 4,801 in 2017.

Table 1 - Sociodemographic characteristics of patients diagnosed with skin cancer in Minas Gerais, Brazil. 2016-2017

Characteristics	2016		2017		
N	%	N	%	N	P value
Sex					
Female	2461	25.5	2339	24.2	0.4165
Male	2397	24.8	2462	25.5	
Age Range					
00- 09 years	3	0.0	2	0.0	<0.0001

10- 19 years	10	0.1	17	0.2	
20- 39 years	184	1.9	139	1.4	
40- 69 years	2197	22.7	2073	21.5	
70 years or more	2464	25.5	2580	26.7	
Color/Race					
Yellow	21	0.2	27	0.3	<0.0001
White	3068	31.8	3011	31.2	
Indigenous	4	0.0	10	0.1	
Brown	1418	14.7	1276	13.2	
Black	51	0.5	50	0.5	
No Information	296	3.1	427	4.4	
Schooling					
No schooling	479	5.0	360	3.7	<0.0001
Elementary School	2529	26.2	2357	24.4	
High School	418	4.3	486	5.0	
Upper Level	255	2.6	245	2.5	
No Information	1177	12.2	1353	14.0	

Source: Hospital record of Cancer, INCA.

Of the total of 4,858 people diagnosed in 2016, females were 2,461 (25.5%) people and male, 2,397 (24.8%). In 2017, 4,801 individuals were diagnosed and of these, the majority 2,462 (25.5%) were male.

In relation to age, it was observed 5,044 (52.20%) of individuals with 70 years or more, followed by 4,270 (44.2%) aged 40 and 69 years. Regarding race/color of individuals diagnosed it was observed more frequently in the ones declared themselves white 6,079 (63%). As to the level of schooling, the data suggest that individuals with elementary school 4,896 (50.6%) were predominant, followed by 2,530 (26.2%) on the category "No information".

By means of bivariate analysis, associations on the skin CA and sex, age, race/color, schooling of people diagnosed with cancer as (Table 1) were analyzed and compared.

In this study, no relevant differences between the male and female population, regarding cancer were not evidenced. It was also possible to observe that there was a significant difference among the categories of age range for people who had skin CA at the age from 0 to 9 years old compared to the age group 70>; (P=<0.0001). The same result was found in people of race/color yellow when compared with people of color white demonstrating statistically significant results. Regarding schooling, there was a significant association between those with no schooling and higher level with (P=<0.0001).

Among the characteristics of individuals, in 9,659 people diagnosed, family history for the skin CA pointed "no information" 5,864 (60.8%) of the cases, followed by 2.88 (21.6%) who had no family history and 1,707 (17.6%) patients with a family history of cancer according to Table 2.

Table 2 - Demographic characteristics of patients diagnosed with skin cancer in Minas Gerais, Brazil. 2016-2017

Characteristics of individuals N	2016		2017		
	%	N	%	N	P value
Family History of cancer					
Yes	818	8.5	889	9.2	0.408
No	1224	12.7	864	8.9	
No Information	2816	29.2	3048	31.6	
Tobacco consumption					
Yes	426	4.4	470	4.9	<0.0001
Never	2094	21.7	1907	19.7	
Ex-consumer	544	5.6	450	4.7	
Not rated	93	1.0	78	0.8	
No information	1701	17.6	1896	19.6	
Consumption of alcoholic drink					
Yes	421	4.4	476	4.9	<0.0001
Never	2190	22.7	1923	19.9	
Ex-consumer	260	2.7	247	2.6	
Not rated	103	1.1	94	1.0	
No information	1884	19.5	2061	21.3	
Detailed Location					
Lip skin, SOE	139	1.4	140	1.4	<0.0001
Eyelid	281	2.9	265	2.7	
External ear	333	3.4	326	3.4	
Skin from other parts and parts not specified of the face	2169	22.5	2235	23.1	
The skin of the scalp and neck	296	3.1	282	2.9	
The skin of the trunk	442	4.6	482	5.0	
The skin of the shoulder and upper limb	545	5.6	511	5.3	
The skin of the hip and lower limb	303	3.1	257	2.7	
Superimposed lesion of the skin	56	0.6	23	0.2	
Skin, SOE (excludes skin of the vulva, penis and scrotum)	294	3.0	280	2.9	
Basis of the diagnosis					
Cytology	183	1.9	47	0.5	<0.0001
Clinical	75	0.8	56	0.6	
Imaging exam	2	0.0	2	0.0	
Histology of metastasis	14	0.1	18	0.2	
Histology of the primary tumor	4571	47.3	4674	48.4	
Tumor Markers	3	0.0	0	0	
Clinical Research	5	0.1	0	0	
No Information	5	0.1	4	0.0	

Source: Hospital record of Cancer, INCA.

Regarding the consumption of tobacco and alcohol, it was appointed by the majority of individuals diagnosed 2,190 (19.9%), never have consumed followed by no information 1,884 (21.3%), i.e., which could be related to the absence of data logging.

Regarding the detailed location of CA, skin of other parties and not specified parties of the face occupied the first place 4,404 (45.6%) of the cases, followed by 1,056 (10.9%) in the skin of the shoulder and upper limbs. On the diagnosis, 9,245 (95.7%) of the cases were analyzed by histology of primary tumor and 183 (0.5%) by cytology.

According to information presented in Table 2 where it was considered a family history of cancer, consumption of tobacco and alcohol, detailed primary location and the basis of the diagnosis, it was observed that showed no significance (P=0.408) of family history of cancer comparing 2016 and 2017. The variables related to the consumption of tobacco and alcoholic beverages showed a strong association with bivariate analysis (P=<0.0001), people who have not consumed developed higher rates of skin CA.

In case of detailed primary location, ONE can identify the skin CA of other parts and not specified parts by demonstrating relevance when superimposed lesion of the skin with a result of (P=<0.0001). For the result primary tumor histology, showed a statistically significant difference compared to other categories (P=<0.0001). Associations among the variables studied showed statistically significant results.

DISCUSSION

The results show that the skin cancer was diagnosed in both sexes, corroborating with research carried out in Bauru/São Paulo, in the period from 2010 to 2013, which showed little percentage difference regarding gender of individuals with this type of neoplasia, in 1,150 patients diagnosed, (51.2%) were women[9]. A retrospective study was performed with 32 patients treated in INCA, in the period from 2002 to 2012 showed the female sex as prevalent[10].

Regarding age, research conducted by Pires and collaborators (2018)[11] showed higher frequency in individuals older than 40 years, as well as in another study conducted in the city of São Paulo, which showed a greater prevalence of CA in patients older than 60 years (71.6%) of the sample[12]. These data are similar to those reported in this study.

It should be emphasized that the damage caused by ultraviolet rays is cumulative, leading to progressive photochemical lesions, which may justify the age profile with higher skin involvement by CA[11]. However, it is perceived that age is a relevant factor, and the promotion of health practices must therefore be encouraged, aiming at raising awareness of the population regarding risk factors and, therefore increasing the involvement of health professionals in the prevention and early detection of skin CA.

Concerning skin color, in this study (31.2%) of patients diagnosed are white-skinned, corroborating with another study that demonstrated this type of skin more prone to the development of skin neoplasms[13,11]. In addition to the skin color, excessive exposure to solar radiation, advanced age, smoking habit, alcohol abuse, geographical distribution, old scars, persistent physical aggression and exposure to radioactive agents can be understood as risk factors implicated in the increased incidence of skin neoplasms[13].

Regarding schooling, it was observed that the greater access to schooling, lower the incidence of skin cancer. This information is similar to that reported by Oliveira et al.(2013)[14], whose higher frequency of skin CA happened in people with less schooling, revealing social inequality. In a cross-

sectional study of estimation of people diagnosed with CA in Brazil, held in 2013, with data from the National Health Program (NFP), showed no significant differences among people with lower and higher education[14].

Considering the family history, in this study (60.8%) of the cases did not present information, i.e., there are no records of data, followed by (21.6%) who had no family history. This context shows the importance of health actions for skin cancer prevention for the population as a whole. The absence of information denotes the possible underreporting of cases of the disease, and therefore the number of individuals with skin CA can be even greater.

Turco et al. (2010)[15] point that the individuals who expose themselves to the sun for a prolonged time and those who have a personal or family history of skin tumor can develop the cancer, considering that this is a risk factor. In a study conducted by Frighetto et al. (2018)[16], some patients diagnosed with skin CA were associated with genetic factors, since there were reports of melanoma CA in the family regarding to hereditary mutation of the gene.

Concerning the CA location, the findings of this study showed similarities with research conducted by Carneiro et al. (2013)[10], who observed higher incidence in exposed areas, such as the skin of the face and upper limbs. The basis of the diagnosis to the skin neoplasms must be based on the patient's history and clinical manifestations, and mainly in the histopathological examination of the lesion, in order to identify the types of cells detached from their places of origin, as the tissues. It is recommended whenever possible, to give preference to the excisional biopsy or the total excision in order to simplify the appropriate histological type[17].

The results of this study show a statistically significant difference in the outcome of the predominant age range from 70 years old with a diagnosis of skin CA. A retrospective study was conducted in the archives of the Pathology Department of the Hospital Universitário Cassiano Antônio de Morães (HUCAM-UFES), from 2000 to 2010, with analysis of the mean age of patients with different clinical types of cutaneous cancer presented divergent data of this study, whose average remained above 60 years[18].

Regarding the detailed location, the findings of this study were similar to the research carried out at the National Institute of Cancer José Alencar Gomes da Silva (INCA), in the period from 2002 to 2012, whose primary location of CA was predominant in exposed areas of the face and limbs[10].

Another interesting fact found with a statistically significant difference in this study was the histology of the primary tumor on the basis of the diagnosis as the first choice, corroborating with another study by Pereira et al. (2015)[19], which obtained 65% of the cases of people diagnosed with CA skin, according to histology of the primary tumor.

CONCLUSION

The study concluded that in the state of Minas Gerais, the epidemiological profile of the population with skin cancer in the period from 2016 to 2017, occurred with greater frequency in male individuals; at the age of 70 years or more; with elementary school and in white race/color. In the majority of cases family history of cancer showed no records and the majority of individuals pointed out have never consumed tobacco and alcoholic beverage.

Regarding the CA detailed location, the ex-

posed area of the face were more frequent and the histology of the primary tumor, was the first choice for basis of the diagnosis.

The research identified relevant information about skin cancer in the population of the state of Minas Gerais and could contribute as a tool for the development of health actions, above all, prevention and early detection in prevention campaigns with educational and communicative approaches aimed at greater effectiveness in the prevention against cancer. So, therefore, fostering the education of the population on the risk of excessive exposure to ultraviolet radiation is the best way to reduce the risk for non-melanoma and melanoma skin cancer.

Another important conduct to be employed would be the clarification of the neoplasm, emphasizing its importance and its early diagnosis, so that people value such information and communicate to the doctor possible symptoms that could indicate the disease.

Therefore, skin cancer is a public health problem and needs actions to promote early diagnosis, which allows a significant reduction in morbidity and mortality. It is necessary the development of studies in the population to point data useful in the prevention and diagnosis of diseases that most affect their health and the adoption of measures of health education, and health primary prevention.

It was pointed out, thus the need for effective engagement of several actors in social health production and in the qualification of health care network. The limitations of the study are related to the temporal cut-off, lack of information, being necessary to perform further studies.

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FATIGUE AND QUALITY OF LIFE IN PATIENTS WITH BREAST CANCER AND ADJUVANT TREATMENT

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Abstract: Objective: To evaluate the fatigue and changes in quality of life in patients with breast cancer in adjuvant treatment. **Method:** This is a descriptive, cross-sectional quantitative study. The sample was composed by 34 women diagnosed with breast cancer in chemotherapy treatment in a reference hospital in Oncology from the city of Montes Claros, Minas Gerais. It was used the scale of identification and consequences of fatigue, and another specific questionnaire to assess quality of life. The analysis and interpretation of data was performed by the program *Microsoft Office Excel* 2013 and *Statistical Software Package for the Social Sciences*, version 20. **Results:** In the descriptive analysis of the questionnaire of fatigue, the results demonstrated a higher aspect in the sub-scale of activities of daily life, with an average score of 94.95 (26.55), followed by the sub-scale force 71.66 (10.93). In relation to the quality of life questionnaire, the scale that presented the best average score was the global health with 64.46 (26.30), followed by the scale of symptoms 41.38 (22.83). **Conclusion:** Both the physical issues and the psychological and financial issues, act directly on the symptoms of fatigue and muscle weakness in daily life activities.

Descriptors: Breast cancer; Chemotherapy; Fatigue; Quality of life.

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INTRODUCTION

Cancer is a designated term of global aspect, characterized as a disease of inordinate multiplication of cells, which have the capacity to spread among the organs and tissues adjacent to the affected area initially in the individual. It is a chronic degenerative disease, pointed out today as an adversity of public welfare. The result of the supposed finding confirms the proof of illness and its treatment intervenes directly in the citizen's style of life. In addition to being an incapacitating illness, its interventions provide side effects, which several of them are associated to diffuse muscular non-restored with rest (MACHADO *et al*., 2008; BATISTA, MATTOS, SILVA, 2015; LEDA DE ARRUDA, 2015).

In Brazil, the majority of the cases are diagnosed in the stages (III and IV), which corresponds to approximately 60% of the cases, for this reason the number of mastectomies carried out in our country is considered high. The primary treatment is mastectomy, may be partial, which consists in a surgery for removal of a nodule or benign tumor without the need for complete withdrawal of the breast; total or simple, which is the withdrawal of mammary glands, besides the skin, areola and nipple, i.e., when the surgical intervention may be restricted to the tumor; and radical when it reaches surrounding tissues, being made the withdrawal of the breast, lymph nodes, the axillary region and both the pectoral muscles, and is considered the most frequent, around 57% of the interventions performed (SILVA, 2008).

The adjuvant chemotherapy is being the best option in the treatment, because it is minimizing the chance of recurrence and improving the patients' survival. The treatment aims to eliminate micro metastases, minimizing the possibility of recurrence and expanding the survival, however, chemotherapy may cause adverse effects, such as fatigue, muscle weakness, decreased cardiorespiratory and muscular resistance, among others (MACHADO *et al* 2008; LEDA DE ARRUDA, 2011).

Fatigue is a characteristic and impertinent perception, with physical, psychic and emotional manifestations; an exhaustion that does not ease with usual methods of energy restoration. The durability and power vary and delimit distinct degrees in capacity to achieve the daily practices. It is a symptom described in the literature as a frequent cause of anguish and suffering, with damages to the quality of life in cancer patients. Studies show that fatigue in breast cancer in female patients has as predominance tiredness between 32% and 94% (ESCALANTE, MANZULLO, 2009; ARAÚJO *et al.*, 2011).

Complementary treatments after surgery have been affecting the quality of life of patients in several ways. There are studies that cite the quality of life of patients with cancer as of great importance, so that health professionals can better understand these patients, and thus will be able to help them cope with the illness and course of treatment in order to restore a satisfactory standard of their activities of daily living (AVD'S NICOLUSSI; SAWADA *et al.*, 2011).

Thus, the study aimed at evaluating the fatigue and changes in quality of life in patients with breast cancer in adjuvant treatment.

METHOD

It is a descriptive, quantitative, cross-sectional study, which was attended by 34 women, aged between 30 and 65 years, suffering from breast

cancer in the adjuvant treatment (chemotherapy) in a reference hospital in Oncology from the city of Montes Claros, Minas Gerais. The selection of the sample was for convenience and choice of participants was random (non-probabilistic) among the women present in the sector of chemotherapy.

The data collection was performed on days and times previously scheduled with the professionals in charge, between the month of February and April 2019. The data were collected after acceptance of participation in the study and signing the Informed Consent Form (ICF).

The Scale for the Identification and Consequences of Fatigue was applied (EICF), which is a broad and validated questioning, produced in New Zealand, which verifies the degrees of effort of patients and is suitable for checking the cognitive and behavioral effects of exhaustion related to cancer. It is an interview with 31 topics in that five subscales are observed (perception of fatigue, strength, effects on attention and energy and impacts on daily functions) (OLIVEIRA *et al.*, 2010; OLIVEIRA, 2014; NOGUEIRA *et al*., 2017).

The result for each topic is given in six-point Likert scale. The elements that integrate the subscale ‘’perception of force’’ has the reverse values for the count of the score. The scale does not exhibit total score but rather, score for each subscale. The higher the value of the score for each increased subscale the higher the fatigue of the patient (OLIVEIRA *et al.*, 2010).

Another instrument was used, the questionnaire to assess health-related quality of life, the EORTC-QLQ-C30, version 3.0 in Portuguese, which was developed by the European Organization for Research and Treatment of Cancer (EORTC) in 1986, and was called QLQ-C30. It is composed of 30 questions, with five functional scales: physical, cognitive, emotional and social and performance of role; three of the symptoms include fatigue, pain and nausea and vomiting; a scale of general health status quality of life; and five other subdivisions that qualify symptoms commonly reported by patients suffering from cancer: dyspnea, loss of appetite, insomnia, constipation and diarrhea, in addition to an item of evaluation of the financial impact of the treatment and the disease (MACHADO *et al.*, 2008; VENDRUSCULO, 2011).

The format of response is four-point Likert type, rating the ends from ‘’No’’ to ‘’a lot’’, for the functional and symptoms scales, for the subscale of global health are classified from “awful to great”, which features response format of seven-point Likert type (SCHROETER, 2011).

Data analysis was by calculating the gross score for each of the domains that comprise the subscales. All data obtained from the participants, to be processed, were initially grouped and sorted in a spreadsheet of the program *Microsoft Office Excel2013*®. It was also used the and *Statistical Software Package for Social Sciences* (SPSS) version 20.0, where the descriptive analyzes were performed by calculating the mean, median, standard deviation, minimum and maximum values and the statistical analysis through the test “T - *Test*”, with a significance level of 95%.

The ethical aspects of research were considered in accordance with the Resolution n° 466/2012 of the National Health Council, which stipulates regulatory ethical standards for research involving human beings. All data were collected by preserving the participants’ confidentiality. It is worth mentioning that the research project for this study was submitted to the Committee for Ethics in Research and approved with opinion embodied in the CEP/SOEBRAS no. 3.103.175, 26th of December 2018.

RESULTS

The patients’ ages in the study ranged be-

tween 35 to 65 years, most of them between 45 to 49 years of age (23.5%) and between 60 to 65 years (20.6%)

In the descriptive analysis of the questionnaire EICF The results demonstrated a higher aspect in the sub-scale of activities of daily life, with an average score of 94.95 and then subscale force 71.66, considering that the higher the score, the greater the fatigue (TABLE 1).

Table 1 - Descriptive analysis of the scales of the questionnaire EICF, Feb/Apr. 2019

Scales	Parameter		
	Mean (SD)	Median	Min - Max
Sub-scale fatigue	60.44 (11.69)	61.25	40.0 – 92.5
Sub-scale force	71.66 (10.93)	73.30	53.3 – 96.7000
Sub-scale impact on energy	47.65 (30.056)	40.00	20 – 120
Sub-scale impact on concentration	62.5 (13.01)	65	45 – 95
Sub scale AVDS	94.95 (26.55)	100.1	36.4 – 150.9

Source: Own elaboration based on the answers obtained through the questionnaire EICF.

Of the two questions that make up the scale global health, more than half of the patients were classified grade above five (Table 2).

Table 2 - Percentage of patients, according to the issues that make up the overall health of the EORTC QLQ-30 questionnaire, Feb./Apr. of 2019.

Global Health	Answers (%)							Total
	1	2	3	4	5	6	7	n=34
How would you rate your health in general, during the last week?	2.9	2.9	11.8	14.7	32.4	14.7	20.6	100.0
How would you rate your quality of health in general, during the last week?	5.9	2.9	17.6	11.8	20.6	17.6	23.6	100.0

Source: Own elaboration based on the answers obtained through the questionnaire EORTC-QLQ30..

The aspect that presented the greatest difficulty refers to question 1 (it is harder for you to make more violent efforts, for example, carry a heavy shopping bag or a suitcase?), as 79.5%, respectively, reported having difficulty. Regarding the aspects that presented the best conditions relate to five questions (need the help to eat, dressing oneself, to wash themselves or to go to the bathroom?) and 20 (had difficulty concentrating, for example, to read the newspapers or watch TV?), with 97.1% and 70.6%, respectively, reported not having difficulty (Table 3).

Table 3 - Percentage of patients, according to the issues that comprise the Functional Scale of the EORTC-QLQ30 questionnaire30, Feb./Apr. of 2019.

Functional	Answers (%)				Total n=34
	1	2	3	4	
It is hard for you make more violent efforts, for example, carry a heavy shopping bag or a suitcase?	17.6	0.0	2.9	79.5	100.0
Is it hard for you to travel a great distance walking?	26.5	17.6	14.7	41.2	100.0
Is it hard for you to take a short walk, out of your house?	32.4	17.6	17.6	32.4	100.0
Do you need to stay in bed or in a chair during the day?	38.2	17.6	17.6	26.6	100.0
Do you need help to eat, get dressed , wash yourself or to go to the bathroom?	97.1	0.0	0.0	2.9	100.0
Did you feel limited in your job or in the performance of your daily activities?	23.5	11.8	20.6	44.1	100.0
Did you feel limited in your usual occupation of free time or other leisure activities?	29.4	14.7	14.7	41.2	100.0
Did you have difficulty concentrating, for example, to read the newspapers or watch TV?	70.6	20.6	0.0	8.8	100.0
Did you feel tense?	29.4	29.4	11.8	29.4	100.0
Did you have concerns?	8.8	35.3	20.6	35.3	100.0
Did you feel irritable?	29.4	29.4	8.8	32.4	100.0
Did you feel tense?	44.1	26.5	8.8	20.6	100.0
Did you have difficulty remembering things?	38.3	23.5	20.6	17.6	100.0
Did your physical condition or medical treatment interfere in your family life?	35.3	26.5	8.8	29.4	100.0
Did your physical condition or medical treatment interfere in your social activity?	20.6	38.2	11.8	29.4	100.0

Source: Own elaboration based on the answers obtained through the questionnaire EORTC-QLQ30..

As the scale of symptoms, the least reported were evaluated on issues one (Did you have shortness of breath?) 15, (Vomited?) and 17 (had diarrhea?) 58.8%, 61.1% and 58.8% of women reported “no” as answer. Whereas the most symptomatology refers to question 10 (needed rest?), because 41.1% of the women reported “a lot “ as a response (Table 4).

Table 4 - Percentage of patients, according to the issues that comprise the Functional Scale of the EORTC-QLQ30 questionnaire, Feb./Apr. of 2019.

Symptoms	Answers (%)				Total n=34
	No	A Little	Moderate	A lot	
Did you have shortness of breath?	58.8	23.5	11.8	5.9	100.0
Did you feel pains?	32.4	35.3	11.7	20.6	100.0
Did you need to rest?	14.7	20.6	23.5	41.2	100.0
Did you have difficulty sleeping?	35.3	26.5	0.0	38.2	100.0
Did you feel weak?	44.1	26.5	11.8	17.6	100.0
Did you have lack of appetite?	32.3	26.5	14.7	26.5	100.0
Did you have nausea?	35.3	26.5	11.7	26.5	100.0
Did you vomit?	61.8	17.6	11.8	8.8	100.0
Did you have constipation?	52.9	5.9	11.8	29.4	100.0
Did you have diarrhea?	58.8	17.6	8.8	14.8	100.0
Did you feel tired?	26.5	23.5	11.8	38.2	100.0
Did the pains disturb your daily activities?	50.0	14.7	14.7	20.6	100.0
Did your physical condition or medical treatment cause you financial problems?	20.6	14.7	26.5	38.2	100.0

Source: Own elaboration based on the answers obtained through the questionnaire EORTC-QLQ30..

The descriptive analysis of the questionnaire EORTC QLQ-30 is described in Table 5. The scale that presented the best average score was the global health with 64.46, followed by the scale of symptoms 41.38. In the scales of global health and functional, the higher the score, the better the quality of life. Whereas the scale of symptoms, the higher the score, the higher the symptomatology and, consequently, the worse the quality of life.

Table 5 - Descriptive analysis of the scales of the questionnaire of life quality EORTC-QLQ30, Feb/ Apr. 2019

Scales	Parameter		
	Mean (SD)	Median	Min - Max
Global Health	64.46 (26.30)	66.66	0.00 – 100.0
Functional	53.38 (20.66)	58.89	6.67 – 86.66
Symptoms	41.38 (22.83)	38.46	7.69 – 84.61

Source: Own elaboration based on the answers obtained through the questionnaire EORTC-QLQ30..

DISCUSSION

In the study of Pegorare (2014), the fatigue levels are significantly higher in patients who are in the chemotherapeutic treatment than those who are in radiotherapy treatment (0.0277), in a general way and when evaluated in specific behavioral, sensory and cognitive dimensions.

For Servaes *et al*. (2002) and Fan *et al*. (2005), fatigue, cited by many women treated for breast cancer, reported by several studies as a symptom that shows negative influence on quality of life. This symptom increases during chemotherapy, and, generally, many women seem to continue with fatigue after treatment, however other experience improvement of fatigue after the period of two years. Study of DeWys (1980) and Van (1982), confirms that one of the resources that contribute to the development of fatigue in patients with advanced cancer is the reduction of muscle mass and it is such loss that reduces the muscle strength and acts in a negative way in the metabolism and decrease of patient's ability to perform even in simpler tasks of daily routine.

Guimarães *et al*. (2012), regarding the subscale of the general state of global health, his data resulted discreetly in relation to the phases of the cycles of chemotherapy, in the first cycle showed a mean score (83.3%), and at the end (80.9%). According to a study by Sawada (2009) the subscale of global health achieved an average score (69.71%), concluding that the patients' quality of life was considered acceptable.

According to Härtl *et al*. (2003), during the period of chemotherapy, nausea and vomiting are frequent clinical signs that contribute to the reduction of health-related quality of life. The study by Rebelo (2007), in the symptomatic subscale of the QLQ30, the patients who underwent surgical removal of the tumor, showed lower results with respect to the symptom of dyspnea comparing to women who performed the removal of a portion of the breast.

Guimarães *et al*. (2012) reported that there is an intensity of insomnia since the beginning of the chemotherapy treatment (23.8%), as compared to last cycle which detected an increase of 50% of symptoms (45.2%). In the study by Furlan (2013), whichm questioned the financial difficulty, two groups subjected to breast reconstruction showed different scores G1 (39.39) and G2 (30.30).

CONCLUSION

Fatigue was one of the most prevalent symptoms in individuals with breast cancer, exhibiting a significant increase during the chemotherapy treatment. This impact refers directly on the patients' quality of life. This study showed that both the physical issues and the psychological and financial issues, act directly on the symptoms of fatigue and muscle weakness during the daily life activities. It is suggested longitudinal studies and with robust samples to confirm these trends.

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A FAMILY HISTORY OF CANCER AND AUTISM SPECTRUM DISORDER: A CASE-CONTROL STUDY

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Abstract: Objective: Investigate the association between family history of cancer and autism spectrum disorder. **Method:** It was carried out a case-control study comprising 243 individuals suffering from autism spectrum disorder (cases) and 886 neurotypical (controls). A semi structured questionnaire was applied and held the multiple logistic regression. **Results:** It was observed that, both in the bivariate analysis (*odds ratio*: 1.97; 95% confidence interval of 95%: 1.47-2.63) and in the multiple analysis (*odds ratio*: 1.53; 95% confidence interval of 95%: 1,11-2,11), children/adolescents with Autism Spectrum Disorder are more likely to have a family history of cancer, when compared to the teenage children without Autism Spectrum Disorder. **Conclusion:** These results may be useful in clinical and public health. Individuals diagnosed with Autism Spectrum Disorder should be tracked with more frequency for cancers which may have a genetic susceptibility.

Descriptors: Cancer; Autistic Disorder; Autism Spectrum Disorder; Case-Control Studies; Neoplasms.

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INTRODUCTION

The Autistic Spectrum Disorder (ASD) is a neurodevelopmental disorder, characterized by multiple stages of severity, leading to symptoms that include impairments in social interaction and communication, restricted interests and repetitive behavior.[1-3]

The etiology of ASD is defined by the interaction between multiple genes (polygenic) and environmental factors 1-2, characterizing a disorder of multifactorial inheritance.[1] The wide phenotypic variability of ASD may reflect the interaction between genes and environment, but also the interaction of multiple genes within the genome of an individual, and different combinations of genes in different individuals.[1]

Genetic factors account for approximately 35 to 40% among the known causes for ASD, while 60 to 65% are related to environmental, prenatal, perinatal and postnatal factors [3]

ASC is among the 10 leading causes of di-sability worldwide in children between 5 and 9 years of age,[4] this can be explained by the connection between the ASD and other health problems, including cancer.[5-6]

Studies on the genetic bases of ASD can provide information on possible links between this disorder and cancer, since these two conditions may share genetic or epigenetic alterations and changes in metabolic path of development.[7] Recent studies showed that ASD and cancer can share genetic and family factors[5-6,8-10].

Although some studies indicate a relationship between ASD and cancer, there are still few studies which analyzed the association between this disorder and history of cancer in the family (HFC), being that none was carried out in Latin America. Thus, due to the prevalence and the social impact of both conditions, the present study had as objective to investigate the association between the HFC and ASD in a population of children/adolescents in northern Minas Gerais State.

METHOD

This is a cut-off from a case-control study conducted in the city of Montes Claros, located in Minas Gerais northern - Brazil, entitled 'Autism Spectrum Disorder in Montes Claros: a case-control study that investigated the possible associations between the Autistic Spectrum Disorder (ASD) and pre, peri and post-natal factors'.

To estimate an odds ratio = 1,9,[11-12] with a 0.18 probability of exposure among controls,[13] it was opted for sample size calculation for the case study and independent control.[14] The value considered as the exposure factor was the maternal age at delivery greater than or equal to 35 years, because it was the one that presented the largest sample size in relation to the other tested (maternal age, paternal age and sex male). Thus, a study power was established of 80%, significance level of 0.05 and four controls per case. To mitigate potential losses, the sample size was increased by 10% and it was used *deff*=1.5 for correction of the design effect. The sample size required was defined in 213 cases and 930 controls.

The searches of cases were held in the files of the Municipal Department of Health and in the health insurance plans. It was found a total of eight specialized clinics in the care of children and adolescents with ASD. Visits were made in the clinics mentioned and in Northern Minas Gerais Association of Support for ASD (ANDA) to raise awareness of social and scientific study relevance. The institutions agreed to participate and provided a list with the name of children/adolescents with established diagnosis of ASD, mother's name and phone

contact, totaling 398 mothers. It was performed contact via telephone with the mothers, for clarification of research and schedule a visit.

Children/adolescents with a diagnosis confirmed by qualified professionals and whose mother replied as positive the question of data collection instrument "Does your child have a diagnosis of ASD?" were considered ASD sufferers. Thus, the case group totaled 248 children and adolescents with ASD.

The control group was composed of children and adolescents without ASD enrolled in 63 public, philanthropic and private schools of Montes Claros. Schools in which the controls were selected were the same as those cases. It was sought to identify the controls in the same age range of cases (2 to 5; 6 to 10 and 11 to 15 years) in the ratio of 4 controls per case. However, in the case group there were children (n=14) who were not attending school, thus, identified their respective controls, in units of the Family Health Strategy (FHS), these children/adolescents were neurotypical, showed no signs of ASD and were not inserted into the school environment (n=66). The sex variable intentionally was not considered in the selection of controls, because there was an interest in checking its distribution in this population, since there are still no published studies with this information in the Brazilian population.

The principals of these schools were visited to raise awareness about the social and scientific relevance of the research. These managers indicated the children/adolescents and their mothers were contacted by researchers by means of two strategies, in accordance with the requirements of the school: in regular meetings of the school or by invitation letter containing information about the purpose of the study and its social and scientific relevance.

The mothers who returned the invitation letter signed were contacted by telephone to schedule a visit and clarification about the research. Thus, a control group was formed totaling 1006 children and adolescents without signs of ASD and considered neurotypical.

It was used the *Modified Checklist for Autism in Toddlers* (M-CHAT), to make the tracking of children in the control group with signs of ASD.[15] The children/adolescents that mothers responded positively as three of the six issues of M-CHAT specific to the ASD were considered with signs of ASD and excluded from the study. Such mothers were instructed to forward their children to professionals for a better investigation.

Children/adolescents who had Down syndrome, Rett's syndrome and X-fragile syndrome were excluded from both groups, in an attempt to eliminate possible confounding factors and compromise the results of the factors associated with ASD.

The data collection instrument was built from a review of the literature. A semi-structured questionnaire containing 213 questions divided into eight groups was elaborated: characterization of the subject; demographic and socioeconomic characteristics of the parents; prenatal factors; events occurring in childbirth; neonatal factors; postnatal factors and family factors. In this article the theme cancer in the family and the ASD will be addressed.

The instrument was reviewed by a multidisciplinary team of specialists in ASD. Then the pretest was started applying the questionnaire in 10 mothers of children with a diagnosis of ASD and in 100 mothers of neurotypical children in the general population. These were not included in the study.

The instrument was applied by a team of students participating in a program of scientific initiation, who received training for standardization and harmonization of application procedures. This

instrument was used with the mothers of the case group in the period from August 2015 to January 2016, and the control group, from February to September 2016. The application was performed in a place and time arranged according to the availability of the participants' mothers and it was held in face-to-face way and individually.

The analyzed socioeconomic and demographic were: gender; age; birth weight of the child and school type of child; age of parents at childbirth; maternal and paternal schooling; skin color and maternal smoking; parity; socioeconomic class; family income and family history of cancer and degree of kinship of family members.

The socioeconomic class was evaluated according to the Brazilian Economic Classification Criteria.[16] It was chosen to categorize the education level of the parents in elementary, high school and upper level. The maternal skin color was grouped into white and non-white and self-declared by the mother. Parity corresponded to the number of children born alive or dead. As to the degree of kinship, it was considered a first-degree relative of a straight line, father and mother, second degree the brothers and grandparents, and any other degree of kinship was included in the category "other degrees".

Frequency distributions were performed for all variables, according to the case and control groups. To evaluate the association between ASD and the other variables the chi-square test (χ^2) was used, and those variables that showed a descriptive level (p value) lower than 0.20 were selected for multivariate analysis. In the multiple analysis the model of logistic regression was adopted, whose magnitude of the association between the outcome and independent variables was estimated by *odds ratio* with respective intervals of 95% confidence intervals. To evaluate the quality of the model adjustment it was adopted the Hosmer & Leme show test and the Nagelkerke pseudo-R^2 statistics. The data statistical analysis as performed using the software Statistical *Package for the Social Sciences* - SPSS version 23.0 (IBM - Chicago, USA).

This study was approved by the Committee for Ethics in Research (CEP) of State University of Montes Claros- Embodied Legal Opinion no 534.000/14), and all those responsible for the children/adolescents signed the Informed Consent Form.

RESULTS

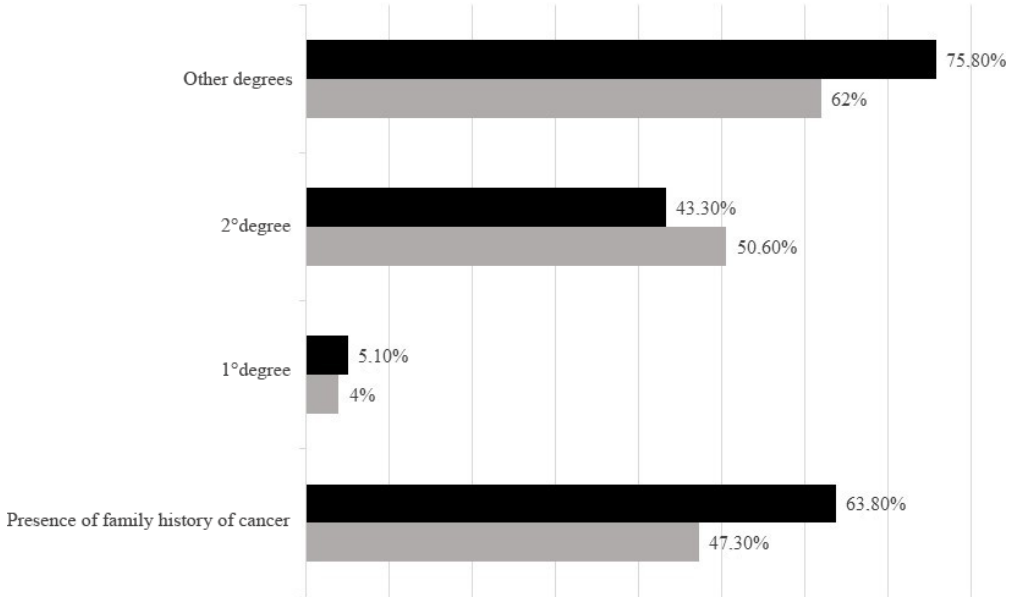
1134 children/adolescents were included of which 248 had a diagnosis of ASD (case group) and 886 showed no signs of ASD (control group). The majority of the sample was male, studied in public and/or philanthropic schools and belonged to the socioeconomic classes B or C. It was found that there were about four boys for each girl with ASD in the case group, and the proportion of a boy for every girl in the control group.

The participants of the case and control groups were paired by age and type of school who attended and showed to be similar in relation to these variables and social class which belonged to (p=0.115). The mean age was 6.4 years (SD=3.6) in the case group and 6.6 years (SD=3.4) in the control group (p=0.521), with minimum age of two and a maximum of 15 years.

It was observed that the children/adolescents who had a family history of cancer were more common in the case group than in the control group, showing a statistically significant association. The degree of kinship of family members was presented in Chart 1.

Data source: own research

Chart 1 - Family history of cancer and degrees of kinship of family members of children/adolescents of case and control groups. Montes Claros - MG, 2016.



Data source: own research

The frequency of individuals in the case group was also significantly higher than the control group in relation to being born with low birth weight. Regarding the data of parents, it was found out that, the percentage of mothers of children with ASD, with age at the moment of birth is greater than or equal to 25 years, was higher than that observed in the control group. Whereas the father's age showed no significant difference between the groups. In terms of schooling, there was statistically significant difference, with predominance, in the percentage of parents in the case group with higher level, and parents with elementary school level in the control group. The percentage of mothers who self-declared to have white skin color was significantly greater in the case group. The mothers of the case group are more likely to have only one child. There was no difference between the groups in relation to the mothers' smoking habit. It was also observed that the percentage of families of children/adolescents with ASD who received more than six minimum wages was significantly higher when compared to the control group. However, the percentage of households with incomes lower than two minimum wages was significantly higher in the control group (Table 1).

Table 1 - Distribution of Cases and control according to family history of cancer, characteristics of children and their parents, Montes Claros - MG, 2016.

Variables	Case group n (%) n=248	Control Group n (%) n=886	Total* n (%)	p-value**
Family History of cancer				
Yes	157 (63.8)	403 (47.3)	560 (51.0)	**<0.001**
No	89 (36.2)	449 (52.7)	538 (49.0)	
Children's data				
Sex				
Male	201 (81.0)	449 (50.7)	650 (57.3)	**<0.001**
Female	47 (19.0)	437 (49.3)	484 (42.7)	

Variables	Case group n (%) n=248	Control Group n (%) n=886	Total* n (%)	p-value**
Low birth weight (<2,500 grams)				
Yes	40(16.1)	93(10.5)	133(11.7)	**0.015**
No	208(83.9)	793(89.5)	1001(88.3)	
Mother's data				
Age (delivery)				
≥35	53(21.4)	149(16.8)	202(17.8)	**<0.001**
25 to 34	149(60.1)	443(50.0)	592(52.2)	**<0.001**
<25	46(18.5)	294(32.0)	340(30.0)	
Schooling				
Upper level Education	109(44.0)	291(32.9)	400(35.3)	**0.006**
High School	106(42.7)	450(50.9)	556(49.1)	
Elementary School	33(13.3)	143(16.2)	176(15.5)	
Skin color (self-declared)				
White	66(26.6)	149(16.8)	66(26.6)	**0.001**
Non-white	182(73.4)	737(83.2)	182(73.4)	
Parity				
1	90(36.7)	245(28.7)	335(30.5)	**0.015**
> 1	155(63.3)	610(71.3)	765(69.5)	
Smoking				
No	239(97.6)	845(97.1)	1084(97.2)	0.721
Yes	6(2.4)	25(2.9)	31(2.8)	
Father's data				
Age (delivery)				
<35	152(61.3)	595(67.2)	747(65.9)	0.085
≥35	96(38.7)	291(32.8)	387(34.1)	
Schooling				
Upper level Education	72(30.3)	162(19.1)	72(30.3)	**0.001**
High School	113(47.5)	433(51.2)	113(47.5)	
Elementary School	53(22.3)	252(29.7)	53(22.3)	
Family income* **				
> 6 minimum wages	55(22.2)	134(15.1)	189(16.7)	**0.031**
2 -6 minimum wages	97(39.1)	373(42.1)	470(41.4)	
< 2 minimum wages	96(38.7)	379(42.8)	475(41.9)	

*The totals may vary depending on the variables that were not answered (*missing*).
**Chi-square test
***Minimum Wage in force: R$ 880.00.
***Data source: own research

After multiple logistic regression analysis adjusted for family history of ASD, Sex; Low birth weight; parity; age and skin color of the mother; the variable family history of cancer remained positive and significant association with ASD (OR = 1.53;IC 95% :1,11-2,11) (Table 2).

Table 2 - *odds ratios crude and adjusted* with their respective intervals of 95% confidence intervals for the autism spectrum disorder according to family history of cancer, characteristics of children and parents. Montes Claros - MG, 2016.

Variables	ORb (IC95%)	p-value*	ORa (IC95%)	p-value*
Family History of cancer				
Yes	1.97 (1.47-2.63)	**<0.001**	1.53 (1.11-2.11)	**0.010**
No	1.00		1.00	
Children's data				
Sex				
Male	4.16 (2.65-5.87)	**<0.001**	3.91 (2.72-5.62)	**<0.001**
Female	1.00		1.00	
Low birth weight				
Yes	1.66 (1.11-2.48)	**0.013**	1.88 (1.21-2.94)	**0.005**
No	1.00		1.00	
Mother's data				
Age (delivery)				
≥35	2.27 (1.46-3.54)	**<0.001**	2.07 (2.27-3.40)	**0.004**
25-34	2.15 (1.50-3.09)	**<0.001**	2.07 (1.40-3.06)	**<0.001**
< 25	1.00		1.00	
Mother's skin color (self-declared)				
White	1.79 (1.29-2.50)	**0.001**	1.58 (1.08-2.30)	**0.018**
Non-white	1.00		1.00	
Parity				
1	1.45 (1.07-1.95)	**<0.001**	1.76 (1.20-2.59)	**0.004**
> 1	1.00		1.00	

ORb= *Gross Odds;* OR_A= *adjusted Odds ratio* ; IC: Confidence interval. Adjusted by family history of ASD.
**Chi-square test.
X^2_{HL} = 10.63 (p=0.224); Pseudo R^2_N =0.208; -2 $\log_V$ = 972.02.
HL= Hosmer-Lemeshow test; N= Nagelkerke's; V= Verisimilitude.
Data source: own research

DISCUSSION

In recent years, some studies have called attention to the possible relationship between cancer and ASD.[5-6,8-10] which, in principle, caused a surprise by being conditions that apparently were not factors in common. However, due to the high degree of genetic, clinical and etiological heterogeneity observed both in ASD and in cancer, relationship has been found between both conditions. This observation is intriguing, but not entirely new. Many important genes for the neurodevelopment are also implicated as potential conductors of neoplastic disease.[6]

In this case-control study that investigated the HFC and ASD in a Brazilian population, it was observed that, both in the bivariate analysis and multivariate analysis, the children/adolescents with ASD are more prone to have HFCS, when compared to children and adolescents without ASD. ASD, in the case group, was more common in first-degree relatives (father and/or mother) and in any other degree of kinship (cousins, uncles, great-grand parents, etc.), except in the second degree relatives (sisters/brothers and grandparents).

Similar results were mentioned by Ingudomnukul et al.[17] upon ascertaining that women and

children with ASD had a greater incidence of having one or more close relatives with cancer. These authors also identified that mothers of children with ASD also exhibited greater HFCS in comparison with controls. In addition, mothers of children with ASD demonstrated to be approximately 50% more likely to die of cancer than those of offspring without ASD.[18]

Kao et al.[19] observed epidemiological associations between the prevalence of ASD and the incidence of cancer and pointed out that there may be an association between the ASD and specific forms of cancer. Darbro et al.[6] found that people with ASD showed an increase in rare variation of codification of oncogenes but decreased the rates of cancer in comparison with the controls. And these differences were more evident among younger people, aged 0 to 14 years, with a rate almost 10 times lower of neoplasms.[6] This fact may explain the findings of the present study that showed a higher percentage of HFCS in relation to degree of kinship, except in the second degree, since it was the group with the greatest number of people with more advanced age.

There are approximately 800 genes related to ASD and 3500 genes associated with cancer, of these, approximately 138 genes are common among the ASD and cancer.[8] These genes, observed both in ASD such as cancer, are widely expressed and are involved in a variety of biological activities,[9] such as the processes related to the immune system, to inflammation, the mitochondrial dysfunction,[10] and the signal transduction pathways that involve metabolic processes.[8] Therefore, it is reasonable to expect that different subgroups of individuals with ASD exhibit different patterns of association with cancer.[10]

In addition to the genetic factors, other mechanisms may be involved with cancer, such as prenatal effects on the reservoirs of stem cells,[20] and on the hormone levels in the cancers development.[7]

In relation to the prenatal factors, at the end of years 90, Baron-Cohen developed a theory to explain the autism, systemising theory according to which there would be typical psychological differences between the sexes. In this theory, the hypothesis is that the female brain is more developed for empathy, while the male for the systematization. In this context, the ASD would represent an extreme form of "male brain" with lack of empathy, associated with a total or superior capacity of systematization. The theory of "*cérebro extremamente masculino*" (*extreme male brain* - EMB) suggests that ASD is part of a continuum related to sex differences, and that its cause may be the hyper-masculinization at the biological level.[21]

These theories postulate that the increase of signs of cellular proliferation, due to increased levels of sex steroids or defects of *imprinting*, you can deregulate growth and trigger malignancy in mitotic cells, while in post-mitotic cells, such as neurons, affect other properties of growth (neurodevelopment).[6] Thus, it may provide a higher incidence of cancer in ASD due in part to increased growth (which modulates the risk of cancer), and, in part, to the effects of deregulation of gene printed on somatic evolution of cancer.[7] The neurodevelopment and oncogenesis are processes that occur in multiple stages, and it is possible that signaling through these same pathways of cell proliferation may have different effects depending on the embryological time, as well as the cellular type and the mitotic state.[6]

The theory of "extremely male brain" could also explain another finding in our study, that children/adolescents with ASD had a chance of approximately four times to be male. Proportion of four male children for a female were also found in other regions of the world.[22-25]

Also, it was found that children/adolescents with ASD presented a greater chance of having been

born weighing less than 2,500 g, have mothers aged over 24 years, white skin color and having only one child.

Several explanations have been reported to justify the possible relationship of ASD with increasing maternal age, among them, it is possible to highlight the new mutation[26-27] and the epigenetic.[1] As described previously, epigenetic changes may also be related to cancer.[7] Furthermore, complications in pregnancy and childbirth may still have relation with the ASD.[23-25] These complications are more evident in older women, given that, to the extent that the female body matures, its functions become critical to healthy conception, to the fetal development and postnatal development.[28]

Among the limitations of this study, it is possible to point the possibility of memory bias in the mothers' response. However, to alleviate this limitation, it was requested to mothers the prenatal card and the book of vaccine at the time of interview, aiming at the data confirmation, and there was consistency between the mothers' reports and the documents. Another limitation was the fact that the diagnosis of ASD in children/adolescents were not carried out by a team of researchers from the present study, making it impossible to verify the criterion adopted. It is worth mentioning that all individuals included in the case group were in follow-up of qualified and specialized professionals in ASD, fact which ensured that they had the disorder. Another relevant aspect concerns the lack of information on the type of cancer that the relatives presented, making it impossible to check what type of cancer is more common in families of children/adolescents with ASD.

It should be emphasized, moreover, that this is the first study on the HFC and the ASD conducted in Latin America with a sample size of this magnitude (248 cases and 886 controls), whose main strengths include approximately four controls per case; and random selection of controls are representative of the general population, with tracking of possible children with signs of ASD.

CONCLUSION

It was found that children/adolescents with ASD have a greater chance of having family with HFC. These findings are in agreement with Wen et al.[9] who suggested that genes associated with ASD may contribute not only to the central characteristics of ASD, but also for the vulnerability to other chronic and systemic problems, such as cancer.

Although the scientific evidences pointing to the presence of associations between ASD and cancer, more molecular and population studies are needed to investigate the connection of other family and genetic factors that contribute to ASD and cancer. These studies may be useful in clinical and public health, and individuals diagnosed with ASD should be tracked with more frequency for cancers which may have a genetic susceptibility.

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FAMILY HISTORY OF CANCER, DEMOGRAPHIC PROFILE AND STYLE OF LIFE OF THE POPULATION ASSISTED IN A CANCER PREVENTION PROGRAM

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Abstract:Objective: Describe the sociodemographic characteristics, lifestyle and family history of neoplasms of the assisted in the 9th Task Force for Cancer Prevention. **Method:** Descriptive and quantitative study whose data were obtained from the records of visits to the population assisted by the Task Force for Cancer Preventioon in 2019. **Results:** The total population assisted was 2598, being 64.3% of females. In Dentistry, the total number of participants was 357, with an average age of 57.7 years, 51.5% had a maximum of primary schooling, 60.3% reported family history of cancer. In Urology, the total number of patients was 603, with an average age of 61.4 years, 67.1% had elementary school. Nutrition received 339 individuals, 46.8% had the elementary school, 57.6% reported family history of cancer. The total number of patients of Mastology was 525, 48.4% had elementary school, 70.1% reported family history of cancer. Cytology received a total of 338 women, with an average age of 52.7 years, 49.4% had elementary school, 64.8% reported family history of cancer. In Dermatology a total of 436 individuals were attended, with an average age of 61.1 years, 57.6% had full elementary school, 64.9% reported family history of cancer. **Conclusion:** Before the demographic profile of the population assisted, it is realized the importance of developing programs that popularize the performing of screening examinations of the most prevalent neoplasms of the country.

Descriptors: Neoplasia; Socioeconomic Factors; Early Diagnosis; Epidemiology; Heredity.

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INTRODUCTION

In recent decades, in general, there was significant growth in the incidence of neoplasms, already occupying the second leading cause of death in most countries[1]. In Brazil, it is expected that in the years 2018 and 2019, 600 thousand new cases arise of cancer each year, being breast, prostate, lung and cervix cancer some of the most prevalent ones[2].

Screening is important to decrease in the occurrence of cases of cancer, especially among the population with lower socioeconomic level, since this group has a higher incidence of neoplasms in general, in addition to the late diagnosis of the disease[3]. The greatest difficulty in diagnosis and appropriate treatment, together with the logistics and technological limitations of the Unified Health System (SUS),which result in a low population coverage, are factors that worsen the prognosis and survival of these patients[4,5]. In a study that investigated the difficulties of screening for breast cancer in the country, it was found that low-income women with low education levels are the most disadvantaged in this context[5].

The increase in life expectancy is another factor that influences the increase in the cancer incidence[6]. In these circumstances, it is necessary, in addition to health promotion, disease prevention with change of lifestyle and elimination of external risk factors, especially in the poorest population[7]. In a review of the literature, it was identified an association between the incidence of cervix cancer and the low socioeconomic level due to multiple sexual partners and absence of condoms in sexual relations, increasing the risk of contamination by human papillomavirus (HPV)[4].

The intrinsic risk factors, such as age; heredity; race and gender correspond to an important part in the genesis neoplastic disease, especially when associated to environmental factors[8]. Cancer of the breast, stomach and intestines are those which most relate to the family component to their development[2.8]. In this population the achievement of screening tests should be started earlier, in order to avoid the late diagnosis[8].

It is identified, therefore diversity of variables and obstacles that hinder the early diagnosis and prevention of cancer in Brazil. In this context, the objective of this study was to describe the sociodemographic characteristics and style of life of assisted in the 9th Task Force for Cancer Prevention, idealized by Associação Presente to support patients with cancer - Padre Tiãozinho, as well as to estimate the prevalence of cancer family history in this population.

METHOD

It is a descriptive and quantitative study whose data were obtained from the records of visits to the population assisted by the Task Force for Cancer Prevention in 2019.

The data were collected using specific sheets for each type of specialty (Cytology, Dermatology, Mastology, Nutrition, Dentistry and Urology). All the sheets contemplated sociodemographic variables (gender, age, marital status and schooling), lifestyle (smoking, alcohol consumption and physical activity practice) and epidemiological surveillance (family history of cancer). The Dermatology investigated specific risk factors for the development of skin neoplasms (excessive sun exposure and use of sunscreen).

The information collected was digitized in spreadsheets (Excel) by specialty. The results were described using graphics and table of frequencies according to the specialty. For tabulation and analy-

ISSN 2236-5257

sis of the information it was made use of SPSS statistical software.23.0.

The project of the present study was approved by the Ethics Committee of the State University of Montes Claros - no 3.289.344.

RESULTS

The total population assisted by the Task Force for Cancer Prevention was 2598, being 64.3% of females. The specialty Urology was the one that answered the greatest percentage of participants, 23.2% (Table 1).

Table 1 - Total assisted in the 9th Task Force for Cancer Prevention. Montes Claros, MG, Brazil, 2019

Specialties	N	%
Cytology	338	13.0
Dermatology	436	16.8
Mastology	525	20.2
Nutrition	339	13.0
Dentistry	357	13.7
Urology	603	23.3
Total	2598	100.0

In dentistry, the total number of participants was 357, with an average age of 57.7 (±13.0) years, whose majority was female, 66.3%. Regarding marital status, 47.0% were married or under common law marriage and 51.5% had schooling up to complete elementary school. There was a higher prevalence of individuals who had never smoked (67.5%) and never drunk, 65.8% (Table 2). Among the participants, 60.3% reported family history of cancer (Graph 1).

In relation to the Urology, the total number of patients was 603, with an average age of 61.4 (±5.5) years, of which more than half (67.1%) had schooling up to the elementary school. There was a higher prevalence of nonsmokers (52.6%) and alcoholists (41.7%). It was observed the practice of physical activity three or more times a week in 40.8% of the participants (Table 2). Among the participants of this specialty, 39.6% reported family history of cancer (Graph 1).

In turn, Nutrition received 339 individuals, the majority were females (78.5%) and with a mean age of 57.8 (±13.1) years. Approximatelly half of the participants were married or under common law marriage and 46.8% had schooling up to complete elementary school. There was a higher prevalence of individuals who had never smoked (79.9%) and never drunk (67.2%). It was observed the practice of physical activity three times a week in 25.6% of the participants (Table 2). Among the participants, 57.6% reported family history of cancer (Graph 1).

The total of patients of Mastology as 525, with an average age of 56.2 (±8.6) years, whose majority was female (99.6%). More than half of the participants (58.3%) were married or under common law marriage and 48.4% had complete elementary school. There was a higher prevalence of nonsmokers (78.5%) and did not consume alcoholic beverages (73.9%). It was observed the practice of physical activity three or more times a week in 33.2% of the participants (Table 2). Among the participants, 70.1% reported family history of cancer (Graph 1).

In Dermatology, the total number of participants was 436, with an average age of 61.1 (±12.4) years, whose majority was female sex (72.0%). More than half of the participants (53.9%) were married or under common law marriage and had elementary school.(57.6%) There was a higher prevalence of individuals who had never smoked (70.6%) and never drunk (64.4%) (Table 2) and 64.9% reported family history of cancer (Graph 1). Regarding the use of sunscreen, 54.1% claimed not to use. In addition, 56.7% reported excessive sun

exposure (Table 3).

Table 2 - Sociodemographic profile and style of life of individuals assisted in the 9th Task Force for Cancer Prevention. Montes Claros, MG, Brazil, 2019

Variables	Odon (n=357)	Urol (n=603)	Nut(n=339)	Mast(n=525)	Derm (n=436)	Cit (n=338)
	%	%	%	%	%	%
Sex						
Male	33.7	100.0	21.5	0.4	28.0	0.0
Female	66.3	0.0	78.5	99.6	72.0	100.0
Age Range						
<40 years	6.7	0.0	9.8	3.4	5.1	8.9
40 to 59 years	46.1	39.1	43.2	57.9	34.9	63.6
≥ 60 years	47.2	60.9	47.0	38.7	60.0	27.5
Marital Status						
Single	28.7	17.1	24.0	19.9	19.6	15.4
Married	47	67.2	49.0	58.3	53.9	64.7
Divorced	11	10.9	10.8	10.1	12.4	10.1
Widowed	13.3	4.8	16.2	11.7	14.1	9.8
Schooling						
Illiterate	4.5	6.1	5.4	7.1	4.4	0.9
Elementary School	51.5	61.4	46.8	48.4	57.6	49.4
High School	35.7	29.7	37.5	36.1	31.0	42.5
Upper Level	8.3	2.7	10.3	8.4	7.0	7.2
Smoking						
Yes	11.4	10.5	5.1	2.9	5.0	5.9
Never smoked	67.5	52.6	79.9	78.5	70.6	82
Fomer smoker	21.1	36.7	15.0	18.6	24.4	12.1
Alcoholist						
Yes	23.0	41.7	25.4	16	24.3	25.8
Never dran	65.8	28.4	67.2	73.9	64.4	66.2
Former alcoholist	11.2	29.8	7.4	10.1	11.3	8.0
Physical activity						
None	-	38.2	50.7	48.8	-	-
Once	-	7.5	9.2	6.8	-	-
Twice	-	13.5	12.5	11.2	-	-
Three times of more	-	40.8	25.6	33.2	-	-

Odon: Dentistry;
Urol:Urology;Nut:Nutrition;Mast:Mastology;Cit:Cytology;Derm:Dermatology.

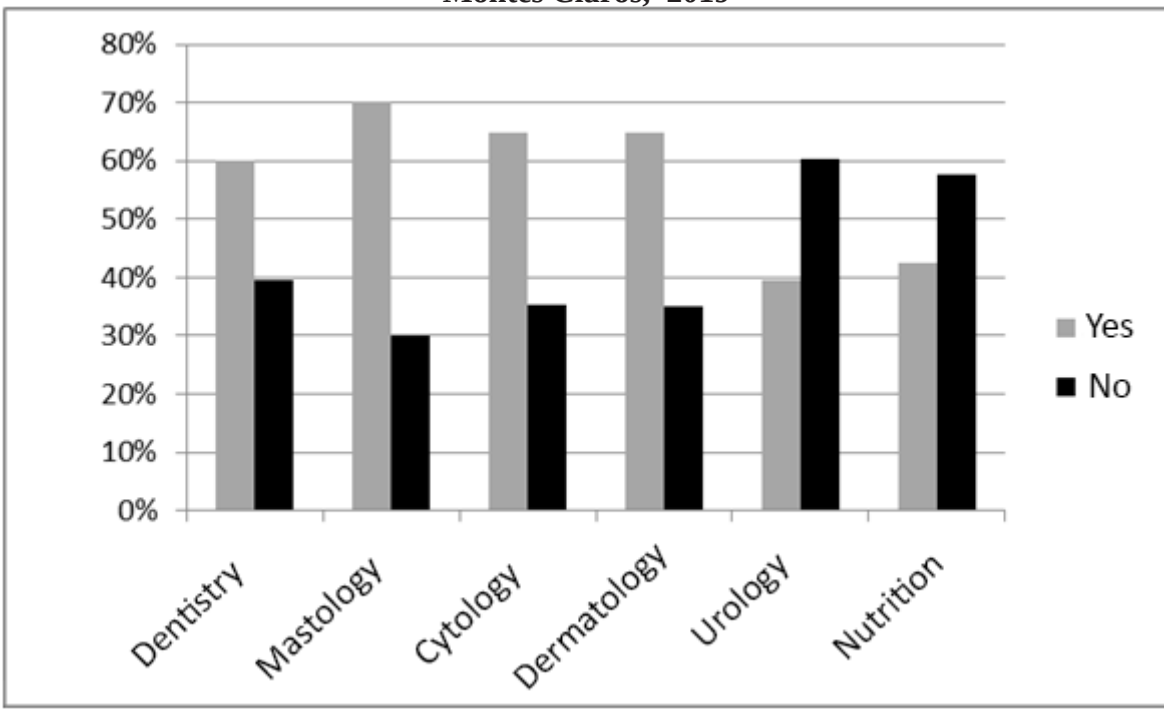
Table 3 - Risk factors for skin cancer. Montes Claros, MG, Brazil, 2019

Characteristics	N	%
Excessive exposure to the sun		
Yes	247	56.7
No	189	43.3
Use of sunscreen		
Yes	236	54.1
No	200	45.9

ISSN 2236-5257

In cytology it was observed the participation of 338 women, with an average age of 52.7 (±9.4) years. More than half (64.7%) of the participants were married or under common law marriage and 49.4% had elementary school (complete or incomplete), 82% had never smoked, 66.2% neverdrunk (Table 2) and 64.8% reported family history of cancer.

Graph 1 - Family history of cancer patients assisted in the 9th Task Force for Cancer Prevention. Montes Claros, 2019



DISCUSSION

In addition to being the largest portion of the assisted in the 9th Task Force for Cancer Prevention, the female audience was the majority in all the specialties. However, the attendance was not specific to any sex, evidencing the female self-care. The carelessness in men in relation to health is due to education and social relations, in which the image of man is represented by the strength and invulnerability[9]. As a result, there is a greater exposure to risk factors, reducing the life expectancy and increasing the mortality rate in this group[10].

The female self-care is also evident, the results of this study, comparing the predominant age range of patients who visited the majority specialties or exclusively female (Mastology and Cytology) and males (Urology). Approximately 60% of the women were between 40 and 59 years, already the largest male portion (61%), were older than than 60 years. Studies suggest a positive association between age and the diagnosis of metastatic neoplasia, mainly in the stomach cancer and breast cancer, which reinforces the preventive character of the 9th Task Force[3].

On the other hand, only 8.9% of the visitors in the specialty cytology were aged less than 40 years. Considering that HPV infection is mainly between 20 and 24 years, it is worrying the lack of women in this age range in the Task Force[11]. In addition, approximately one fifth of patients make or made use of cigarettes, and one third are or were alcoholics, these being one of the main risk factors

for the development of cervix cancer[11]. In a study with 2076 women cared for in a Family Health Strategy of Juiz de Fora, HPV was present in 12% of smokers and 17% of patients who were using some alcoholic drink[12].

In relation to the specialty of dermatology, the fact that half of the patients did not use sunscreen and have excessive exposure to ultraviolet radiation draws attention, in the research results. The gathering of these variables contributes to the development of non-melanoma skin cancer, since they are the main risk factors for this neoplasm, together with family history and skin color[13]. The aggravating factor in the sample is that 60% of the patients were 60 years or more, which considerably increases the chances of occurrence of this type of cancer, since this population is exposed for a long time to several environmental factors and have deficient immune system[14]. Although this type of neoplasia does not have high rates of mortality, it is the most prevalent in the country, among men and women, which reinforces the importance of health promotion held in the Task Force[2].

This result also shows that, of the total number of patients assisted in the specialties of Urology, Nutrition and Mastology, 45% did not practice physical exercise at least once a week, being one of the external risk factors for the development of cancer[15]. Studies show that the practice of physical activity reduces by 30% this risk in addition to improving the physiological functions of oncologic patients[16]. In a study conducted with 52 women with breast cancer, it was observed that physical exercise significantly decreased the symptoms related to neoplasia[17].

The highest rates of patients who have contact with cigarette, occurred in Dentistry, totaling approximately 11.4% of the assisted in this specialty, being one of the most important risk factors for neoplasms of the head and neck[8]. According to data from a research based on 37,098 hospital records of this type of cancer in the country, between the years of 2000 and 2014, 90% of these patients had the habit of smoking and/or drinking[18].

In relation to the level of schooling, it was realized that over half of the assisted had only until the elementary school, complete or incomplete, being one of the limiting factors for the adhesion of activities of health promotion and prevention, due to the difficulty of access to information and screening[5]. In a study conducted in the United States, when the incidence of all types of neoplasms was evaluated between 1950 and 2014, it was observed that the late diagnosis is associated with both the degree of literacy, as well as with the economic condition of the patients, especially in breast and colorectal cancer[3].

Finally, attention is drawn that at least 60% of the assisted in four of the six specialties had a family history of some type cancer, with emphasis to mastology, where the indices reached 70%. This last one, deserves greater attention precisely because of breast cancer has high correlation with heredity, due to mutation of the BRCA 1 and BRCA 2[19]. Moreover, the obtained results corroborate with a study conducted with patients suffering from breast cancer in Curitiba, where 60% said they have a family history of cancer in relatives of second degree and 25% reported cases of neoplasia in patients from the first degree[20].

CONCLUSION

Considering the style of life and the high prevalence of family history of neoplasms of the population assisted by the 9th Task Force for Cancer Prevention, the research results underline the importance of developing programs that popularized the conducting of screening examinations of the most prevalent neoplasms of the country, especially in the population with lower socioeconomic

ISSN 2236-5257

condition, where there are major risk factors.

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EPIDEMIOLOGICAL MAP ON THE PANCREATIC CANCER IN BRAZIL

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Abstract:Objective: Analyze the epidemiology of pancreas cancer in Brazil in order to contribute to the understanding of the reality in the country and improve the detection of new cases in places with high incidence and prevalence. **Method:** This is a descriptive cross-sectional study, whose data source was the Hospital Information System of the Unified Health System (SIH/SUS). The target population included patients with cancer of the pancreas, registered in Brazil, between 2008 and 2018. **Results:** 80,199 hospitalizations were recorded during the study period. The South region presented the highest prevalence per 100,000 inhabitants (77.39) and the male sex was responsible for 50.68% of hospitalizations. The most affected age group was 60-69 years (29.89%), with predominance of the white race (50.10%). The Southeast region presented 10,908 deaths and the mortality rate was higher in the northern region (29.3). **Conclusion:** These data allowed to characterize the epidemiological profile of pancreatic cancer in Brazil. It was found that white men showed a high rate of hospitalization. With the progressive increase in the number of hospitalizations for pancreas cancer and the great demographic impact of this disease in Brazil, it was noted the need for improvement of public policies for the prevention of this disease.

Descriptors: Epidemiology; pancreatic neoplasms; Brazil; Mortality; Morbidity.

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INTRODUCTION

Pancreas is an organ located in the abdominal cavity, more precisely in the supramesocolic compartment and anatomically consisting of three parts: head, body and tail; being the head the site with higher index of neoplastic involvement[1]. In addition, it presents itself in a retroperitoneal position, which makes invisible the development of pancreatic cancer and nearly impossible its early diagnosis[1].

The pancreas cancer is considered one of the tumors with a higher rate of lethality, approaching to 100%, although its incidence is rare in comparison to other neoplasms[2]. It is a neoplasm with a predominance in males and after 60 years of age, with only 10% of cases it develops before the age of 50 years[3].

In Brazil, the pancreas cancer comprises only 2% of all malignant neoplasms and is responsible for 4% of deaths caused by neoplasms[3]. The highest mortality rates are found in the South and Southeast regions of the country, with rise in other regions[3.4].

The ductal adenocarcinoma is the most common subtype, responsible for about 95% of the cases[3]. This histological subtype has a high mortality rate, with a survival rate of five years after the diagnosis[4]. The main risk factors attributed to this neoplasm are: smoking, considered the main environmental factor, present in 30% of the affected individuals; chronic pancreatitis; obesity; sedentarism; cirrhosis; diabetes mellitus; food rich in fat; exposure to the various carcinogens; besides positive family history for the neoplasm, once the genetic contribution can be seen in 10% of the cases [4].

Among the symptoms it is worth mentioning the vague abdominal pain in the epigastric region, weight loss, weakness, dizziness and loss of appetite[2]. Jaundice may be present when there is obstruction of the choledochal duct by the tumor, especially when this is located at the head of the pancreas. With the progression of the disease, severe pain in the region of the dorsum predominates among the symptoms[1].

Currently, diagnostic methods consist mainly of imaging examinations, such as computed tomography of the abdomen, abdominal ultrasound and magnetic resonance imaging, in addition to the biopsy of the pancreatic tissue for histological confirmation[4]. Surgical resection is the only chance of cure for the disease, however, approximately 80% of patients already have a non-resectable tumor at the time of diagnosis [1.4].

Despite the advances in diagnosis and treatment, the cancer of the pancreas continues to have the lowest rate of survival among the other neoplasias, and 74% of the patients die in the first year and less than 6% surviving in a period longer than five years. In addition, the survival rate for patients who cannot perform the surgical resection is still challenging, being on average just 12 months. [3.4]

Before exposed above, the current study aimed to analyze the epidemiology of pancreas cancer in Brazil in order to contribute to the understanding of the reality in the country and improve the detection of new cases in places with high incidence and prevalence.

METHODOLOGY

The study was conducted in Brazil, which has a territorial extension of 8,510,820.623 km², divided into 5,570 municipalities and an estimated population, in the year 2018 of 208,494,900 inhabitants [5] Aiming to achieve an approach of the epidemiological profile updated about pancreas in Brazil, it was opted for a cross-sectional descriptive study, based on the computerized system of population-based cancer registry, supplied by

INCA and arranged by DATASUS, between the period from 2008 to 2018. Through this database, all cases referenced were evaluated quantitatively, in the public and the private sphere of the confirmed cases of pancreatic cancer in the studied country.

The study variables were divided into: number of hospitalizations (related to rate of mortality and deaths); region; sex; age range and race. Through this approach, it was possible to summarize the studies already established and draw conclusions from the topic of interest. All confirmed cases diagnosed with pancreas cancer were included in the study that were referred to treatment. All cases which, although notified, had no diagnostic confirmation were excluded from the analysis.

Exploratory and descriptive analyzes were performed of the data, from the simple calculation of absolute and percentage frequencies, and that these were reorganized in graphs and tables. For the elaboration of analysis and distribution of proportions, the Z-test was employed All the evaluated data were cases reported as confirmed, so the inference abstains of cases without confirmation of the diagnosis or which contained inconsistencies.

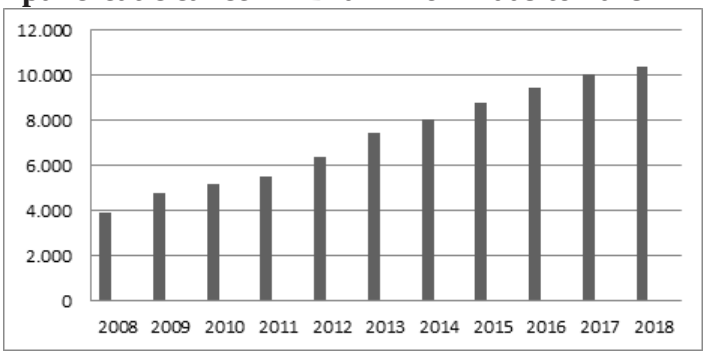
The data were analyzed by the software Microsoft Excel 2007 and the results were presented by means of table in Microsoft Word 2007. The research in question, by collecting data in the public domain, did not require the approval of the Committee on Ethics in Research by not identifying the research participants and not requiring testing in humans, ensuring the bioethics data consultation, according to the resolution 466/2012 of the Plenary of the National Council of Health [6].

RESULTS

In the period from January 2008 to December 2018 there was a total number of 80,199 cases of hospitalizations for pancreatic cancer in Brazil. It was observed a progressive increase in the number of hospitalizations in the last ten years: from 3,941 cases in 2008 to 10,376 in 2018 (Figure 1).

Figure 1 demonstrates that the number of hospitalization for pancreas cancer per year: in 2008 (3,941 cases), 2009 (4,789 cases), 2010 (5,149 cases), 2011 (5,506 cases), 2012 (6,374), 2013 (7,466 cases), 2014 (8,037 cases), 2015 (8,798 cases), 2016 (9,465 cases), 2017 (10,054 cases) and 2018 (10,376 cases).

Figure 1 - Number of hospitalizations for pancreatic cancer in Brazil from 2008 to 2018



Source: Hospital Information System of SUS (SIH/SUS).

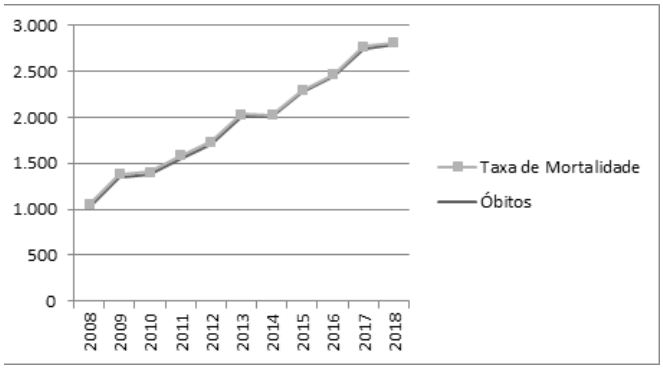
The prevalence of hospitalizations per 100,000 inhabitants in the period from 2008 to 2018 shows that the South region is the one that presents higher prevalence of hospital admissions (77.39), followed by the Southeast region (50.30), Midwest (34.44), Northeast (21.72), North (14.70) - (Figure 2)

Figure 2 - Prevalence of hospitalizations due to Pancreatic neoplasms in Brazil per 100,000 inhabitants in the period from 2008 to 2018

Source: Hospital Information System of SUS (SIH/SUS).

Regarding the number of deaths, from January 2008 to December 2018 21,281 deaths were accounted due to pancreas cancer in the country. In 2008, 1024 deaths were recorded due to pancreatic cancer, being accounted for in the subsequent years: 2009 (1,353) (1,380); 2010; 2011; 2012 (1,559) (1,709) (2011; 2013; 2014) (2,001) (2,267); 2015; 2016; 2017 (2,445) (2,747) and in 2018 were 2,785 deaths. The rate of mortality accompanied the data obtained in the record of total deaths when analyzed by year of processing (Figure 3).

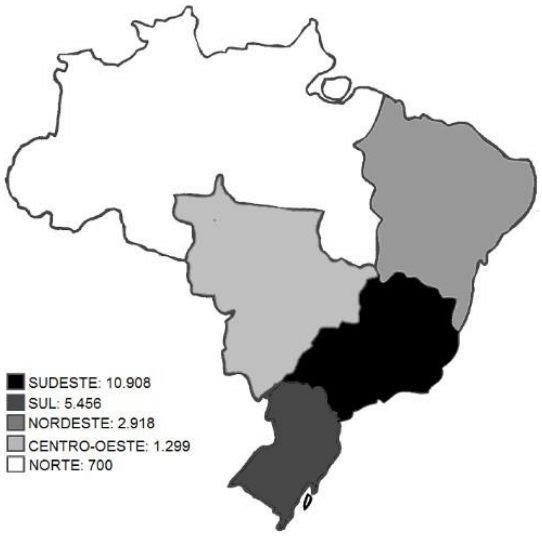
Figure 3 - deaths and mortality rate of pancreatic cancer in Brazil according to year of processing, in the period from 2008 to 2017



Source: Hospital Information System of SUS (SIH/SUS).

Figure 4 depicts the number of deaths due to pancreas cancer in Brazil by macroregion of the country, it is verified, therefore, that the region with the largest number of deaths is the Southeastern region (10,908), followed by the South Region (5,456), Northeast (2,918), Midwest (1,299) and the Northern region (700), according to data from the Hospital Information System of SUS in the period from 2008 to 2018. Figure 5 represents the mortality rate in accordance with the macroregions of the country: mortality in the northern region (29.3), followed by the Midwest region (27.63), Southeast (26.98), South (25.39) and Northeast (25.30). The total rate of mortality in Brazil was 26.54. And as presented, the highest percentages of patients with pancreatic cancer were recorded in males, white and aged between 60 and 69 years (Table 1).

Figure 4 - Total of deaths by pancreas neoplasm in Brazil according to the regions in the period from 2008 to 2018



Source: Hospital Information System of SUS (SIH/SUS).

Figure 5 - Mortality rate by Cancer Neoplasm in Brazil according to the regions in the period from 2008 to 2018

Source: Hospital Information System of SUS (SIH/SUS).

Table 1 - Description of the demographic profile of patients with pancreatic neoplasm in Brazil. 2008 to 2018

Variables	Nº	Percentage
Age range		
Lower 1 year	47	0.058%
1 to 4 years	33	0.041%
5 to 9 years	79	0.098%
10 to 14 years	140	0.17%
15 to 19 years	269	0.33%
120 to 29 years	932	1.16%
30 to 39 years	2,775	3.46%
40 to 49 years	8,468	10.55%
50 to 59 years	19,438	24.23%
60 to 69 years	23,973	29.89%
70 to 79 years	17,313	21.58%
80 years and more	6,737	8.40%
Total	80,199	100%
Sex		
Male	40,640	50.68%
Female	39,559	49.32%
Total	80,199	100%
Race		
White	40,184	50.10%
Black	3,095	3.85%
Brown	20,382	25.41%
Yellow	817	1.02%
Indigenous	28	0.034%
No information	15,693	19.57%
Total	80,199	100%

Source: Hospital Information System of SUS (SIH/SUS).

DISCUSSION

The term pancreatic cancer, widely used, usually refers to the ductal adenocarcinoma of the pancreas. It has a poor prognosis, being one of the malignancies with increasing aggressiveness and mortality[7]. In the initial phase, the patients are asymptomatic, therefore, the disease is diagnosed late and usually the patient is already in an advanced stage[8]. Although is not among the 10 main types of cancer in Brazil, it is classified as the eighth leading cause of death caused by cancer, since the majority of patients have diagnosis in metastatic or locally advanced stage of the disease [4].

The number of cases of pancreas cancer begins to present a significant increase from the fourth decade of life, reaching its peak incidence in the sixth and seventh decade. In agreement with this study, Soldan (2017) analyzed the risk of developing pancreatic cancer throughout life is 1.49% or one in 67, and its incidence increases with age, with the majority of the diagnoses made after 50 years[4] In another study, it was observed that advanced age is an important risk factor, and that 80% of the cases occur between 60 to 80 years, and in relation to

the male gender and ethnic descent there is a contribution two times as high as to the appearance of this tumor [1].

An increase was observed in the number of hospitalizations due to pancreatic cancer in Brazil, having increased by 6,426 cases between the years 2008 to 2010. It is believed that the increment of diagnostic methods are more specific and sensitive, and a greater access of the population to health is a contributing factor[1].

It is estimated that in mid-2020 the pancreatic cancer will be the second most common cause of death by neoplasm, second only to lung cancer. The increase of the senile population before the epidemiological reality in Brazil, further expands the number of hospitalizations and incidence of pancreatic cancer [9].

The Southern region has the highest prevalence of hospital admissions, followed by the Southeast region, Midwest, Northeast and North. The distribution of incidence per geographic region shows that the South and Southeast regions concentrate 70% of the occurrence of new cases; and, in the Southeastern region, is almost half of that incidence. Regional variations in the incidence of cancer stem from heterogeneous profiles of exposure to risk factors that are associated with the emergence of different types of cancer. Information on incidence is also affected by differences in the diagnostic capacity of the health services, which can lead to an underestimation of the actual incidence in some regions [10].

Regarding the number of deaths, from January 2008 to December 2018 21,281 deaths were accounted due to pancreas cancer in the country, and this number has raised in annual trend. The region with the largest number of deaths is the Southeastern region, followed by the South region. Comparing these results, the mortality rate is increased in the northern region and Central-west. The risk of death due to cancer was more pronounced in the South and Southeast regions, but the mortality rates have been decreasing in these regions, the most developed regions of the country. The other regions, less developed, the mortality rates were lower, but with upward trend. This framework reproduces internally in the country similar trends observed in the world, which identify a more significant increase of deaths by cancer in populations of developing countries, although the risks of death by cancer are higher in developed countries[11]. Furthermore, the majority of patients have multiple comorbidities, which are also related to the epidemiology of cancer itself, such as smoking, obesity, diabetes and advanced age[11].

The total rate of mortality in Brazil was 26.54, which represents a neoplasm with high levels of mortality. Part of the bad prognosis of the disease is associated with late diagnosis. Despite its low incidence (less than 3% of all cancers), is responsible for 6% of cancer deaths. Less than 20% of the patients with the established diagnosis survive for more than a year, and the survival of five years is lower than 3% [7].

The lack of specificity for the diagnosis based on symptoms that are highly suggestive and sensitive to the pancreatic cancer causes that part of the patients receive another diagnosis, such as pancreatitis and even Irritable Bowel Syndrome [12]. The surgery, the only possibility of cure, is usually palliative. Despite the adjuvant therapies, the evolution of the treatment of this cancer has changed very little in the last decade, proving to be very difficult the management of the affected people [13]. In 80% of the patients with symptoms, the tumor is already nonresectable at the time of diagnosis. For those patients who are candidates for surgical resection, the survival rate is, on average, 12 months, and for those who are not candidates for surgical treatment, 3.5 months [4].

Herman (2008) showed in his study that advanced age, 65 years or more, is a risk factor for

lower survival in both groups who have not received adjuvant therapy, in addition to the surgery, such as those that received. It should be emphasized that to be an aggressive cancer, the incidence rate of the disease is next to the value of the mortality rate, so the patients who present a high risk factor must perform follow-up exams to facilitate the diagnosis of cancer in its initial phase [14].

CONCLUSION

The scientific literature demonstrated the great importance of sociodemographic and environmental aspects in the development of pancreas cancer which is responsible for 4% of deaths caused by neoplasms. The results showed that the pancreas cancer affects more the elderly population aged 60 to 69 years and white, besides presenting a high rate of mortality and morbidity, with predominance in the Southern region of the country.

Thus, there is a need for improvements of public policies, in order to prevent and promote an early diagnosis and, consequently, a more effective treatment to obtain a positive impact on morbidity and mortality rate for this neoplasm.

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DEMOGRAPHIC PROFILE AND RISK FACTORS IN BREAST CANCER: CANCER TASK FORCE

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Abstract: Objective: To describe the profile of patients attended in the Breast Stall, at the 9th Task Force of Cancer Prevention of Associação Presente and analyze the main risk factors for the breast cancer. **Method:** Quantitative, descriptive epidemiological study, conducted with data obtained in the records of visits made to the population, in the Breast Stall, at the 9th Task Force for Cancer Prevention, of Associação Presente Padre Tiãozinho, in 2019. **Results:** 525 individuals attended this study with a mean age of 56.2 (±8.6) years; most were females, 523 (99.6%); they were married, 299 (58.3%) or under common law marriage, 244 (48.4%) and with elementary school education. Among the participants, 350 (70.1%) reported family history of cancer. There was a higher prevalence of nonsmokers, 405 (78.5%) did not consume alcoholic drink, 380 (73.9%) and 244 (48.8%) never practiced weekly physical activity. **Conclusion:** the number of people served in the 9th Task Force denotes the inadequacy of actions for the cancer prevention in the public health network, despite the scientific evidence showing the importance of cancer early diagnosis, in particular, breast cancer and in addition the rate of incidence and mortality is still very high among women.

Descriptors: Breast cancer; Neoplasm; Prevention; Screening and Risk Factors.

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INTRODUCTION

Cancer or neoplasia/malignant tumor is conceptualized as a process, generally slow, of abnormal, uncontrolled and autonomous cell proliferation that goes beyond the own mechanisms of cell multiplication due to changes in genes and in the phases of the cell cycle that are responsible for natural growth and differentiation of human cells[1].

Currently, cancer is the second leading cause of deaths in Brazil with the incidence increasing as the years go by, considered one of the major public health problems and one of the most complex due to its social, epidemiological and economic coverage [2].

In the past, the diagnosis of cancer represented death sentence, because it was considered a chronic and potentially fatal, since the studies on the matter was still little developed, and many of them were diagnosed at a late stage of the disease. In recent years, the development of research shows that 70 to 80% of cases present instrument of healing due to the advancements and technologies present in current days. These advances also help in understanding the disease and its development which brings about an early diagnosis, which is important for the process of improvement[3].

Breast cancer (CA), in global terms, constitutes the malignant tumor with greater frequency in the female population and with a low incidence in the male population, behind only of non-melanoma skin cancers. This cancer occurs more frequently in women from 40 years of age, very unusual in lower age and probably the most feared by women. In Brazil, it is estimated for the years 2018/2019 approximately 59,700 new cases of breast cancer, considering that the South Region (73,07/100 mil) has a higher frequency, Southeastern (69,50/100 thousand), Central-West (51.96/100 thousand) and Northeast (40.36/100 thousand). In the Northern Region, it is the second most common neoplasm (19.21/100 thousand)[4,5].

Several risk factors associated to the occurrence of breast CA have already been identified, among them, early menarche, late first pregnancy, nulliparity, family history, use of oral contraceptives, late menopause, hormone replacement therapy, lifestyle and habits of life, such as obesity, excessive alcohol consumption, among others. All risk factors can increase the chances of occurrence of cancer [1,5,6].

When a person is diagnosed with cancer, both her and her family, suffer a turmoil of feelings, uncertainties, doubts, insecurities and mainly fear; fear of death, because the disease induces a reflection about the possibility of death, which can disrupt the move toward a future of dreams and achievements [7].

The early detection of breast cancer is essential for a good prognosis, and therefore, the importance of preventive methods. Prevention can be defined as the encompassing of actions that aim to prevent the occurrence of diseases seeking also the reduction of risk factors associated with the particular problem[3]. Early detection of the tumor can be by means of the following preventive measures: monthly breast self-examination of breasts; annual clinical breast performed by health professionals; and the mammogram, which consists of a radiological exam of the breasts recommended by the Ministry of Health for women aged 50 to 69 years or in suspected cases[5,8].

Thus, this study aimed to describe the profile of patients attended in the Breast Stall, at the 9th Task Force of Cancer Prevention of Associação Presente and analyze the main risk factors for the breast cancer.

METHODOLOGY

This is an epidemiological, descriptive, quantitative study conducted with data obtained from the records of visits made to the population in the breast cancer stall of the 9th Task Force for Cancer Prevention, carried out by Associação Presente Padre Tiãozinho, at Praça Doutor Carlos, on 12 th of April 2019, in the city of Montes Claros, MG.

During the task force 525 visits were performedat the Breast Stall. The care occurred in order of arrival and each participant received a password for medical evaluation.

The data were collected by means of a questionnaire for the prevention of breast cancer, and contemplated sociodemographic variables (age, sex, marital status and schooling); epidemiological studies (family history of cancer, smoking, alcohol consumption and physical activity) and clinical history of pregnancy, menarche, menopause and physical examination of the breasts). The collected information was organized in spreadsheets with EXCEL program. The results were described using frequency tables. The tabulation and analysis were performed using the SPSS 23.0 program.

This study was conducted in accordance with the precepts established by Resolution 466/12 of the National Health Council of the Ministry of Health, and was approved by the Research Ethics Committee of the State University of Montes Claros (UNIMONTES), after obtaining the Legal opinion embodied number 3.289.344.

RESULTS

525 individuals attended this study, with an average age of 56.2 (±8.6) years, whose majority was female sex (99.6%). More than half of the participants, 299 (58.3%) were married or under common law marriage and 244 (48.4%) had complete elementary school.

Table 1 - Sociodemographic profile of individuals assisted in the 9th Task Force for Cancer Prevention/Mastology. Montes Claros, MG, Brazil, 2019

Variable	n*	%
Sex		
Male	2	0.4
Female	523	99.6
Age range		
Less than 40 years	18	3.4
40 to 59 years	304	57.9
60 years or more	203	38.7
Marital Status		
Single	102	19.9
Married/Common	299	58.3
Law Marriage		
Divorced/separated	52	10.1
Widowed	60	11.7
Schooling		
Illiterate	36	7.1
Elementary School	244	48.4
High School	182	36.1
Upper Level	42	8.4

*the totals varied due to loss of information. Source: 9th Cancer Task Force

Among the participants, 350 (70.1%) reported family history of cancer. There was a higher prevalence of nonsmokers, 405 (78.5%) and did not consume alcoholic beverages, 380 (73.9%). It was observed the practice of physical activity three or more times a week in only 166 (33.2%) of the participants and 244 stated not to perform any physical activity (Table 02).

Table 2 - Characteristics of the assisted individuals in the 9th Task Force of Cancer Prevention/Mastology, according to family history of cancer and life habits. Montes Claros, MG, Brazil, 2019

Characteristics	n*	%
Family History of cancer		
No	149	29.9
Yes	350	70.1
Smoking		
Yes	15	2.9
No/never smoked	405	78.5
Former smoker	96	18.6
Alcoholist		
Yes	82	16.0
No/never drank	380	73.9
Former alcoholist	52	10.1
Weekly physical activity		
None	244	48.8
Once	34	6.8
Twice	56	11.2
Three or more times	166	33.2

*the totals varied due to loss of information. Source: 9th Cancer Task Force

Table 3 - Characteristics of women assisted in the 9th Task Force of Cancer Prevention/ Mastology according to the reproductive variables. Montes Claros, MG, Brazil, 2019

Variable	n*	%
GPA- G		
None	32	6.8
1-2 Children	148	31.6
3-4 Children	193	41.2
≥ 5 Children	96	20.4
GPA- P		
None	32	6.9
1-2 Children	180	38.6
3-4 Children	183	39.3
≥ 5 Children	71	15.2
GPA-A		
None	302	68.8
1	94	21.4
2	25	5.7
≥ 3	18	4.1
Age of Menarche		
≤ 11 years	60	12.7
12 to 14 years	283	59.7
≥ 15 years	131	27.6
Age Menopause		
≤ 40 years	60	16.8
41 to 49 years	193	54.1
≥ 50 years	104	29.1

*the totals varied due to loss of information. Source: 9th Cancer Task Force

Regarding the characteristics of women assisted in the Task force, it was evidenced that the majority, 193 (41.2%) with four pregnancies and only 183 (39.3%) had the delivery and approximately 94 (21.4%) women with at least one abortion. It was observed that in 283 (59.7%) of women the menarche occurred between 12 and 14 years and in 193 (54.1%) menopause was between 41 to 19 years (Table 03).

In the breasts examination, 253 (48.2%) was not changed; in 77 (14, 7 %) there was changing and in 194 (37.1%) people did not undergo the exam. Of the individuals who underwent the examination, 40 (76.4 %) were asymmetrical; 18 (7.3%) presented convexities or retractions; 85 (35.1%) had a nodule - 39 (45.9 %) at the right breast, in the upper right quadrant, 27 (31.8%) and left, 26 (30.6%) (Table 04).

Table 4 - Characteristics of individuals assisted in the 9th Task Force for Cancer Prevention/ Mastology according to variables related to the breasts examination. Montes Claros, MG, Brazil, 2019

Variable	n*	%
Breasts examination		
Normal	253	48.2
Changed	77	14.7
Not Performed/request for mammography	194	37.1
Breasts		
Symmetrical	288	23.6
Asymmetrical	40	76.4
Bulging/retractions		
Yes	18	7.3
No	229	92.7

Nodule		
Yes	85	35.1
No	157	64.9
Which breast		
Right	39	45.9
Left	33	38.8
Both	13	15.3
Quadrant		
RB	27	31.8
LB	26	30.6
ID	5	5.9
IE	9	10.6
RB/LB	12	14.1
RB/IE	3	3.5
RB/IE	2	2.4
RB/ID/IE	1	1.1

*the totals varied due to loss of information. Source: 9th Cancer Task Force

DISCUSSION

According to the results presented, in relation to the variables of the sociodemographic profile, it was observed that the majority of individuals who sought care, was female and aged between 40 to 59 years. This event is important, because one of the risk factors associated to breast cancer is age, due to the high rate of diagnosis in this age group. This result was similar to that found in a study conducted in Rio Grande do Sul with 544 individuals, of whom 326 were women, ranging in age from 40 to 49 years in most of the participants, a fact that requires attention to measures for the early diagnosis, considering the aging process of the body, which causes a greater risk of exposure to carcinogenic agents [4.9].

In relation to marital status and educational level of the individuals, the majority was married and most had completed only elementary school. These data correlate with the ones conducted in the municipality of the Zona da Mata of Pernambuco, in which 56.30% (147) of users in the Family Health Units in the municipality were married e the majority, 68.60% (179) had not completed the high school[10].

Among the participants, it was possible to observe that the majority reported history of cancer in the family, considering that the hereditary predisposition is a risk factor for several types of cancer, including breast CA [5.10].

An important point is that the majority of the participants of this study were not smokers and did not use alcoholic beverages, a positive aspect. This situation is also highlighted in research carried out in a public hospital in João Pessoa - Pernambuco, where it was found a low rate of smokers (5.2%), meaning that 96 (94.8%) of the interviewed women did not smoke and 92.7% said they did not make use of alcoholic beverages. The use of tobacco and alcoholic drinks in isolation or associated are risk factors for cancer, because the same act in the process of genetic mutation and may increase the estrogenic bioavailability [5,10,11].

In a study conducted with 354 women in São Paulo it was identified that patients who consumed three or more doses per day are predisposed to a higher relative risk, i.e., the woman who initiates the early use of alcohol has less risk than those who begin drinking later. However, it is necessary to assess in relation to the daily number of doses ingested, therefore, the higher the dose, the greater the risk of developing cancer. Another important issue is the hereditary factor, because in the presence of family history the odds rise, since it adds one more risk factor and genetic predisposition [12].

Whereas a negative factor, is that a good part of the individuals do not practice any kind of physical activity once a week and only a minority practices three or more times a week. The sedentary

lifestyle is a factor that contributes to the development of several diseases, including cancer, because the lack of physical activity can lead to obesity, considered a risk factor for breast CA [12]. And also, the practice of physical activity or sports can influence on the functional capacity of the immune system [12.13].

It also noteworthy that the amount of nulliparous women assisted in this task is very small, only (6.8 %) and the majority are multiparous, with four pregnancies, 193 (41.2%) since it has been demonstrated that three or more children may be a protective factor for breast cancer, however, 94 (21.4%) of women had at least one abortion. In a study conducted in the city of Rio de Janeiro, it was found that only one case of abortion is enough to become a risk factor for breast CA [14].

Another factor observed in relation to menarche and menopause, that are associated as risk factors for cancer, when the menarche is early or late menopause, because they are associated with a greater concentration of estrogens, it is observed that there is a greater prevalence of women who had menarche among 12 to 14 years of age and menopause between 41 to 19 years of age, which is considered adequate age within the standards of the Ministry of Health[15].

Studies demonstrated that endocrine factors and reproductive stories are mainly related to estrogen stimulation, which may be endogenous or exogenous, with increased risk the greater the exposure [15.16].

As to the breasts examination, almost half (48.2%) of the individuals showed no changes. It should be emphasized that 14.7 % of the participants had some type of alteration, showing that 76.4% of people exhibited some type of asymmetry in the breast and 35 individuals (1%) presented bulging and retractions. It was found that 45.9% had the presence of nodules. In the case of mammary changes mammography was requested (among other exams), according to the Municipal Health Protocol, faced with the suspicion of the presence of tumor [17, 18, 19].

The breast clinical exam is fundamental in the preliminary stage for the diagnosis of cancer. The association of the same to other propaedeutic methods, such as mammography, have the ability to increase the sensitivity and specificity of the diagnosis, constituting itself as a solid basis for the process[16].

In low- and middle-income countries, the diagnosis of breast cancer occurs in more advanced stages of the disease, increasing the morbidity related to the treatment, compromising the quality of life and reducing the patients' survival [4]. In order to modify this scenario in Montes Claros, MG, the 9th Task Force for Cancer Prevention carried out by Associação Presente Padre Tiãzinho means important initiative to protect the health and diagnosis of cancer, including breast cancer.

The present study presented as a limitation a sample of individuals attended at the Breast Cancer Stall of the 9th Task Force for Cancer Prevention , at Praça Doutor Carlos in Montes Claros, MG, which, although representative, makes the extrapolation of the results to other scenarios. Even so, this research is of unquestionable importance for more effective interventions aimed at prevention and early diagnosis of breast cancer.

CONCLUSION

The data obtained in this study showed that the majority of individuals (99.6%) were female and were in the age range recommended by the Ministry of Health to perform screening examination for breast CA. The majority (70.1%) had a family history for the development of cancer and half of the participants did not practice any kind of regular physical activity. Significant changes were detected in 14.7% of the subjects assessed.

The number of people served in the 9th

Task Force, at the Breast Stall, 515, denotes the inadequacy of actions for the cancer prevention in the public health network, despite the scientific evidence showing the importance of cancer early diagnosis, in particular, breast cancer and as a consequence we still have a high rate of incidence and mortality due to breast cancer among women in Brazil.

The results presented here reinforce the need to intensify the means which provide the prevention of cancer for early diagnosis and for a good prognosis, which is a warning to all the subjects involved in the process of health care with the goal of saving lives.

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PREVALENCE OF CANCER OF THE CERVIX CANCER AND INTRAEPITHELIAL LESIONS: POPULATION ASSISTED IN THE TASK FORCES FOR CANCER PREVENTION

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Abstract: Objective: Check the prevalence of cervix cancer and intraepithelial lesions in the population assisted in the Task Force for Cancer Prevention, in the years 2018 and 2019, in the city of Montes Claros - Minas Gerais. Method: It is a descriptive epidemiological study of prevalence, carried out in the city of Montes Claros - MG, upon data obtained in visits in the Tent of cytology. It was used a structured questionnaire covering sociodemographic characteristics; family history; smoking; condom use and the frequency of Pap exam. The data were tabulated and analyzed by means of descriptive statistics. Results: The sample was composed of 670 women; the majority was in the age range from 40 to 59 years. In 2018 332 women were serviced and 6.6% had never performed the Pap test. In 2019 338 women were serviced and 7.1% had never performed the Pap test. Conclusion: The Task Force for Cancer Prevention provided the possibility of early diagnosis, in 2018 there were 04 confirmed diagnoses, and in 2019 no case was confirmed; access to prevention guidelines, a healthy lifestyle and prevention of the disease.

Descriptors: Cervix Cancer; Prevalence; Intraepithelial Lesions; Prevention.

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INTRODUCTION

The cervix cancer (CCU) is the fourth most common type of cancer in women in the world. Excluding non-melanoma skin cancer, it is the third most frequent type of cancer in Brazilian women, behind the breast and colorectal cancer, being an important public health problem[1]. For each year of the biennium 2018/2019, it is estimated that 16,370 new cases are diagnosed of cervix cancer in Brazil. This type of cancer has a great impact on mortality, which can be minimized by means of screening for early detection in asymptomatic women. This screening is done by the Pap test - cytopathologic examination of the cervix for detection of precursor lesions[2].

It is characterized by disorganized replication of the epithelial lining of the organ, compromising the underlying tissue (stroma) and may invade other organs. There are two main categories of invading carcinomas of the cervix: the epidermoid carcinoma, type more incident and that affects the squamous epithelium, representing about 90% of the cases and the rarest type adenocarcinoma, and that affects the glandular epithelium, with approximately 10% of the cases[3].

The Ministry of Health implemented in the vaccination schedule, in 2014, the tetravalent vaccine against HPV for girls aged 9 to 13 years. From 2017, the Ministry extended the vaccine for girls aged 9 to 14 years and boys from 11 to 14 years. This vaccine protects against the types 6, 11, 16 and 18 of the HPV. The first two can cause genital warts and the last two are responsible for approximately 70% of the cases of cervix cancer[4].

Vaccination and the completion of preventive exam Papanicolaou complement each other as preventive actions of this type of cancer. Even vaccinated women, when reach the recommended age (25 years), should make the preventive exam periodically. In addition, actions of primary prevention of disease are also strategies capable of reducing the incidence and improve the patients' quality of life[5].

In this context, the campaigns of prevention and early diagnosis offered in the city of Montes Claros - MG by the Associação Presente "Padre Tiãozinho" are appropriate. It is a non-governmental organization, without lucrative ends, which welcomes needy patients in cancer treatment, from the northern cities of Minas Gerais and Bahia Southern. The institution carries out annually a Task Force, with specialized care and access to the population.

In this sense, the objective of this study was to verify the prevalence of cervical cancer in the population assisted in the events of 2018 and 2019 of the Task Force of cancer prevention held in the city of Montes Claros - MG.

METHODOLOGY

It is an epidemiological study of descriptive prevalence, carried out in the city of Montes Claros - MG, upon data obtained in visits to the population assisted by the task forces of Cancer Prevention, carried out by Associação Presente in the years 2018 and 2019, occurred in the Tent of cytology.

Attendance sheets were used containing sociodemographic characteristics (age, marital status and schooling); family history of cancer; dietary habits and lifestyle (smoking and drinking) and clinical variables (number of children, menarche, menopause, complaints, condom use, and previous cytology).

This study was conducted in accordance with the precepts established by Resolution 466/12 of the National Health Council of the Ministry of Health and was approved by the Research Ethics Committee of the State University of Montes Claros (UNIMONTES), after obtaining the Legal opinion

embodied number 3.289.344.

The data were tabulated in the Statistical program *Statistical Package for Social Science* (SPSS), version 20.0 for Excel 2010 ®. Descriptive analyzes were performed of the variables investigated in accordance with the characteristics and frequency of occurrence, which were presented in tables and graphs.

RESULTS

670 women took part of this study, with average age between 40 and 49 years. More than half of the population assisted were married or under common law marriage and had elementary school. Table 1 shows the variables age, marital status and education of women participating in the event, in the years 2018 and 2019. It should be noted that in the edition of 2018, 62.3 of women were in the age group 40 to 59 years and in 2019, the number increased to 63.6%.

Table 1- Characterization of individuals according to age, marital status and education of women assisted in the Task Force Cancer Prevention/Cytology

Anos	2018		2019	
Variável	**n***	**% n***	**n***	**%n***
Faixa etária				
Menos de 40 anos	42	12,7	30	8,9
40 a 59 anos	207	62,3	215	63,6
60 anos ou mais	83	25,0	93	27,5
Estado civil				
Solteira	66	19,9	52	15,4
Casada/União Estável	191	57,7	218	64,7
Divorciada/Separada	45	13,6	34	10,1
Viúva	29	8,8	33	9,8
Escolaridade				
Analfabeta	11	3,33	03	0,9
Fundamental	167	50,3	165	49,4
Médio	124	37,3	142	42,5
Superior	30	9,1	24	7,2

*os totais variam devido às perdas de informações.

Tabela 2 - Caracterização das mulheres com histórico familiar de câncer, tabagismo, etilismo e atividade física semanal

Anos	2018		2019	
Características	**n***	**%n**	**n***	**%n***
História Familiar de Câncer				
Não	126	38,9	115	35,2
Sim	198	61,1	212	64,8
Tabagismo				
Sim	24	7,2	20	5,9
Nunca fumou	251	75,6	277	82,0
Ex-fumante	57	17,2	41	12,1
Etilismo				
Sim	80	24,2	87	25,8
Nunca bebeu	226	68,3	223	66,2
Ex-etilista	25	7,6	27	8,0

*os totais variam devido às perdas de informações.

ISSN 2236-5257

Table 2 shows the characteristics of women assisted in the Task Force of Cancer Prevention in Cytology, according to family history of cancer and life habits. In 2018, approximately 7.2% of women had never smoked and in 2019 this number had dropped to 5.9. Also, in 2018 it was evidenced that 46.2% of women did not practice any physical activity, and in 2019 this variable was not measured.

Table 3 shows the characteristics of women assisted in the Task Force of Cancer Prevention in Cytology, according to the clinical variables. In 2018, 56.3% of women had never used condoms and in 2019 this number had increased to 62.7%. The number of women who had never performed the Pap examination also increased from 6.6% to 7.1% in 2019.

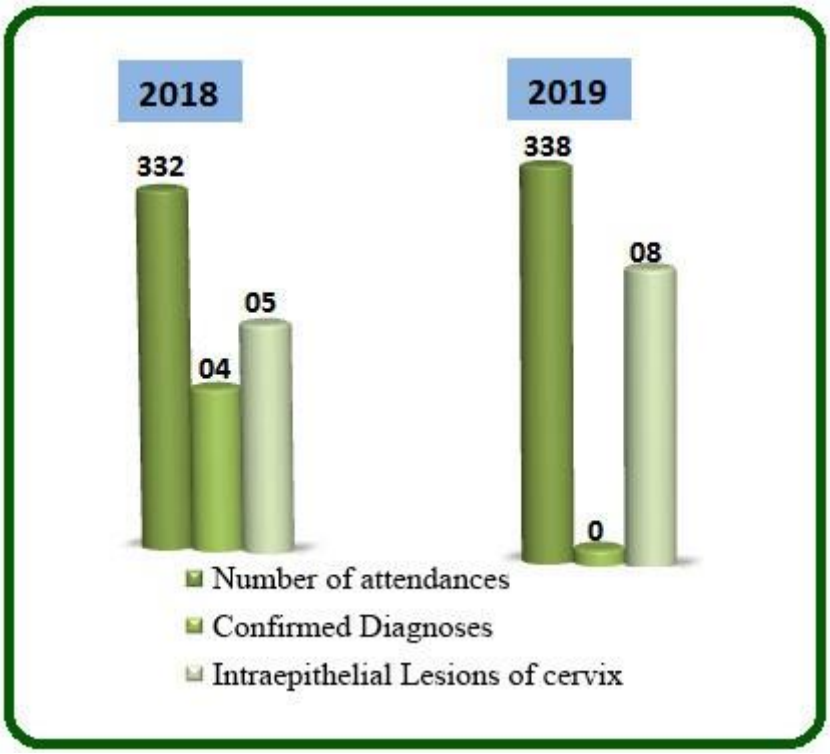
Table 3 - Clinical reproductive variables of participants of Task Force of cancer Prevention - 2018 and 2019

Anos	**2018**		**2019**	
Variável	**n***	**%**	**n***	**%n***
N° de filhos				
Nenhum	42	12,9	17	5
1 – 2 filhos	122	37,4	128	38,6
3 – 4 filhos	119	36,5	119	36,5
≥ 5 filhos	43	13,2	51	15,4
Menarca				
10 – 12 anos	96	28,9	124	37,8
13 - 15 anos	164	49,4	176	53,4
≥ 16 anos	61	18,3	28	8,5
Não respondeu	11	3,4		
Menopausa				
31 – 40 anos	16	4,8	12	3,6
41 a 50 anos	99	29,7	97	29,3
≥ 51 anos	41	12,3	99	29,9
Não se aplica (não entrou na menopausa)	176	53,2	123	37,2
Queixas				
Sem queixas	248	74,7	290	59,6
Coceira vaginal	26	7,8	39	12,1
Corrimento vaginal	31	9,3	41	12,7
Sangramento vaginal	4	1,3	8	2,5
Dor pélvica crônica	23	6,9	30	10,6
Uso de preservativo				
Sempre	29	8,7	27	8,9
Às vezes	65	19,6	50	16,5
Nunca	187	56,3	190	62,7
Não respondeu	51	15,4	36	11,9
Citologia anterior				
Normal	236	7,1	261	84,5
Alterada	19	5,7	26	8,4
Nunca realizou	22	6,6	22	7,1
Não respondeu	55	16,6	0	0

*Os dados variam devido as perdas de informações.

Graph1 shows the number of visits in the years 2018 and 2019, as well as the positive diagnoses of cervix cancer and cervix intraepithelial lesions.

Graph 01 - Percentage of editions of Task Force of Cancer Prevention in Cytology. Montes Claros - 2018 and 2019



DISCUSSION

Cervix cancer begins from a curable precursor lesion in almost all cases. It is epithelial abnormalities known as cervical intraepithelial neoplasia grades II and III (NIC II/III), in addition to the adenocarcinoma *in situ* (AIS). Although many of these lesions may regress spontaneously, their probability of progression is greater, which justifies their treatment[6].

In a study conducted by Bim *et al*. (2010), the researchers interviewed 885 women, with a mean age of 41 years, a minimum of 18 and a maximum of 86. The women in this study were married (67%); with elementary school, (55%); housewives, (47%), or worker of general services (13%); no monthly income (47%) or monthly income from one to three national minimum wages (37%). The socioeconomic level was the main determinant of access to gynecological consultation. The women in this study presented a low income and low education level, which may have influenced the practice of health care, particularly in the early diagnosis and prevention of neoplasms[7].

The study in question, as well as the data of the present sample corroborate between themselves in terms of schooling: in both cases, the majority of women had only the elementary school.

The start of screening for cervix cancer, as recommended by the Ministry of Health (MS), should start at 25 years of age for women that have already begun sexual activity with the completion of two exams annually. After two negative tests, the interval between the examinations shall be of three years until the 64 years[8].

It was evidenced that in the edition of 2018, 62.3%of the women were in the age group 40 to 59 years and in the year 2019 the number increased to 63.6%.According to the literature, a greater in-

cidence of the disease is in this age group, while the disease occurs in a small percentage of women aged less than 30 years. Thus, although the participants had no diagnosis of cervix cancer, their age demanded that the preventive measures were intensified performing the examination annually.

In the evaluation, according to family history of cancer and life habits, in 2018 about 7.2% of women had never smoked and 2019 this percentage was reduced to 5.9%.

Lima; Palmeira; Cipolotte (2006) carried out a case-control study with 7,482 women older than 20 years, in order to assess socioeconomic data, contraceptive use and the use of tobacco by women and found that there was no statistically significant difference in the smoking habit among the groups. However, the tobacco has been implicated as a facilitator of transformation into cancer by decreasing the local immunity[10].

Evaluating the reproductive and clinical variables, In 2018, 56.3% of women had never used condoms and in 2019 this number had increased to 62.7%. A study conducted by Carvalho; Queiroz (2011)[11] showed that the majority (86.7%) of the women did not have the habit of using condoms, relevant data, since that the use of condoms can prevent sexually transmitted diseases (STD's).

The number of women who had never performed the Pap examination also increased from 6.6% to 7.1% in 2019. A study conducted by Casarim; Piccoli (2011)12 which aimed to know the frequency with which women performed the examination of prevention, pointed out that of the 60 interviewed, 41 (68%) reported being up to date with the cytopathology; 19 (32%) were not, and of this quota, there are those who only sought or seek treatment from symptoms[11], worrying data, since the completion of the examination is very important for the prevention of disease. Another study conducted by Cirino *et al*. (2010) conducted in adolescents showed that the adolescents who have already gone through the Pap examination were unaware of both the objective of the examination, and HPV as main oncogenic agent[13].

In the last two editions of the Force Task for Cancer Prevention carried out by Associação Presente, 670 women were attended, when in 2018, 04 cases of cervix cancer and 05 cases of intraepithelial lesions were diagnosed. In 2019, there were no diagnosis of cervix cancer, and 08 cases of intraepithelial lesions were diagnosed. These precursor cervical lesions present in evolutionary degrees, from the cyto-histopathological point of view, classified as cervical intraepithelial neoplasia (CIN) grade I low-grade lesion), II and III (high-grade lesions)[14].

It is emphasized the importance of prevention strategies, with a view to health education in the population, because the sooner the cancer is diagnosed, the greater the chances of cure, survival and quality of life of the individual.

CONCLUSION

The study identified that in 2018, there were 04 confirmed cases of cervix cancer and 05 intraepithelial lesions and in 2019, no case of cervix cancer was diagnosed, and 08 intraepithelial lesions were identified. These lesions are different from normal cells, having a high risk of developing a pre-carcinogenic lesion. These cases were referred for colposcopy and biopsy, in order to allow adequate monitoring.

This task force for cancer prevention provides the possibility of early diagnosis, access to guidance on the relevance of prevention, healthy life habits and risk factors for health promotion and disease prevention.

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O câncer do colo do útero (CCU) é o quarto

(ISSN 2236-5257)

PROPENSITY FOR DEPRESSION IN PATIENTS WITH HEAD AND NECK CANCER IN MONTES CLAROS

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Abstract: Objective: Evaluate the relationship between depression and cancer in patients with head and neck cancer, in addition to knowing the sociodemographic profile of the population of these individuals. **Method:** The sample was composed of 60 patients evaluated at the Hospital Dilson Godinho, in Montes Claros, Minas Gerais. The scale used to measure the propensity for depression was the *Mini International Neuropsychiatric Interview*. Descriptive analyzes and bivariate analyzes were performed were performed and statistical significance was assessed by the chi-square test, with a level of 5.0% ($p \leq 0.05$). **Results:** 78.3% of the patients were male; with an average age of 60.9 years. The individuals were predominantly married (45.0%); incomplete elementary school. (50.0%) and per capita income less than or equal to two minimum wages (90.0%). Age showed a significant association with major depressive episode ($p = 0.018$), followed by pain variables ($p = 0.038$); Difficulty sleeping ($p = 0.009$) and difficulty making exercises ($p = 0.049$). No association was observed among smoking, alcoholism, previous diseases and complementary treatments with the outcome. **Conclusion:** It is important to investigate factors that may influence the quality of life of patients affected by cancer, in order to plan interventions that aim to improve their well-being.

Descriptors: Head and neck cancer; Depression; Pain; Major depressive episode.

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INTRODUCTION

Cancer is a complex genetic disease derived from the accumulation of several modifications in cell genome, associated or triggered by environmental factors. To be potentially generator of risk of death, its psychological impact on patients represents an important aspect of oncological clinic [1]. The head and neck cancer (CCP) presents high prevalence and, among all cancers in this group, 40% of them occurs in the oral cavity [2]. The incidence of cancer of the oral cavity, for the year 2018, according to the National Institute of Cancer (INCA) was 14,700, being 11,200 cases in men and 3,500 in women [3].

The etiology of cancer of the oral cavity is multifactorial, and the smoking, excessive alcohol consumption, and the habit of chewing betel nut the most prevalent factors. When the cancer of the oral cavity is detected at an advanced stage, the therapeutic options are reduced and the prognosis is much worse. Within the biological sphere, the patient is faced with the diagnosis of a disease that has an evolution generally aggressive, presents a debilitating symptoms, such as pain, weight loss and nodulations[4]. Surgery, chemotherapy, radiotherapy, hormone therapy and biological therapy is considered standard treatments after diagnosis, and may cause delayed and irreversible effects in the patients[5; 6]. As the head and neck surgeries involve large resections, functional and aesthetic mutilations occur that affect the patients' daily lives[7].

Patients with CCP are frequently affected by multiple physical symptoms and highly stressful as pain, fatigue, insomnia, disfigurement and deficiencies in the body function, which have a negative impact on the maintenance of some routine activities. These events have been associated with an increased risk of developing depression[1].

In this perspective, cancer is a disease that is full of prejudices, in which the individual often feels inadequate, moving or being away from his or her group, facing the loneliness and anxiety. Depression is the most frequent psychiatric disorder present in 25% of all patients afflicted with some type of cancer, being its degree independent of the malignancy of the tumor, because the diagnosis of cancer, in itself can cause significant psychological changes in the patients[8]. The occurrence of depression may be related to a Major Depressive Episode (EDM), which is characterized by the presence of depressed mood or loss of interest or pleasure in nearly all activities for a minimum period of two weeks. The individual also experiences other symptoms: changes in appetite or weight, sleep and psychomotor activity; reduction of energy; feelings of worthlessness or guilt, difficulties thinking, concentrating or making decisions, or recurring thoughts about death or suicide ideation, plans or attempts at suicide. It should be emphasized that these symptoms persist in the greater part of the day and that the episode is accompanied by clinically significant distress or impairment in social functioning, occupational, or other important areas of life of the individual.

Depression in patients with cancer is often not diagnosed and therefore not treated. The barriers for the treatment of depression in patients with cancer may arise from uncertainty about the diagnosis and treatment, besides the time sometimes limited to investigate emotional issues, and the costs associated with the treatment. The very nature of this disease, such as feelings of worthlessness and despair, inhibits the demand for care and interferes with the ability of patients to evaluate the emotional and cognitive distortion due to the depression. In addition, specialists in mental health work, often separated from oncologists, both by the organization and location of health services, such as the difficulty of coverage of health insurance[9].

The presence of alcoholism and smoking

also adversely affect the quality of life of oncological patients. In this sense, some authors have attempted to identify clinical and epidemiological variables that could be correlated to the occurrence of depression in the population of patients with CCP, however the findings were not similar among the studies. The associations found with depression in patients with CCP, were: marital status, alcohol consumption, advanced stage of the disease, the presence of mood disorder prior to treatment and low scores on questionnaires for assessing quality of life[10].

The surgeries, in addition to the sessions of radiotherapy and chemotherapy may cause reversible and irreversible damage, such as: facial deformity, hyposalivation, mucositis, change in voice, in chewing, in taste, smell, among other effects which cause suffering and a drop in the patients' quality of life[11].

Within what was exposed, the *Mini-International Neuropsychiatric Interview Plus* (*Mini Plus*) is an instrument, in the form of a questionnaire, structured according to the criteria from the Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV) and the International Classification of Diseases (ICD-10), which helps in the diagnosis of psychiatric conditions, such as EDM, and judgment of the propensity to suicide[12]. The information obtained by means of the *MINI-Plus*, in conjunction with demographic, social, economic information, as well as with the evaluation of some signs and symptoms related to cancer, allow to investigate possible associations between CCP and EDM. This study, therefore, proposed to assess the relationship between CCP and EDM.

METHOD

This was a cross-sectional, observational and quantitative study, which evaluated patients with confirmed diagnosis of CCP between the years of 2017 and 2018. For participation of the research, the inclusion criteria were: age greater than or equal to 18 years; diagnosis of CCP confirmed by histopathological examination; and signature of the Informed Consent Form. No distinction was made regarding the stage of the disease or treatment. Therefore, people were evaluated before, during and after the completion of the oncological treatment, regardless of the staging of the disease. A total of 60 individuals were evaluated in the hospital environment in a reserved room to avoid embarrassment and biases.

For the evaluation of symptoms related to CCP and the EDM a questionnaire composed of two parts was used. The first part is divided into five groups of questions, that propose to collect the following information from participants: social, demographic and economic profile; symptoms associated with cancer; previous diseases to the diagnosis of cancer; harmful habits related to cancer; and complementary treatments for cancer. The presence or absence of the following symptoms related to CCP was investigated: pain (regardless of the location of complaint) and the duration of the pain, difficulty sleeping, non-restorative sleep, fatigue and difficulty exercising. In addition, it was found the presence or absence of the following diseases prior to diagnosis of CCP: diabetes, hypertension, depression, anxiety and heart diseases. The harmful habits evaluated by means of the questionnaire were alcoholism and smoking. The participant was asked whether or not presented some of these habits at the time of the interview or if he or she had already presented them before. It was verified the presence or absence of the following complemen-

tary treatments: physiotherapy, massages, acupuncture and exercises.

The second part of the questionnaire is composed by a section of the scale *MINI-Plus*, which is intended for the evaluation of the presence or absence of EDM. The participants were asked about the occurrence of depressed mood or loss of weight or appetite and interest in the commonplace activities during the last two weeks. Their answers were then evaluated and turned out in the result: presence or absence of EDM. The validity and reliability of a Portuguese version of the scale *MINI-Plus* were investigated and showed satisfactory results. The data collection was performed by a trained interviewer by a psychologist, who also monitored the application of the questionnaires.

The results obtained were handled through the *software Statistical Package for Social Sciences* (SPSS 20.0). Descriptive analyzes were performed of variables related to the social, demographic and economic profile of the participants. In addition, bivariate analyzes were conducted between the outcome, i.e., the presence or absence of EDM, and all pertinent variables to the first part of the questionnaire. The statistical significance of the differences was assessed by the chi-square test, with a significance level of 5.0% ($p \leq 0.05$).

This research as approved by the Ethics Committee of the State University of Montes Claros - Embodied Legal Opinion no 2.771.066.

RRESULTS

The sample was composed of 60 patients with CCP, being 78.3% males and 21.7% of females. The mean age was 60.9 years, and the age range between 51 to 70 years was the one that presented the greatest number of patients (55%). The research participants were predominantly married (45.0%); non-white color, (65%); incomplete elementary school, (50.0%); per capita income less than or equal to two minimum wages (90.0%) and unemployed (78.3%) (Table 1).

The possible association between sociodemographic factors and EDM was verified by means of bivariate analysis. For this group of factors, only the variable age at age range greater than 71 years showed a statistically significant association with the outcome of EDM ($p = 0.018$) (Table 2).

Table 3 presents the association of symptoms related to the CCP with the occurrence of EDM. The variables, pain ($p=0.038$), difficulty sleeping ($p=0.009$) and difficulty exercising ($p= 0.049$) showed a statistically significant association between the symptomatology and the outcome. In addition, among the amount of symptoms presented by the patient (pain; difficulty sleeping; non-repairing sleep; tiredness; and difficulty exercising), patients who presented two symptoms, exhibited a significant association with the outcome ($p=0.004$).

Bivariate analysis among the harmful habits, previous diseases and complementary treatments related to the CCP and the occurrence of EDM presented a statistically significant association among smoking, alcoholism, previous diseases (diabetes, hypertension, heart disease, cancer, anxiety and depression) and complementary treatments related to CCP (physiotherapy, massages, acupuncture and exercises) with the occurrence of EDM (Table 4).

Table 1 - Description of the interviewees according to sociodemographic and economic variables (n = 60)

Variable	n	%
Sex		
Male	47	78.3
Female	13	21.7
Age		
Lower than or equal to 30 years	1	1.7
From 31 to 50 years	12	20.0
From 51 to 70 years	33	55.0
Higher than or equal to 71 years	14	23.3
Skin color		
White	21	35.0
Non-white	39	65.0
Family Gross Income		
Lower than or equal to two wages	54	90.0
Higher than two wages	6	10.0
Schooling		
None	14	23.3
Incomplete Elementary School	30	50.0
Complete Elementary School	9	15.0
Incomplete High School	2	3.3
Complete High School	3	5.0
Upper level Education	2	3.3
Marital Status		
Single	14	23.3
Married	27	45.0
Common Law Marriage	6	10.0
Divorced	5	8.3
Widowed	8	13.3
Job		
Possesses	13	21.7
Does not possess	47	78.3

* Reference minimum wage in force in 2018.

Table 2 - Bivariate analysis between sociodemographic factors and EDM (n = 60)

Variable	Major Depressive Episode		*Significant P*
	No n	Yes n	
Sex			
Male	31	16	0.423
Female	7	6	
Age			
Lower than or equal to 30 years	1	0	
From 31 to 50 years	8	4	0.018
From 51 to 70 years	25	8	
Higher than or equal to 71 years	4	10	
Family Gross Income			
Lower than or equal to two wages*	33	21	0.284
Higher than two wages*	5	1	
Job			
Possesses	11	2	0.072
Does not possess	27	20	

* Reference minimum wage in force in 2018.

Table 3 - Bivariate analysis between the symptomatology related to CCP and the occurrence of EDM (n = 60)

Variable	Major Depressive Episode		Significant P
	No n	Yes n	
Pain			
No	17	4	0.038
Yes	21	18	
Difficulty sleeping			
No	27	8	0.009
Yes	11	14	
Non-repairing sleep			
No	32	16	0.284
Yes	6	6	
Tiredness			
No	30	17	0.879
Yes	8	5	
Difficulty exercising			
No	27	10	0.049
Yes	11	12	
Amount of symptoms presented			

Zero	12	1	
One	12	2	
Two	4	11	0.004
Three	6	4	
Four	1	1	
Five	3	3	

Table 4 - Bivariate analysis between the deleterious habits, previous diseases and complementary treatments related to CCP and the occurrence of EDM (n = 60)

Variable	Major Depressive Episode		P Significant
	No n	Yes n	
Smoking			
Absence	5	5	
Smoker currently	4	5	0.211
Former smoker	29	12	
Alcoholist			
Absence	8	4	
Currently Alcoholist	11	3	0.321
Former alcoholist	19	15	
Previous diseases			
Yes	10	0	0.936
No	28	16	
Complementary Treatments			
Yes	32	19	0.822
No	6	3	

DISCUSSION

The epidemiological profile of patients with CCP assessed, proved to be mostly males (78.3%), median age of 60.9 years; 78.3% were unemployed and the variable married was 45%. This profile is similar to the study of Fanger and collaborators who showed a profile of patients with majority of males (62.7%); the median age of 57 years; 62.3% of unemployed and the majority of the patients were married (66.8%)[13]. Bastos and collaborators who detected in their study, 23 individuals (76.66%) of the male sex and a median age of 61 years[1].

Different studies in the literature evaluated associations between factors related to the CCP and the occurrence of depression. Among these the following stand out: female sex, possibly due to the aesthetic impairment observed during the oncologic treatment; younger age, which may be related to the impact of the CCP and its treatment in the style of life characteristic of younger people; and low socioeconomic level, possibly due to the occurrence of major concerns with the expenses inherent to the treatment [10; 14]. In this study, despite the greater prevalence of CCP in people with more than 50 years, which is in agreement with other studies reviewed in the literature[1; 7], there was a statistically

ISSN 2236-5257

significant association only between the age greater than 71 years and EDM.

The number of patients with CCP and with EDM was much higher in the age of patients who have family gross income less than or equal to 2 minimum wages. The low income can be a limiting factor to search for early diagnosis which can result in more severe clinical signs and higher cost. According to the other authors, when cancer is not diagnosed early, the treatment has a high cost, is mutilator, has hardly aesthetic satisfactory result and there is the possibility of recurrence[15].

The results obtained in this study are in agreement with some studies that found an association between symptoms related to the CCP and the occurrence of depressive events. From this perspective, it is possible that the pain, functional impairment and disability caused by the CCP and its treatment may be related to the occurrence of depression[1; 7]. Within this perspective, the present study found similar findings, i.e., a significant association between pain and EDM. In addition to this association, it was also detected in a statistically significant manner, the relationship of the CCP patients presenting symptoms of difficulty sleeping and exercising and with EDM.

In the study conducted by Bastos and collaborators, the symptoms of depression in patients with CCP were not related only to the fact that the patient have painful symptoms. The symptoms of depression also showed an association with the severity/intensity of pain and functional incapacity generated by it[1].

The symptoms of depression are common in patients with cancer in radiotherapy treatment. Paula and collaborators identified that the symptoms of dysphoria (state of discomfort, sadness or malaise) rose from 12.1% at the beginning of the treatment of cancer to 21.9% at the end of treatment, while the depression increased from 7.3% at the beginning of radiotherapy to 9.7% at the end of the radiotherapy[11].

Bivariate analysis among harmful habits, previous diseases and complementary treatments related to the CCP and the occurrence of EDM in this study did not show a statistically significant correlation in relation to the variables smoking and alcoholism due to the fact that the number of nonsmokers/alcoholics or ex-smoker/alcohol drinkers have been much greater than the alcohol drinkers and smokers. It is worth mentioning that among the ex-smoker/alcohol drinkers, are included those alcoholics and smokers who reported having the habit for many years, but had stopped using the tobacco and/or alcohol recently. This result is in agreement with Fanger and collaborators (2010), who detected low rate of smoking (14.1%) and of dependence or abuse of alcohol of only 8% of the evaluated patients[4].

FINAL CONSIDERATIONS

The literature has demonstrated a high prevalence of depressive symptoms in the population, especially in oncologic patients with CCP, mainly due to the high morbidity of the disease. In this study, age; pain; difficulty sleeping and difficulty exercising were associated with the occurrence of EDM. It is important to investigate factors which influence the quality of life of these patients, in order to plan interventions that aim to improve their well-being and reduce the prevalence of depressive symptoms in this population and, in this sense, it is valid to count on a multiprofessional team.

In addition, it is necessary to understand on the part of health professionals how they establish their relationship with the patient with cancer, communicate news about their clinical conditions and recognizing their characteristics can be decisive for the restoration of health condition and to how they will face the problem.

It is worth stressing the importance of cancer early diagnosis, having in view that the self-examination is of relevance in the perception of small changes that may contribute to start treatment

in the early stages, thus decreasing the mutilating treatments that affect the quality of life of patients so much.

ACKNOWLEDGMENTS

To Fundação de Amparo à Pesquisa de Minas Gerais (FAPEMIG) for the financial support from the Public Notice PROINIC PRP 06/2017 and the Board of Directors of the Hospital Dilson Godinho for granting of space for application of questionnaires and interviews.

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EWING SARCOMA IN METASTATIC VULVA: CASE REPORT

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Abstract: Objective: Describe an Ewing Sarcoma in the vulva metastasis, the conduct adopted and the prognostic assessment. **Method:** The case information was extracted from medical records and, by means of a bibliographic and exploratory research, in indexed databases. Study is in accordance with ethical principles, according to Legal Opinion Embodied of Committee for Ethics in Research number 3.289.344. **Results:** Ewing sarcoma atrophy occurs in young menacme. In general, the patients have painless edema with nodular architecture and cellular solid aggregate. The immunohistochemistry diagnosis is marked by the super-expression of CD99 and positivity of FLI-1. The treatment of Ewing Sarcoma atrophy includes complete surgical excision of the lesion, chemotherapy and, occasionally, radiotherapy. **Final Considerations:** The importance of reporting is to consider such a nosological entity as a differential diagnosis of vaginal/vulvar mass, prompting the discussion about the management of similar ones. By infrequent occurrence, it is difficult to list conclusions that describe in detail the behavior, epidemiology and conducts. Molecular and histopathological analyzes are crucial for the diagnosis. There are no recommendations for the specific treatment, following the recommended for bone cases. Studies of more cases with longer follow-up are beneficial to elucidate clinical pathological characteristics and conduct.

Descriptors: Ewing sarcoma; Chemotherapy; Radiotherapy; Advanced Disease; Vulva.

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INTRODUCTION

The Ewing Sarcoma is the second most prevalent juvenile bone tumor, belonging to the group of tumors of the family of Ewing Sarcoma (ESFT), along with Peripheral Primitive Neuroectodermal Tumor (PNET) and the Askin sarcoma. Although they represent less than 10% of human cancers, are extremely aggressive character, can metastasize, mainly, to the lungs (50% of cases) and bone marrow[1].With unfavorable prognosis, they express survival rate around 70-80% for tumors of standard risk and localized disease, at a rate of 30% for those with metastatic condition[2]

The epidemiological factors suggest a slight predominance of males over females, at a ratio of 3:23. Approximately 30% of patients already show metastatic clinical signs at the time of diagnosis. Commonly, the Ewing Sarcoma affects the diaphysis of long bones and bones of the pelvis, being less frequent in soft parts[4]. The literary records describe rare cases in the female genital tract, with occasional reports of tumors in the vulva, vagina, cervix, uterine body, broad ligament and ovary[5].

The presence of monomorphic population of small round blue cells, with ill-defined borders, scarce cytoplasmic glycogen and high mitotic index are typical histological characteristics of Ewing Sarcoma[5-8] while the immunohistochemical profile is characterized by super-expression of the glycoprotein CD99 and positivity of FLI-1 in the nuclear pattern. Molecular Cytogenetics of Ewing Sarcomas harbor chromosome translocations of EWS gene, present at chromosome 22, with genes of ETS family, being the gene FLI-1 the principal site of mutation (85% of cases)[4].

The objective of this report was to describe an Ewing Sarcoma in the vulva metastasis, the conduct adopted and the prognostic assessment.

CASE DESCRIPTION

SPC, 38 years old, seeks for medical help, in the first quarter of 2017, upon noting the presence of a nodule in the vaginal introitus, complaining of inflammation and local pain. After gynecological evaluation, drainage was performed, with no clinical improvement. In July of the same year, held excision of the nodule, which was forwarded for anatomopathological analysis, evidencing a proliferation of small round blue cells, and atypical, with presence of compromised margins.

After searching for a second professional opinion, immunohistochemical tests for were indicated its classification and histogenic diagnosis, whose result revealed malignant neoplasm composed of small and round, uniform cells, with scarce cytoplasm, nuclei with scattered chromatin and nucleoli. Foci of necrosis were observed, in addition to the positive expression of CD99, synaptophysin and NKX2.2, corroborating the diagnosis of Ewing Sarcoma .

Upon the printing of pelvic magnetic resonance, it was evidenced expansive, multinodular and solid lesion, centered on the greasy plan of isqueoanal fossa to the right and in continuity with soft tissues of the perineal adjacent region, including transverse muscle fibers of the perineum and right pubertal, measuring approximately 3.0 x 3.4 x 3.8 cm, in addition to nodulation with similar characteristics and location in the greasy plan right gluteus, promoting slight displacement of the intergluteal raphe, measuring 3.6 x 1.6 cm in the largest axial axes, suggesting tumor component. It was also noted, multiple foci of alteration of signal in the right ischemopubic iliac branch, left and bilateral femur, more numerous to the right, associated with the heterogeneous enhancement by gadolinium, suggesting secondary injuries.

Chest computed tomography revealed bila-

teral pulmonary nodules, suggestive of Secondary neoplastic involvement; focal area of reduction of bone density in the right aspect of the manubriosternal, without expansive characteristics. In contrast, no significant changes were observed in the computed tomography scan of the abdomen.

After returning with result of such examinations, tumor markers were requested (which did not exhibit additional changes) and computed tomography with positron emission tomography (PET CT), demonstrating these hypermetabolic lesions suspicion of neoplastic involvement, characterized by perineal and pulmonary nodules associated with bone involvement in hip, low thoracic spine, sternum and lungs, noting the classification of advanced metastatic disease (stage IV).

It was started in November 2017, chemotherapy with VAC (Vincristine 2 MG, Doxorubicin 2 mg, 75 mg/m², Cyclophosphamide 1200 mg/m² and Mesna 20% of the dose of cyclophosphamide), presenting a complete locoregional and pulmonary answer after 4 cycles. In February 2018, Vincristine was associated with Cyclophosphamide with reduction of 50% of the doses simultaneous to pelvic radiotherapy. After that, the patient returned to the schema of chemotherapy alone. In April 2019, the patient received the 12th chemotherapy cycle and, in the month of May of the same year, he returned with PET CT for the evaluation of the disease, having demonstrated the disappearance of solid hypermetabolic lesions in the perineal-isqueoanal region and at the bone sites aforementioned, inferring full macroscopic and functional response to the treatment.

TECHNIQUE OR SITUATION

Currently, two months after the finalization of the chemotherapy cycle, the patient is without evidence of neoplastic signs.

DISCUSSION

Ewing Sarcoma was initially described in 1921 by a pathologist *James Ewing* as a "diffuse bone endothelioma", highly aggressive and extremely sensitive to radiotherapy treatment. Although the origin of the tumor has not been clarified yet, the main theoretical postulations indicate that this neoplasm develops from translocations in the genetic structure of organism cells, and the main assumptions suggest an origin in embryonic neuroectodermic cells or in mesenchymal stem cells.

Historically, studies showed a remarkable similarity between the Ewing Sarcoma and soft a rarer tissue tumor, called Peripheral Neuroectodermal Tumor (PNET). At the beginning of the years 80, it was discovered that, in addition to the morphological similarities, both expressed the same genetic abnormality called "translocation", which resulted in the creation of a neoplastic group entitled "Family of Ewing Sarcoma Tumors (ESFT).[9-11]

The Ewing Sarcoma can affect both bone and extra skeletal sites. When it involves soft tissue, it is found preferentially in the chest wall, retroperitoneal, paravertebral regions, head and neck, being uncommon its location in the female genital tract[5]). In the latter, the literary record of the vulvar involvement is scarce, having been documented only 26 cases to date. In the current study, it was reported the 27th case of Ewing vulvar Primary Sarcoma in a female patient, 38 years old, who was submitted to chemotherapy concomitantly to the pelvic radiotherapy.

From a scientific and literary review, a comparative schematic table was formulated describing

the characteristics of the current report along to cases already recorded, characterized as to their authorship; age group affected; size; recommended treatment; immunohistochemical findings; molecular tests and the situation in which the patients are (Table 1).

Table 1- Clinical-pathological characteristics of registered cases of Vaginal Ewing Sarcoma[3]

Case	Study	Age	Size (cm)	Treatment	Immunohisto-chemistry	Molecular tests	Follow-up
1	Vang *et al*	28 15	0.9 20	C + QT + RT C + QT + RT	CD99+ CD99+	EWS/FLI1+ EWS/FLI1+	LDD for 18M LDD 19M
2	Scherr *et al.*	10	6.5	NC	CD99+	No	ND
3	Habib *et al*	23	NC	NC	No	No	ND
4	Nirenberg *et al.*	20	12	C + QT + RT	CD99-	No	FPD 10M
5	Lazure *et al.*	15	20	C + QT	CD99+	EWS/FLI1+	LDD 7M
6	Moodle *et al*	26	5	QT + RT	No	No	NC
7	Parede *et al.*	29	5	C + QT + RT	No	No	LDD 8M
8	McCluggage *et al*	19 40 20	4 3 6.5	C + QT C + QT C of lung M+	CD99+, FLI1- CD99+, FLI1+ CD99+, FLI1+	RTPCR, FISH- FISH+ FISH+	NA LDD 12M FPD (lung M+)
9	Cetiner *et al.*	23 29	6 1	C + QT + RT C + QT	CD99+ CD99+	EWS/FLI1+ EWS/FLI1+	LDD 84M LDD 61M
10	Boldorini *et al.*	52	4	C + QT + RT	CD99+	EWSRI R+	LDD 12M
11	Halil *et al.[12]*	14	NC	C + QT + RT	No	No	FPD 9M (lung M+)
12	Anastasiades *et al.*	28	3	C + QT + RT	CD99+	No	FPD 12M
13	Kelling *et al.*	18	NC	C	NC	NC	NC
14	Che *et al*	37	NC	C + QT Lung M+	CD99+, FLI1+	No	VCD 12M
15	Xiao *et al.*	20 36	NC NC	No No	CD99+ CD99+	No	Bone and lung M+, FPD Lung M+, FPD
16	Rekhi *et al*	10	8	C + QT	CD99 + FLI1+	EWS/FLI1-/ EWS RI R+	CR, Recurrent with new Lung M+, VCD 18M
17	Tunitsky *et al.*	15	5	C + QT	NC	NC	LDD 20M
18	Dadhwal *et al.*	20	20	NC	NC	NC	FPD (metastatic disease)
19	Fong *et al.*	17	NC	NC	CD99+, FLI1+	EWS/FLI1+	NC
20	Yang *et al.*	20	NC	No	CD99+	RT-PCR+	FPD (bone and lung M+)
21	Sidibe *et al.*	30	16	QT + RT	CD99+	EWSRI R+	LDD 22M
22	Current case	38	3.8	QT + RT	CD99+, FLI1-	No	LDD 3M

C: surgery; QT: Chemotherapy; RT: Radiotherapy; NC: Not known; NA: not available; LDD: Free from disease; FPD: death by disease; VCD: alive with disease, RT-PCR: reaction of reverse transcriptase; FISH: fluorescent in situ hybridization; EWSRI+: EWSR1 positive rearrangement ; M: months; M+: positive metastasis.

From the analysis of the obtained data, it was concluded that the age of diagnosis ranged between 10 and 52 years, with a median trademark for 20 years and average at 24 years old, in line with the profile of young patient in childbearing age evidenced in literature. Regarding the treatment, the therapeutic modality used in the present study (QT+RT) was in accordance with the conduct recommended in the literature for the management of the Ewing Sarcoma, having been adopted in 3 (15%) of the previous reports. The multimodal treatment (C+QT+RT) when properly indicated and capable of being implemented, is an effective therapeutic strategy, being used in 8 (40%) of the cases.

In relation to the immunohistochemical results, it was observed the predominance of the super-expression of CD99 antigen in the great totality of cases described, with exception to the description of Nirenberg et al[5, 13, 14]. This glycoprotein has low specificity for the neoplasm described, as is also expressed in tumors such as rhabdomyosarcoma, carcinoma of small cells, mesenchymal chondrosarcoma and leukemia. However, it is highly sensitive, and added to the positive expression of NKX2.2 and synaptophysin, propitiated the diagnosis of the cancer described[15]. The protein FLI-1 is considered an important diagnostic resource, presenting high affinity, but low sensitivity, being described in 5 (25%) of the cases recorded.

Regarding the current situation and the rate of disease-free survival, records, together with reported above, validate a percentage of 9 (42%) of regression of the signs without the demonstration of recurrent or metastatic findings after treatment; 4 (19%) are alive, but bearers of neoplasia, while 8 (38%) died as a consequence result of the same, ratifying the aggressive profile of the tumor mentioned in literature[2]). The long-term prognostic expectation is very associated to the staging, as evidenced by the survival rates in 5 years lower than 25% in metastatic states at the time of diagnosis.[16, 17]

Concerning the molecular testis, these were not performed in 10 (41%) of the reports described, as well as in the work in force. They were used as a diagnostic tool in 14 (58%) of the cases, reaffirming the importance of gene translocations as fundamental in the pathogenesis of Ewing Sarcoma .

As already mentioned, the translocation characteristic of the family of tumors of the Ewing Sarcoma represents the fusion of the EWS gene with a family member of ETS, and FLI-1 as principal representative. The combinations between these two gene groups are specific to the etiology of Sarcoma, however, when the gene EWS is combined with other gene locus, several pathologies are originated. Thus, it is presumed that the ETS family, located on chromosome 11, is decisive for the appearance of this tumor[4]. Historically, it was postulated that the specific profile of genetic translocations reflected in prognosis. However, recent studies indicate that the different mutational processes do not interfere with the aggressiveness level or in the patients' survival rates.[18]

CONCLUSION

The Ewing sarcoma is a malignant neoplasm, highly aggressive and with rare extra bone involvement, and there are occasional reports described in the scientific literature. Due to this, it is difficult to formulate conclusions regarding their behavior, epidemiological factors, staging and ideal management, and there is, thus, gaps in its therapeutic model and its etiopathogenesis. Advances in therapeutic approach are still not enough for the

improvement of the standard of survival of metastatic signs, evidencing the survival rates below the expected pattern. Further studies are needed to clarify the longitudinal character both clinical-pathological and the long-term prognosis. Recommendations and literary data are lacking which sustain a specific treatment, since the current management is based on the conduct adopted in bone Ewing's Sarcoma, which is based on the complete surgical resection, multiagent chemotherapy and addition of local radiotherapy, when well-indicated.

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