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RESUMEN

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INTRODUCTION

Cancer is a chronic degenerative disease that affects a large number of individuals around the world. The number of new cases is increasing in recent years, and for that it is considered a public health problem. It is estimated that in 2030 will occur in the world, 27 million new cases of cancer, 17 million deaths and 75 million people affected annually. In Brazil, the statistics show that in 2012/2013, there will be approximately 518,510 of new cases, being 257,870 for males and 260,640 for females.

According to Records for Population-Based Cancer (RCBP), centers where data collection, storage and analysis of occurrence of new cases of cancer in a population are performed systematically, report that the types of cancer most commonly found in adults is of non-melanoma skin cancer, with 134,000 new cases, followed by prostate cancer, female breast, colon and rectum, lung, stomach, and cervix.

With regard to pediatric neoplasms, the types most frequently found are leukemia, representing between 25% and 35% of all kinds. With an Acute Lymphoblastic Leukemia (ALL) of the higher incidence in children 0-14 years old, followed by lymphomas, which are second, and tumors of the central nervous system third. The infant-jvenile cancer (under 19 years old) is considered rare when compared with tumors in adults, representing between 2% and 3% of all malignant tumors. However, it is the second leading cause of death among children and adolescents, it is estimated that there will be about 11,530 new cases of cancer in these individuals between 2012 and 2013.

The infant tumors differ from adult tumors with respect to their location, histologic type and clinical behavior, because they belong to a highly specific group of cells, embryonic origin, whereas in adults these cells are derived from epithelial tissue.

The pediatric cancer cells therefore have different characteristics of tumors present in adults; one refers to the level of proliferation of these cells which multiply actively in the onset of disease. In contrast, these tumor cells have a quite effective when the response to chemotherapy treatment occurs early in the disease, as antineoplastic agents act more effectively on cells that are actively multiplying. Over time, these cells tend to reduce their rate of multiplication and therefore also the effectiveness of the treatment is reduced.

It is very important for early diagnosis of childhood cancer, since the faster have become aware of the existence of the disease in these individuals, the greater the chances of cure. A good history taken and a thorough physical examination may, some times catch the incipient disease.

Technological advances such as the use of imaging tests or the use of molecular biology techniques to identify mutations in chromosomes and other genetic abnormalities have contributed to earlier and more accurate diagnosis of cancer. However, even in places thought to be developed and with a good level of care, there is a culture favored by political and economic determinants, to invest more in the treatment than in the early diagnosis.

In Brazil, almost no shares or resource development for early diagnosis, and the resources allocated to the most stressed treatment and rehabilitation, although the control of cancer is directly related to health promotion, specific protection and early diagnosis of the disease.

Primary care for being the gateway to the escort/patient binomial and promote promotion and health protection should be responsible for identifying in advance the occurrence of cancer in children and adolescents, as well as refer them to specialized services. However, many patients are referred to treatment centers with advanced disease without cure positive prognosis. As the delay in diagnosis caused, in most cases, the delay in seeking medical care, inaccessibility of health services, misinformation from parents and professionals, fear of cancer diagnosis, problems of organization of health services, unequal access to diagnostic technologies, and even religious barriers due to the characteristics of the tumor itself that may show signs and symptoms similar to other diseases of childhood.

In an attempt to promote prevention and early diagnosis is crucial involvement of all health professionals, especially nurses, as knowledgeable of the risk factors, epidemiology and symptoms associated with cancer that most affect this population. Well, these are considered key professionals in the prevention, detection and referral of cancer patients to specialized centers process. However, there is a deficiency regarding the training of human resources in the field of oncology nursing, both for education and for the assistance.

Given the importance of early diagnosis of childhood cancer and the consequences of late diagnosis leads to the child, his family
and to the public coffers, arose the interest in research on the degree of knowledge of the professionals working in the Basic Units Family Health municipality (UBSF) in Natal - Rio Grande do Norte, about childhood cancers. For the realization, it was necessary to identify neighborhoods that had a larger number of children affected by the disease, because from the time these areas have researcher could choose which neighborhood, and consequently, what would UBSF searched.

The study questions were: which neighborhoods of the city of Natal-RN have a larger number of children/adolescents affected by cancer and what are the main types of cancer found in the clientele. To this end, we aim to identify the origin and type of cancer most common in children and adolescents.

**METHOD**

This is a descriptive study, of quantitative approach and of retrospective character. The descriptive studies present the characterization of etiological, pathophysiological and epidemiological aspects of disease. The studies provide quantitative data accuracy, impartiality and replication of results. Retrospective studies refer to those studies in which the data refer to the last. The data collection occurred in two homes supporting children with cancer, located in Natal-RN, in the period between 23rd July and 25th August, 2009. Support homes were chosen because they are in support of a very significant number of children and adolescents with suspected and confirmed diagnosis of cancer. Records of children and adolescents registered were used in the Houses of the municipality to support data collection. We adopted the following inclusion criteria: having a confirmed diagnosis of cancer, being founded the city of Natal-RN, and records between the years 2005 and 2009. Thus, the sample was selected as 67 chips.

The data regarding the type registered in this juvenile population cancer were listed as well as the merits of this neighborhood. These data were compiled in an electronic database, analyzed with descriptive statistics in tables and organized. The results were analyzed according to the literature concerning the subject.

In compliance with Resolution nº 196/96 of the National Board of Health, Ministry of Health, which regulates research involving humans, this study was approved by the Ethics Committee in Research of the Federal University of Rio Grande do Norte with protocol number nº 152/09 CEP/UFRN and Certificate Presentation to Ethical Consideration nº 0167.0.051.000-09.

**RESULTS**

Observed the occurrence of childhood cancers in the four zones of the city of Natal, capital of Rio Grande do Norte. Although all areas have been covered with cancer cases, there were more in neighborhoods located in the northern area, with neighborhoods Igapó and Pajuçara those with the highest number of children/adolescents with cancer, as shown in Table 1 below.

<table>
<thead>
<tr>
<th>Origin</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Igapó</td>
<td>6</td>
<td>6.0</td>
</tr>
<tr>
<td>Pajuçara</td>
<td>6</td>
<td>6.0</td>
</tr>
<tr>
<td>Nossa Senhora da Apresentação</td>
<td>4</td>
<td>4.5</td>
</tr>
<tr>
<td>Parque dos coqueiros</td>
<td>4</td>
<td>4.5</td>
</tr>
<tr>
<td>Potengi</td>
<td>2</td>
<td>3.0</td>
</tr>
<tr>
<td>Lagoa Azul</td>
<td>2</td>
<td>3.0</td>
</tr>
<tr>
<td>Loteamento Jardim Progresso</td>
<td>2</td>
<td>3.0</td>
</tr>
<tr>
<td>Nova Natal</td>
<td>2</td>
<td>3.0</td>
</tr>
<tr>
<td>Redinha</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>Soledade 2</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>Gramorê</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>Conjunto Brasil Novo</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>26</td>
<td>39</td>
</tr>
</tbody>
</table>

The place that possessed the second highest number of children/adolescents with cancer was the West, with 24 cases. Since this zone, the area where it was found the neighborhood with the highest number of children and adolescents diagnosed with cancer. This corresponds to the neighborhood of Felipe Camarão, as shown in Table 2 below.
The areas that had the lowest number of cases were the South zone, which presented eight cases and the East zone, with nine cases. The neighborhood of the southern area that has the greatest number of cases was Ponta Negra (3). And the Eastern zone showed three neighborhoods with equivalent percentage of occurrence, namely: Mãe Luiza, Alecrim and Tirol, with two cases each, as Table 3 shows.

As for the most common type of cancer, this clientele, met leukemia, in 25 cases, among these, we can highlight acute lymphoblastic leukemia with 12 occurrences, leukemia, unspecified in 11 cases and chronic myeloid leukemia with a single case. The lymphoma was present in 12 cases, therefore, was the second most frequently found. The osteosarcoma occurred in eight cases and seven cases with medulloblastoma were the third and fourth most frequent type found in the present study.

The other neoplasms found in fewer study were the following: tumor of the cervix (2), histiocytosis (2), retinoblastoma (2), rhabdomyosarcoma (2), adrenal gland tumor (2), neuroblastoma (1), epithelial ovarian tumor (1), teratoma (1), Langerhans cell histiocytosis (1) and tumor Willis (1).

**DISCUSSION**

The city of Natal is composed of 36 districts divided into four administrative regions, namely: Northern zone with seven districts, Eastern zone, 12 districts, and Western with 10 and Southern zone with seven, totaling 16.853 inhabitants, with a resident population, in 2010, of 803.739 inhabitants.\(^{14}\)

The Northern area has the largest area compared to other areas, with 5,888 inhabitants. Moreover, it is the one with the highest growth rate of the resident population (2,18%), reaching a rate of 303.543 people residing there until the year 2010. Have prevalent as individuals aged 15-29 years old, demonstrating prevalence of adolescents and young adults.\(^{14}\) Such data may justify the findings of the research regarding the large amount of individuals with cancer found in this area. To the extent that there is a higher population density and most individuals living corresponds to age group studied, it is expected that also had a greater number of cases of children and adolescents with the disease at this site.

In contrast, the Western part, while possessing only the third largest area, with 3.575 inhabitants, has the second highest rate of growth of population (1,11%), with 218.405 individuals residing in place until the year 2010. Being the most prevalent age group 10-29 years old.\(^{14}\)

Despite being considered the area who owned the second largest number of children/adolescents with cancer, this was where he met the district with the highest number of cases. This district has an area of 654.4 ha, a resident population of 50 997 individuals, the neighborhood with the largest contingent of people from across the West zone, with rate of population growth of 1,06% and a density of 77,93 inhabitants/ha. Shows how prevalent age group aged 10 to 24 years old.\(^{14}\) These figures justify, in part, a lot of children and adolescents with cancer found in this neighborhood specifically.
Already the Eastern and Southern areas have lower population growth rates, 0.07 and 0.66 respectively, with fewer resident in 2010, 166,491 and 115,297 population, in addition to having the highest monthly income. Being the highest yield found in the Petropolis district with 6,74, opposing to Felipe Camarão neighborhood that has one of the smallest, 0.78.14 This finding explains, in part, the greater number of children with cancer have been detected in Felipe Camarão neighborhood, since the tendency of families with higher purchasing power is to seek private hospitals or centers to treat or assist in treating children when sick.

How the survey was conducted in support homes, most children, if not all, looking for just such homes do not have financial conditions for the treatment, diagnosis and care. It became evident that the greater number of children/adolescents with cancer found in North and West zones is because these possess low socioeconomic standard and being the most populated geographic areas.

The analysis of demographic variation in the prevalence of pediatric neoplasms identifies the geographic areas where individuals are most often affected, thus helping to identify which sites need further attention so that preventive programs, additional human and material resources are established. Moreover, the frequency of occurrence of various types of existing cancer depends directly on the features present in a given region, which highlights the need to study the geographical variances in patterns of disease in order to better monitor it and control it.1

Regarding the most prevalent type of cancer in this sample, the type was leukemia, which corroborates the results PBCR. For this neoplasm is considered the most common type of cancer in children under 15, corresponding to 25% to 35% of cases3,4,6,15. In Natal, according to RCBP, leukemia corresponds to 31% of children and adolescents’ tumors.3,4,6

The main signs and symptoms of this cancer are very specific and can delay diagnosis. In acute lymphoblastic leukemia, the most common signs and symptoms include fever, lymphadenopathy, pallor and bruising, may also be infected, joint and bone pain, fatigue, apathy, anorexia, mucosal bleeding and abdominal enlargement due to hepatosplenomegaly.6

The lymphoma, the second most prevalent type of cancer found in the research is also considered the second most common in children according to PBCR, and is subdivided into two categories, namely: non-hodgkin’s lymphoma and Hodgkin’s disease. Mainly attacks the lymph nodes, liver and spleen.2 In a study on the profile of the incidence of pediatric cancer in Brazil, Natal was the capital with the highest average incidence rate of lymphoma in female children, with less than one year old. Furthermore, according to the PBCR, lymphoma has percentage incidence of 20% in Natal.3,4

The third type found in the study, osteosarcoma, as has most frequent symptom was bone pain, more severe at night and at rest. Generally this type of tumor affects the third distal femur or proximal tibia or humerus. Early detection increases the chances of cure and no impairment of the affected limb, avoiding amputation.6 However, the literature does not mention such a tumor as being the third most common in children as it considers tumors of the central nervous system third most frequent type of cancer in children, accounting for 17% to 25% of cases.3,4 In Natal accounts for only 5% incidence.3

In the present study, medulloblastoma, considered a tumor of the central nervous system, was the fourth most commonly found. Younger children are at risk of not being diagnosed quickly, due to some characteristics of symptoms such as severe headache, often, the child does not know descrever.6

The remaining tumors found in a smaller proportion in the survey are consistent with the data PBCR in Brazil.

CONCLUSION

The regions with the highest number of cases of childhood cancers are the Northern and Western areas, especially Felipe Camarão, a neighborhood in the Western part. This effect may be caused due to high rate of individuals with this age range residing in these regions, coupled with the socioeconomic deprivation.

Regarding the type of cancer, leukemia was the most frequent, followed by lymphoma, osteosarcoma and medulloblastoma. Accordingly, there should be a greater focus on primary care, signs and symptoms presented by these types of cancer, since they are also the most commonly found in the general population, with the exception of osteosarcoma, aiming at early diagnosis and treatment.

There are still no studies in the literature that report the origin of the children diagnosed with cancer in Natal-RN. Thus, further studies on this topic are needed so that there is more information on the subject.
and contribute in the epidemiology of cases of pediatric and adolescent cancer in the said municipality. Therefore understand the impact and profile of the disease in patients in each region of the country allows the planning and development of actions directly on the core needs of the geographical area.

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Children and teens with cancer registered...

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