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Original Article

Mortality from malignant tumors

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Ileana Quevedo Lorenzo I* https://orcid.org/0000-0001-9185-704X

Adriana Caridad Yáñez Crombet I https://orcid.org/0000-0002-4246-5514

Blanca Anisia Gainza González II https://orcid.org/0000-0002-0481-6838

Imilsis Pérez Sariol II https://orcid.org/0000-0002-1385-1192

Wilber Sánchez Cardona II https://orcid.org/0000-0003-1289-6169

[Yo]University of Medical Sciences of Granma.Municipal Hygiene and Epidemiology Center. Yara.Granma, Cuba.

[II] Luis Enrique de la Paz Reina Teaching Polyclinic. Yara, Granma, Cuba.

[*]Corresponding author.E-mail:bgainza@infomed.sld.cu

SUMMARY

Cancer constitutes a serious health problem for humanity, it is the first cause of morbidity and mortality worldwide and one of the main causes of death in Cuba. A descriptive, retrospective study was carried out with the objective of describing mortality from malignant tumors in the Yara municipality, during the period January-June 2022. The universe was made up of 262 deceased and the study sample consisted of the 54 deceased with an underlying cause of death code due to malignant tumors in the aforementioned time period, data obtained through the primary death registry of the

Statistics Department of the Municipal Center for Hygiene and Epidemiology. Descriptive statistical methods were used, mainly percentage, frequency distribution tables were prepared, and crude and cause-specific mortality rates were determined. During the period analyzed, 54 deaths occurred due to malignant tumors. The most affected age group was those over 75, males predominated, the "Luis Enrique de la Paz Reina" health area contributed the highest number of deaths, rural areas prevailed over urban areas, the most frequent sites were prostate, lung, and colorectal, and the highest number of deaths occurred at home. In the Yara municipality, malignant tumors are the second leading cause of death, with the highest number of deaths occurring in elderly patients, with prostate tumors being the most common.

Keywords: Neoplasms/mortality; Morbidity and mortality indicators; Lifestyle; Health; Habits.

ABSTRACT

Cancer represents a serious health problem for humanity. It occupies the first cause of morbimortality worldwide, and one of the main causes of death in Cuba. A descriptive, retrospective study was conducted in the municipality of Yara, in the period January-June 2022. The objective of this research was to describe mortality due to malignant tumors. The universe was constituted by 262 deceased. The sample of the study was constituted by the 54 deceased with code of the basic cause of death by malignant tumors in the aforementioned period. These data were obtained through the primary register of deaths of the Department of Statistics of the Municipal Center of Hygiene and Epidemiology. Descriptive statistical methods were used, mainly percentages. Frequency distribution tables were prepared, and crude mortality rates and mortality rates by cause were determined. During the period analyzed, 54 deaths occurred due to malignant tumors. The most affected age group was those older than 75 years, the male sex predominated. The "Luis Enrique de la Paz Reina" health area contributed the highest number of deaths. The rural area prevailed over the urban area. The most frequent locations were: prostate,

lung and colon-rectum. The highest number of deaths occurred at home. In the municipality of Yara, malignant tumors are the second cause of mortality. Furthermore, the highest number of deaths occurred in elderly patients, and prostate tumor was the most representative.

Keywords: Neoplasms/mortality; Morbidity indicators; Lifestyle; Health; Habits.

SUMMARY

Canker represents a serious health problem for humanity. It is the leading cause of morbidity and mortality throughout the world, and one of the main causes of death in Cuba. A descriptive and retrospective study was carried out in the municipality of Yara, in the period from January to June 2022, with the objective of reducing mortality from malignant tumors. The universe was made up of 262 deceased. The sample of the study was constituted by 54 deceased with a code of the basic cause of death due to malignant tumors in the period mentioned above. These data were obtained through the primary death registry of the Department of Statistics of the Municipal Center for Hygiene and Epidemiology. Foram used descriptive statistical methods, mainly percentuais. We have developed frequency distribution tables and determined gross mortality rates and mortality rates by cause. During the analyzed period, there were 54 deaths due to malignant tumors, each of the youngest age groups or two over 75 years of age and predominantly male. The "Luis Enrique de la Paz" health area was the one that contributed the highest number of deaths. The rural area prevails over the urban area. The most frequent localizations are: prostate, lung and colon. The highest number of deaths occurred at home. In the municipality of Yara, malignant tumors are the second cause of mortality. Além disso, the greater number of deaths occurred in elderly patients, being the prostate tumor or more representative.

Keywords: Neoplasias/mortality; Morbidity Indicators; Lifestyle; Health; Habits.

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Introduction

Cancer is a generic term that designates a broad group of diseases that can affect any part of the body; the terms malignant tumors or malignant neoplasms are also used. (1) They constitute a serious health problem for humanity and are estimated to increase in the coming years. Habits or lifestyles, the aging of the population, and infectious diseases are fundamental causes of this increase. (2)

In 1966, the International Association of Cancer Registries (IACR) was founded with the main objective of promoting cancer monitoring in populations through internationally standardized methodological guidelines that allow the production of scientific evidence with quality criteria such as comparability, exhaustiveness, validity and timeliness, with the aim of supporting public policies and interventions for cancer prevention and control, as well as evaluating their effectiveness. (3)

According to a report from global organizations in 2020, cancer was the leading cause of morbidity and mortality worldwide, and a 47% increase in the number of cases is expected by 2040 compared to 2020. (4-9)

Malignant tumors are the second leading cause of death worldwide. In Cuba, there were 26,056 deaths from this cause in 2020, for a crude rate of 232.6 per 100,000 inhabitants, constituting the second leading cause of death in the country. (10)

In Granma province, 1,812 patients died in 2020 from malignant tumors for a crude mortality rate of 221.5 per 100,000 inhabitants, constituting the second cause of death. (10)

In the Yara municipality, malignant tumors were the leading cause of death from 2018 to 2020, except in 2021, when they were displaced by respiratory diseases. They were the second leading cause of death until June 2022. Based on the above, it was decided to

conduct this study to describe mortality from malignant tumors in the Yara municipality during the period January-June 2022.

Methods

A descriptive study was conducted to describe mortality from malignant tumors in the Yara municipality, Granma province, during the period January-June 2022.

The universe consisted of 262 deceased, and the study sample consisted of the 54 deceased with underlying cause of death codes for malignant tumors during the aforementioned time period. Data were obtained through the primary death registry of the Statistics Department of the Municipal Center for Hygiene and Epidemiology.

The variables analyzed for the study were:

1. Age: quantitative ordinal, continuous scale: under 15, 15-29, 30-44, 45-59, 60-74, over 75 years, according to chronological age.
2. Sex: qualitative, nominal, dichotomous, according to gender of belonging expressed in masculine and feminine
3. Place of residence (nominal dichotomous qualitative variable): they were identified according to place of origin in: urban and rural.
4. Health areas (nominal polytomous qualitative variable): they were identified according to the health area of origin: “Ramón Heredia Umpierre” Polyclinic and “Luis Enrique de la Paz Reina” Polyclinic.
5. Type of malignant tumor: qualitative nominal polytomous, on a scale: lung, breast, uterus, cervix, liver, brain, esophagus, stomach, colon-rectum, larynx and others (When there was only one death in that location), according to the location of the tumor.
6. Place of death: qualitative nominal polytomous, at the scale of home, polyclinic, hospital, according to the patient's place of death.

The data processing was carried out using a Pentium IV PC with Windows XP environment and the results were presented in tables for interpretation.

The information was processed using descriptive statistical methods, mainly percentage, using a desktop calculator and a computer, and the data was stored in a database created by the authors.

As summary measures for qualitative variables, the crude and cause-specific mortality rates were determined using the nationally described formulas.

The absolute frequency (number of cases) and relative frequency (percentage) were determined using the frequency distribution. Once the information was obtained, frequency distribution tables were created for better understanding and subsequent analysis and discussion of the results. These were compared with the national and international literature consulted, allowing conclusions to be drawn.

For the purpose of conducting this research, the data were obtained from the aforementioned registries, so institutional consent was required for review. The consent of the relatives of patients who died from malignant tumors was also considered for the research.

Results

In the period studied, 262 deaths occurred in the Yara municipality, 54 of which were due to malignant tumors, for a crude mortality rate of 10.10 x 10,000 inhabitants and a mortality rate per cause of 101.02 x 100,000 inhabitants, constituting the second cause of death in the municipality.

The deaths were distributed according to age group and sex, the age group 75 years and over predominated with 24 deaths (44.44%) followed by the 60-74 age group with 19 (35.89%). It is worth noting that no deaths occurred from this cause in the 15-29 age

group and only one in those under 15 (1.85%). Regarding sex, 61.12% were male, predominating over female (38.88%). (Table 1).

Table 1. Malignant tumors by age and sex.

Age Group	Sex				Total	
	Male		Female			
	No	%	No	%	No	%
Under 15	1	1.85	0	0	1	1.85
15-29	0	0	0	0	0	0
30-44	2	3.70	1	1.85	3	5.55
45-59	3	5.55	4	7.40	7	12.96
60-74	13	24.07	6	11.11	19	35.18
75 and over	14	25.92	10	18.51	24	44.44
Total	33	61.12	21	38.88	54	100

The distribution of deaths from malignant tumors according to place of residence and health areas is shown below. The number of deaths in rural areas predominated in both health areas with 35 (64.82%). It is important to highlight that in the "Ramón Heredia Umpierre" polyclinic only 4 deceased resided in urban areas (7.40%), while in the "Luis Enrique de la Paz Reina" polyclinic there were no significant differences. (Table 2).

Table 2. Malignant tumors by place of residence and health areas.

Health Areas	place of residence				Total	
	Urban		Rural			
	No	%	No	%	No	%
Luis E. de la Paz Reina	15	27.77	17	31.49	32	59.25
Ramón Heredia Umpierre	4	7.40	18	33.33	22	40.74
Total	19	35.18	35	64.82	54	100

Regarding the location of the most frequent malignant tumors by sex, in males the most representative was prostate (16.66%), followed by lung (9.25%) and then stomach

(7.40%), and in females the cervix (7.40%), colorectum and breast showed an equal number of deaths (5.55%). Overall in the municipality the first 3 locations were in decreasing order: prostate (16.66), lung (12.96%), colorectum (9.25%). (Table 3).

Table 3. Deaths from malignant tumors by location and sex.

Types of tumors	Sex				Total	
	Male		Female		No	%
	No	%	No	%		
Prostate	9	16.66			9	16.66
Lung	5	9.25	2	3.70	7	12.96
Cervical-uterine	0	0	4	7.40	4	7.40
Colon-Rect	2	3.70	3	5.55	5	9.25
Mother	0	0	3	5.55	3	5.55
Liver	1	1.85	1	1.85	2	3.70
Brain	2	3.70	1	1.85	3	5.55
Stomach	4	7.40	0	0	4	7.40
Kidney	1	1.85	1	1.85	2	3.70
Endometrium	0	0	2	3.70	2	3.70
Esophagus	2	3.70	0	0	2	3.70
Larynx	2	3.70	0	0	2	3.70
Others	5	9.25	4	7.40	9	16.66
Total	33	61.12	21	38.88	54	100

The highest number of deaths from malignant tumors occurred at home (75.92%), 18.51% in the hospital due to the characteristics of this disease, and 5.57% in the polyclinic. No deaths from this cause occurred elsewhere (Table 4).

Table 4. Deaths from malignant tumors according to site of death.

Place of death	Total	
	No	%
Hospital	10	18.51
Home	41	75.92
Polyclinic	3	5.57

Another place	0	0
Total	54	100

Discussion

Cancer in Cuba is the second cause of general mortality and the first cause of potential years of life lost. (1,11)

Studies conducted by Dr. Rodríguez Velázquez and collaborators coincide with the results of the research, where malignant tumors in people over 75 years of age showed a rate of 84.13 x 100,000 inhabitants, also predominating the male sex. (1)

Research conducted by Dr. Bergantiño Collazo and collaborators in Cienfuegos shows that the age group over 70 years was the most representative with 55.6%, regarding sex, 58.0% were male and 42.0% were female. (12)

Other studies show that 53.8% of the deceased were male and 46.2% were female, (13) a similar behavior to the municipality.

Cancer is considered a disease of the elderly. More than 65% of all malignant neoplasms occur in this group. González et al. recognize that the risk of cancer increases with age, because the time and degree of exposure to carcinogens also increase with age. (14)

Other authors suggest that the frequency of tumors increases with age, and that the aging of the population will increase the number of cases in the future, regardless of whether people were mostly exposed to one or another risk factor. (15,16)

Although multiple studies confirm that the male sex is the one with the highest risk of dying from cancer, no epidemiological explanations have been found in this regard, although there is talk of gender behaviors that affect this population, given the high exposure to risk factors over time and quality such as cigarettes, alcohol, and chemical substances. (17)

The highest percentages of deaths from malignant tumors resided in rural areas, a result that differs from other research conducted in other provinces (1,12,13), where the

mortality rate from malignant tumors in urban areas was 11.4 x 100,000 inhabitants and predominated over rural areas.

Cancer is, in essence, a genetic process, where different factors can interact in a multifactorial and sequential manner to produce malignant tumors. Genetic alterations can be inherited or produced in a cell by a virus or an external injury. (1,5-9,17)

The total number of tumors in both sexes in Western Europe and the United States is increasing considerably. The increase in the total number is mainly due to the increase in prostate cancer in men and breast cancer in women. (18) Results that are consistent with the study.

Research conducted by Dr. Velázquez María del Carmen shows a predominance of malignant tumors in the lung, prostate and esophagus in males, while in females: lung, breast and colon. (1)

Studies carried out by Dr. Rodríguez-Jiménez Pablo and collaborators in Matanzas show that the most frequent location of malignant tumors in the male sex was the prostate, (11) a result that coincides with the study and in females the breast, which in the research presented occupied second place.

In some countries, breast cancer has been occurring less frequently for some years now, probably due to studies showing that hormone treatments during menopause lead to an increase in these diseases, so many women prefer not to use these therapies. (18,19)

As regards lung tumor, there is currently an invariable frequency that decreases in certain countries in men, while it increases in women.(20)

There are tests that can detect special proteins, called tumor markers, produced by certain types of cells (14). So far, the usefulness of this type of test has been very limited because most of these substances also appear in the blood of healthy people, albeit in small quantities. The most significant example of this is the prostate-specific antigen, prostate surface antigen (PSA). (1,2,12)

Cancer is a disease that continues to be a mystery to mankind even in the 21st century. Tobacco use is the main risk factor and causes a wide variety of cancers (lung, larynx,

esophagus, stomach, bladder, among others). (13) Although some aspects remain to be elucidated, there is sufficient evidence to confirm that dietary factors also play an important role as a cause of cancer. This applies both to obesity, which is a complex risk factor in itself, and to the composition of the diet (scarce fruits and vegetables and abundant salt). Physical inactivity also has a defined role as a risk factor for the disease. (19)

The highest percentage of deaths from malignant tumors occur at home, contrary to what is reflected in international medical literature, the majority of cases die in the hospital, due to the characteristics of this disease, which sometimes require advanced life support. (15,17) However, in our country, the reviewed research coincides with the results shown, since primary health care has the possibility of home admission. It must be remembered that for a patient with a terminal illness, their home is the most ideal place, surrounded by family and friends, which guarantees trust and security, improving their quality of life; it would avoid disconnection from their family and social environment. On the other hand, these are patients who, due to their illness, have a weakened immune system and hospital admission could bring with it a nosocomial infection that could accelerate their death or cause complications.

Conclusions

In the Yara municipality, there is an upward trend in mortality from malignant tumors, which are the second leading cause of death. The highest number of deaths occurred in elderly patients, with prostate cancer being the most common. Therefore, the work of the primary health team must focus on actively screening for this dreaded disease.

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Conflict of interest

The authors declare no conflicts of interest.

Authorship contribution

Conceptualization, formal analysis, supervision and research: Ileana Quevedo Lorenzo.

Data curation, validation, visualization and methodology: Adriana Caridad Yáñez Crombet, Blanca Anisia Gainza González.

Original draft written by: Imilsis Pérez Sariol.

Writing, review and editing: Wilber Sánchez Cardona.

I, Ileana Quevedo Lorenzo, on behalf of all the co-authors, declare the veracity of the content of the article.