Coloretal Cancer Prevention and Screening before the Economic and Social Impact of Costs for Cancer Treatment In Brazil

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Abstract — According to the INCA National Cancer Institute, cancer is a term that encompasses more than 100 different types of malignancies that have in common the disordered growth of cells, which can invade adjacent tissues or distant organs. The evolution of cancer is directly correlated with preventive actions, which aim to prevent it from developing, encompassing actions to reduce the risks of having the disease. Cancer prevention encompasses actions taken to reduce the risks of having the disease. By avoiding exposure to risk factors and adopting a healthier lifestyle, early detection and treatment of pre-malignant diseases (e.g. polyps in the intestinal walls) or early asymptomatic cancers that often enables successful treatment, even leading to cure. The present work makes a reflective study on the challenges of implementing public policies for the prevention of colorectal cancer and its economic and social impact. We take as a theoretical basis the considerations of CANCELA (2019), LIMA (2015) and SCANDIUZZI et all (2019) in addition to the data provided by INCA and the Ministry of Health. The bibliographic analysis reveals that public policies for the prevention of colorectal cancer are still very scarce in view of the magnitude in which the disease has been growing. Screening and early detection is an action aimed at the population in the subclinical phase with the objective of reducing the incidence of invasive cancer and the mortality rate, still so little explored by public managers. It is concluded that access to treatment for colon and rectal cancer is unequal in Brazil, and depends on the resources available in each region of the country and that socioeconomic and clinical factors are associated with the waiting time for the start of treatment, thus reflecting, barriers to timely access to treatment. There is an urgent need to create screening protocols and conditions for the implementation of public policies that value the work of colorectal cancer prevention. There are also strategies that require greater encouragement even from the Ministry of Health itself, such as health education actions to raise awareness of the population, training of health professionals and articulation of the system with the service network, seeking to carry out diagnostic tests. and facilitating access to treatment.

I. THE CCOLORECTAL CANCER AND PUBLIC HEALTH

Cancer is an ancient disease that is still greatly feared by people and, despite the advancement of medicine, it is a disease that carries the stigma of past times, when many died. Currently, cancer is defined as a group of diseases that are characterized by the disorderly multiplication of malignant cells, that is, normal cells that have undergone changes in their DNA. The development of these cells in an aggressive and uncontrollable way, the formation of malignant tumors (malignant neoplasms) occurs, and when they invade neighboring and distant cells, metastasis is characterized.

Colon and rectal cancer (CRC) is classified based on the International Classification of Diseases (ICD 10) as Malignant Neoplasm of Colon (C18), Malignant Neoplasm of Rectosigmoid Junction (C19) and Malignant Neoplasm of Rectum (C20) (MINISTRY OF HEALTH, 2014). The colon and rectum form the large intestine, forming part of the gastrointestinal system. It is a tubular organ, located in the final portion of the digestive tract with the function of absorbing water, nutrients, creating and excreting feces. According to its specific characteristics, the colon is divided into: cecum, ascending colon, transverse colon, descending colon, and sigmoid colon. The last 15 cm of the digestive tract after the sigmoid is called the rectum (INCA, 2003).

The causes of cancer are varied and there are several factors that make it possible for it to develop. As main causes of cancer: genetic predisposition, dietary habits, lifestyle and environmental conditions. The colon and rectum are part of the large intestine, with the function of absorbing nutrients and excreting substances not used by the body in the form of feces. We have factors that predispose the occurrence of colorectal cancer (CRC): family history of cancer, history of previous cancer, appearance of polyps, inflammatory bowel disease, obesity, individuals over 50 years of age, smoking, sedentary lifestyle, alcohol consumption.

Statistical data have shown us that, unfortunately, colorectal cancer is growing between second and third in incidence in Brazil and fourth in mortality from malignant tumors. Early detection is still incipient, unfortunately most people get the diagnosis when they present some symptoms and signs, where the disease is already in a more advanced stage.

This reality makes the treatment more complex, invasive and at a higher cost. Surgical interventions, chemotherapy and radiotherapy are required. The result of this situation is a very negative psychological, social and economic impact. However, CRC is considered a disease that can be detected early or secondary, being able to avoid a good part of the deaths that could have been avoided to the extent that the disease is known.

Adenocarcinoma to turn into a cancer usually goes through a 10 to 15 year journey. This period allows for appropriate and relevant interventions to be carried out to screen for the disease. Such as fecal occult examination and colonoscopy and follow-up by the colopoctologist, with the aim of reducing the incidence of invasive cancer and the mortality rate.

Even though there is tracking in the Primary Care Notebook issued by the Ministry of Health, in Brazil it is still unknown population-based screening programs for colorectal cancer effectively implemented in states and municipalities, and early screening is still a challenge.For this reason, there is still great difficulty in articulating the levels of care and carrying out more complex complementary exams for diagnosis and follow-up. This fact makes early diagnosis impossible and leads to a worse prognosis for the patient. The critical nodes faced are: habits and lifestyles that predispose to the disease, carrying out complementary exams and articulation with specialties when necessary.

1.1 Bowel cancer and its complications

Bowel cancer is associated with tumors that reach from the part of the large intestine called the colon and into the rectum, which is the final structure of the intestine near the anus. Hence, it is also called colon and rectal or colorectal cancer.

INCA researcher Marianna Cancela explains that the symptoms of bowel cancer can be confused with those of other diseases. The most frequent signs are blood in the stool, change in bowel habits, such as diarrhea and constipation, abdominal pain or discomfort, weakness and anemia, weight loss with no apparent cause, change in the shape of stools and the presence of nodules in the abdominal region. .

The diagnosis can be made from the biopsy, which consists of removing tissue fragments for analysis. The sample is collected through a device introduced through the rectum, called an endoscope.

We can see in the image below the anatomical division of the intestine:
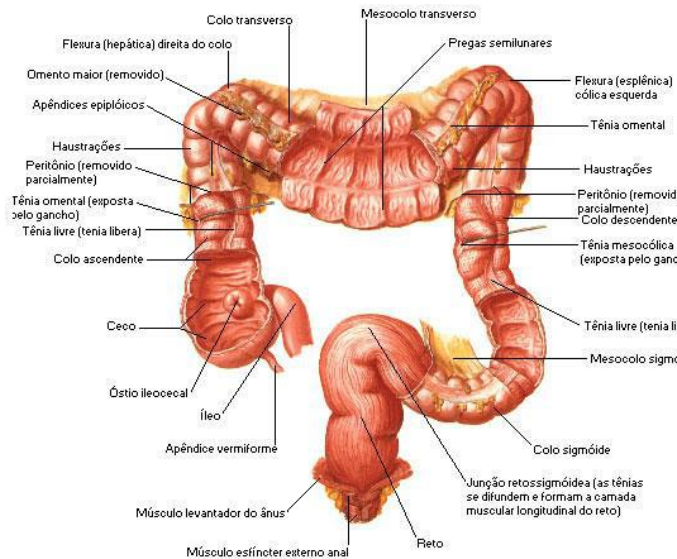
Source: NETTER, Frank H.. Atlas of Human Anatomy. 2nd edition Porto Alegre: Artmed, 2000.

Treatment is effective and can lead to a cure, especially when the diagnosis is made at an early stage and the disease has not yet spread to other organs. In addition to surgery, radiation therapy or chemotherapy may be required.

1.2 Importance of early screening

The change in this public health scenario in our country is directly related to the capacity of primary care with its service organization and the quality of service provided by the Family Health Strategy (ESF) to carry out an adequate screening and from there indicate screening methods. The performance of this professional who assists this user of the Unified Health System (SUS) is a structuring factor of this entire chain of possible CCR tracking. It is at the base where a greater bond between this professional and the SUS user is possible, since the service is located in that individual's territory, thus enabling greater population adherence to initial exams and specialist indication if necessary. This is the moment when communication will produce information, guidance and clarification.

Usually, the initial phase of treatment is the request for non-invasive tests such as the fecal occult blood test, then colonoscopy, among other imaging tests if necessary. There are also other issues identified, such as accessibility to the SUS for specialist proctologist medical care and prompt examinations and prevention campaigns. It is important to remember that the costs of these actions such as the fecal occult blood test and prevention campaigns are low, but there is no organized system so far that has brought effective responses in CRC screening.

1.3 cancer statistics

Analyzing the information published in INCA, related to the profile of different types of cancer, we observed that this information is the basis for the construction of safe indicators on combating and reducing this.

According to the tables below, we can analyze thereincidenceestimated according to the primary location of the tumor and sex. These data are from 2020 and were published on 06/10/2021:

In men, Brazil 2020

Primary Location	New Cases	%
Prostate	65,840	29.2
Colon and Rectum	20,540	9.1
Trachea, bronchus and lung	17,760	7.9
Stomach	13,360	5.9
Oral cavity	11,200	5.0
Esophagus	8,690	3.9
Bladder	7,590	3.4
Larynx	6,470	2.9

leukemias	5,920	2.6
Central Nervous System	5,870	2.6
All Neoplasms except non-melanoma skin	225,980	100.0
All Neoplasms	309,750	

Source: MS/INCA Cancer Estimate in Brazil, 2020. MS/INC / Prevention and Surveillance Coordination - Surveillance and Situation Analysis Division

In women, Brazil 2020:

Primary Location	New Cases	%
female breast	66,280	29.7
Colon and Rectum	20,470	9.2
cervix	16,710	7.5
Trachea, bronchus and lung	12,440	5.6
Thyroid gland	11,950	5.4
Stomach	7,870	3.5
Ovary	6,650	3.0
uterus body	6,540	2.9
non-Hodgkin's lymphoma	5,450	2.4
Central Nervous System	5,230	2.3
All Neoplasms except non-melanoma skin	223,110	100.0
All Neoplasms	316,280	

Source: MS/INCA Cancer Estimate in Brazil, 2020. MS/INC / Prevention and Surveillance Coordination - Surveillance and Situation Analysis Division.

We can now observe in the tables below, the mortality according to the primary location of the tumor and sex. These data are from 2019 and were published on 07/10/2021:

In men, Brazil 2019

Primary Location	Deaths	%
Trachea, Bronchi and Lungs	16,733	13.8
Prostate	15,983	13.1
Colon and Rectum	10,191	8.4

Stomach	9,636	7.9
Esophagus	6,802	5.6
Liver and intrahepatic bile ducts	6,317	5.2
pancreas	5,905	4.9
Oral cavity	5,120	4.2
Central Nervous System	5,049	4.1
leukemias	4,014	3.3
all neoplasms	121,686	100.0

Source: MS / SVS / DASIS / CGIAE / Mortality Information System, 2021MS / INCA / Prevention and Surveillance Coordination / Surveillance and Situation Analysis Division,

In women, Brazil 2019

Primary Location	Deaths	%
mama	18,068	16.4
Trachea, Bronchi and Lungs	12,621	11.4
Colon and Rectum	10,385	9.4
cervix	6,596	6.0
pancreas	5,893	5.3
Stomach	5,475	5.0
Central Nervous System	4,663	4.2
Liver and intrahepatic bile ducts	4,584	4.2
Ovary	4,123	3.7
leukemias	3,356	3.0
all neoplasms	110,344	100.0

Source: MS / SVS / DASIS / CGIAE / Mortality Information System, 2021MS / INCA / Prevention and Surveillance Coordination / Surveillance and Situation Analysis Division, 2021

II.   COLORECTAL CANCER IN THE TRIENNIUM 2020-2022

Most colon and rectal cancer starts as a polyp. Polyp is the abnormal growth of cells inside the intestine, with possible evolution to cancer. The type of polyp that often becomes a cancer is adenomatous polyps, of epithelial origin, corresponding to 95% of cases of colon and rectal cancer (THRUMURTHY, 2016; FLEMING, 2012 in LIMA 2019).

Epidemiology reveals that colon and rectal cancer is the third most common cancer in men and the second most common in women worldwide. With no significant

difference between the sexes, colon and rectal cancer represents 10.9% of cancer cases in men and 9.5% of cases in women.

For Brazil, it is estimated that for each year of the triennium 2020-2022, 20,520 cases of colon and rectal cancer in men and 20,470 in women. These values correspond to an estimated risk of 19.63 new cases per 100,000 men and 19.03 per 100,000 women.

We can see in detail in the table below, according to INCA:

| Primary location of malignant neoplasm | Men | | | | | | Women | | | | | |
| | States | | | capitals | | | States | | | capitals | | |
	cases	gross rate	Adjusted Rate	cases	gross rate	Adjusted Rate	cases	gross rate	Adjusted Rate	cases	gross rate	Adjusted Rate
Prostate	65,840	62.95	50.78	13,640	60.53	57.33	-	-	-	-	-	-
female breast	-	-	-	-	-	-	66,280	61.61	43.74	19,820	78.88	45.90
cervix	-	-	-	-	-	-	16,710	16.35	15.38	3,780	14.98	12.26
Trachea, bronchus and lung	17,760	16.99	16.19	3,180	14.17	16.11	12,440	11.56	9.24	3,760	14.96	11.32
Colon and Rectum	20,540	19.64	18.80	5,320	23.59	21.26	20,470	19.03	13.36	6,260	24.90	15.59
Stomach	13,360	12.81	11.37	2,430	10.85	11.23	7,870	7.34	5.95	1,920	7.71	6.61
Oral cavity	11,200	10.70	9.25	2,040	9.03	9.19	4,010	3.71	2.66	970	3.73	3.21
Larynx	6,470	6.20	5.75	1,150	5.00	4.97	1,180	1.06	0.92	360	1.06	0.79
Bladder	7,590	7.23	4.61	1,800	7.87	7.12	3,050	2.80	2.03	900	3.44	2.61
Esophagus	8,690	8.32	6.48	1,160	5.00	6.27	2,700	2.49	1.76	460	1.60	1.42
Ovary	-	-	-	-	-	-	6,650	6.18	4.84	1,870	7.50	5.19
Hodgkin's Lymphoma	1,590	1.52	1.33	450	1.71	1.93	1,050	0.95	0.88	430	1.35	1.04
non-Hodgkin's lymphoma	6,580	6.31	5.67	1,430	6.41	7.27	5,450	5.07	3.37	1,260	4.96	4.27
Thyroid gland	2,310	2.17	1.52	1,090	4.52	1.81	11,950	11.15	8.13	4,650	18.47	8.13
Central Nervous System	5,870	5.61	5.22	1,150	5.07	6.27	5,230	4.87	4.17	1,280	5.03	4.55
leukemias	5,920	5.67	5.55	1,210	5.43	5.93	4,890	4.56	3.95	1,180	4.69	4.64
body of uterus	-	-	-	-	-	-	6,540	6.07	5.22	1,930	7.61	6.14
Melanoma skin	4,200	4.03	2.01	790	3.36	3.40	4,250	3.94	1.78	870	3.28	2.49

Primary location of malignant neoplasm	Men						Women					
	States			capitals			States			capitals		
	cases	gross rate	Adjusted Rate	cases	gross rate	Adjusted Rate	cases	gross rate	Adjusted Rate	cases	gross rate	Adjusted Rate
Other Locations	48,060	45.97	41.48	9,320	41.34	48.09	42,390	39.43	29.40	9,790	38.88	26.48
All Neoplasms except Non-Melanoma Skin	225,980	216.15	215.86	46,160	204.92	238.47	223,110	207.48	145.00	61,490	244.73	159.85
non-melanoma skin	83,770	80.12	-	20,010	88.84	-	93,170	86.66	-	19,090	75.98	-
All Malignant Neoplasms	309,750	296.28	-	66,170	293.75	-	316,280	294.13	-	80,580	320.71	-
All malignant neoplasms corrected for underreporting	387,980	371.11	-	-	-	-	297,980	277.11	-	-	-	-

TheWorld standard population (1960). / *Numbers rounded to multiples of 10.

The main factors at the highest risk of developing colon and rectal cancer are: age 50 years or older, obesity, physical inactivity, prolonged smoking, high consumption of red or processed meat, low calcium intake, excessive alcohol consumption and diet. low in fruit and fiber. There are hereditary factors that increase the risk, which include a family history of colorectal cancer and/or adenomatous polyps, certain genetic conditions such as familial adenomatous polyposis and hereditary nonpolyposis colorectal cancer, a history of chronic inflammatory bowel disease (ulcerative colitis or Crohn's disease) and type 2 diabetes; and also factors such as occupational exposure to ionizing radiation (AMERICAN CANCER SOCIETY, 2019a; INSTITUTO NACIONAL DE CANCER JOSÉ ALENCAR GOMES DA SILVA, 2019, p. 36).

The factors associated with delay in the treatment of rectal cancer in Brazil were: age between 50 and 79 years and 80 years or older, black and mixed race/skin color, illiteracy and low education. It is interesting to note that the lower the level of education, the greater the chance of delay in treatment. In addition to these factors, there was also a greater chance of delay in treatment in individuals whose treatment was carried out in a different municipality from their residence.

Brazilian public managers need a more accurate look at public health, at the cancer disease, designing actions that make it possible to reduce the incidence of CRC in the population, as well as a better prognosis and lower morbidity and mortality of individuals with the disease. Encompassing actions such as the wide dissemination of warning signs to the population and health professionals, articulation of the system seeking immediate access to diagnostic procedures for suspected cases and access to adequate and timely treatment. Therefore, the elaboration of a plan for the prevention and reduction of the incidence of colorectal cancer is of essential importance for the fight and prevention of the disease.

Promote prevention and training campaigns for health professionals regarding colorectal cancer. Educate the population about the signs and symptoms, risk factors and possible changes in lifestyle that make it possible to prevent the disease. Develop a care protocol for patients with suspected colorectal cancer in state bodies to guide the work of the municipalities, aiming at easier paths for the prevention and early diagnosis of the pathology in question. When diagnosed at an early stage, the cancer is potentially curable (MENDONÇA et al., 2012). The 5-year

survival rate for patients with early-stage colon and rectal cancer is up to 90% (SIEGEL et al., 2012).

In Brazil, Federal Law No. 12,732 was enacted in November 2012 to ensure that the time between diagnosis and initiation of treatment does not exceed 60 days. However, studies on breast, cervical and prostate cancer found a long waiting time for treatment to begin, as well as socioeconomic and geographic inequalities in accessing treatment (MEDEIROS et al., 2015; FERREIRA DA SILVA et al. , 2019; SACRAMENTO, et al., 2016).

In relation to colon and rectal cancer, despite the high incidence and mortality in Brazil, there are few studies that assess the association between socioeconomic/clinical characteristics and the time between diagnosis and initiation of treatment.

Therefore, this study aims to identify factors associated with the delay between diagnosis and initiation of treatment for colon and rectal cancer in Brazil. In this way, it is expected to contribute to the identification of socioeconomic and geographic barriers in accessing treatment in a timely manner in Brazil.

Todos Juntos Contra o Câncer (TJCC) is a movement of Brazilian society that brings together representatives from different sectors focused on the care of cancer patients, such as health managers, medical entities, hospitals, health professionals, researchers, press professionals, patients and others, committed to guaranteeing the patient's right to universal and equal access to health. This movement announced on 11/29/21 that researchers project increased public spending for bowel cancer or colorectal cancer in Brazil.

The projection of SUS expenses with hospital and outpatient procedures for patients with CCR may reach R$ 1 billion in 2030, according to information from INCA. Such expense refers to patients who developed the disease due to exposure to avoidable risk factors, it will be 88% higher than the amount spent in 2018.

In 2018, the SUS disbursed approximately R$545 million for hospital and outpatient procedures to care for patients with colorectal cancer aged 30 years or older. For 2030, INCA projects that this expenditure could reach R$ 1 billion.

According to the TJCC each year, about 40,000 new cases of the disease are diagnosed among men and women. Of this total, about 30% are associated with behavioral factors, such as inadequate diet, smoking and physical inactivity.

INCA researchers identified that risk factors related to food, nutrition and lack of physical activity were responsible for about BRL 160 million in public expenditure on colorectal cancer in 2018.

According to the study, the highest attributable expenses were with low consumption of dietary fiber (R$ 60 million), insufficient physical activity (R$ 47 million), consumption of processed meat (R$ 28 million), red meat above recommended (R$ 19 million), alcoholic beverages (R$ 15 million) and overweight (R$ 12 million). The projection shows that, in 2030, these same causes could be responsible for up to R$ 395 million of federal disbursement with this type of cancer alone.

And what are the social costs of cancer? For Cancela (2018), we have these costs illustrated in the image below, emphasizing the socio-economic dimension that cancer affects:

Source: Presentation by Marianna Cancela at the Oncoguia Forum on 04/25/2018

To estimate these impacts of bowel cancer on the country's economy, INCA researchers analyzed mortality data from DataSUS (Department of Informatics of the Unified Health System). Using models, experts estimated the number of deaths from the disease and the time of life lost due to early death.

Base data from the IBGE, from the continuous PNAD, were used, where it was calculated in some projections how much these people would no longer receive in terms of work. The researchers performed "estimates for the Brazilian population as a whole, considering salary values" (CANCELA, 2018). Still according to IBGE data, from PNAD continues and with CANCELA (2018), Considering the impacts of colorectal cancer for this decade, from 2021 to 2030, we will have around 6 million years of life lost adding all these deaths and the length of time these people stopped living.According to the analysis, economic losses in productivity, due to death, will reach US$ 12.7 billion (about R$ 70 billion), in the same decade.

III.   MATERIAL AND METHOD

The literature review was carried out by searching for articles using the following descriptors: "colorectal cancer", "prevention", "public policies" and "costs". Additionally, there werepublications of the National Cancer Institute and the Ministry of Health were consulted. A reflective study was carried out on the challenges of implementing public policies for the prevention of colorectal cancer and its economic and social impact. The entire study was based on the legislation in force in Brazil that deals with cancer prevention and control. It presents us with several laws, ordinances, decrees and guidelines for the work of public health management.

THE Ordinance No. 874, of May 16, 2013, of the Ministry of Health, institutes the National Cancer Prevention and Control Policy in the Health Care Network for People with Chronic Diseases within the scope of the Unified Health System (SUS).

We consulted and analyzed the National Cancer Prevention and Control Policy, which has the objective of reducing the occurrence, mortality and disabilities caused by cancer, as well as improving the quality of life of patients through actions of promotion, prevention, early detection, timely treatment and palliative care.This policy is organized in such a way as to enable the continuous provision of health care actions, through the articulation of the different points of care, and establishes:

General principles

- Ordinance 4279/2010 - Establishes guidelines for the organization of the Health Care Network
- Ordinance 571/ 2013 - Updates the Guidelines for Attention to Smokers

Health promotion

- Law 12,715/2012 - Establishes the National Oncology Support Program
- Ordinance 2446/2014 - Redefines the National Health Promotion Policy (PNPS)

Cancer prevention

- Law 8069/1990 - Provides for the Statute of Children and Adolescents
- Law 9249/1996 - Provides for restrictions on the use of advertising of cigarettes, alcoholic beverages, medicines, therapies and agricultural defensives.
- Resolution 304 of Anvisa/2002 - Prohibits the production, import, propagation and distribution of food in the form of cigarettes and cigars.
- Decree 5658/2006 - Enacts the prevention framework on tobacco control
- Ordinance 29/2015 - Approves the National Guidelines for the Early Detection of Breast Cancer within the scope of the SUS.
- Ordinance 2898/2013 - Updates the National Mammography Quality Program (PNQM)

education

- Law 7488/1986 - Creates the National Day to Combat Tobacco and determines the holding of Celebrations on August 29 throughout the national territory.

Health Communication

- Law 10,167/2000 - Prohibits tobacco advertising by electronic means, indirect and in stadiums, tracks, stages or similar places. Prohibits the sponsorship of sporting and cultural events.

guidelines

- Establish methods and mechanisms for the analysis of the economic-sanitary feasibility of public enterprises in the Health Industrial Complex;
- Implementation of the research network for the prevention and control of cancer in accordance with the objectives of the National Policy on Science, Technology and Innovation in Health;

- Implementation of practices for the preparation of scientific technical opinion, ATS and AE to support decision-making in the process of incorporating new SUS technologies.

IV.   CONCLUSION

In Brazil, colorectal cancer has a high incidence and mortality. There is a high proportion of cases with advanced diagnosis, although there is a diagnostic test capable of eliminating polyps before the appearance of cancer, as well as the detection of cancer at an early stage. Technological advances are used in cancer treatment, but economic and geographic barriers can influence the time to start treatment, in addition to the barriers caused by critical nodes that need to be detected.

Critical nodes bring the idea of something that can be intervened, that is, what is within the governance limits of those who are planning. Among the main critical nodes identified are: Inadequate habits and lifestyles of the population; Identification and tracking in individuals at increased risk and; Difficulty in articulating secondary care and performing more complex tests, making early diagnosis impossible and leading to greater morbidity and mortality.

After detecting the critical nodes to be faced, considered the most important and the ones that can be modified, we see that these are essential for the construction of a better public policy in the prevention of cancer and consequently of the correct cancer, object of this work.

From the documentary analysis, we can see that access to cancer treatment is unequal in Brazil. Socioeconomic determinants influence the waiting time for treatment, making it necessary to make improvements in the coordination of health services, with the objective of providing cancer treatment in a more equitable way for the population.

With the "law of 60 days" the time between diagnosis and the beginning of treatment was established, but there is a need for other measures to achieve this. It is essential to strengthen the conduct of early diagnosis in Brazil, through public awareness and access to diagnosis in a timely manner.

We reached this conclusion after several researches carried out and after understanding what Cancela (2018) tells us:

> "Cancer causes a great impact on the family and also on the economy, loss of productivity resulting from the disease and the deaths caused by it. Given this reality, an international study was presented that evaluated the costs of cancer on the economy. Among the objectives was to draw attention to how cancer affects society as a whole and to understand how public policies can also mitigate the economic impact of the disease. In addition, the difficulties faced by cancer patients in accessing employment and study opportunities and, in cases where the disease is incapacitating, the challenges to leave work and follow treatment were addressed."

Cancer control actions are based on the natural history of the disease, from the monitoring and assessment of risk factors to the organization of the comprehensive care line for prevention, early diagnosis, treatment and palliation. Policies that encourage lifestyle changes that reduce cancer risk can have positive effects on the economy.

We observed in several governmental documents and articles by INCA researchers that primary prevention strategies aimed at promoting healthy eating, regular physical activity, maintaining adequate body weight, reducing the consumption of alcoholic beverages and stopping the use of tobacco are fundamental and have great potential to reduce the costs associated with colorectal cancer not only in the world, but in the entire global community.

Combining tobacco control, vaccination programs and cancer screening with access to adequate treatment could generate significant gains for both public health and economic performance. Therefore, we conclude that cancer affects the economy as a whole, in addition to the health system. Additional perspective is important for policymakers and decision makers to identify priorities for cancer prevention and control.

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