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Breast cancer: diagnosis-to-treatment waiting times for elderly women at a reference hospital of São Paulo, Brazil

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Abstract *This study compares waiting time from diagnosis of breast cancer to start of treatment with patients' social-demographic and clinical profiles in women aged 60 or more at the PérolaByington Hospital, São Paulo, over the years 2001–2006.It is a descriptive study based on secondary data in a sample of 1,299 cases. Social-demographic, clinical and temporal variables were collected. Patients were divided into two groups: those with period between diagnosis and start of treatment less than 60 days, and greater than 60 days. The average time between diagnosis and start of treatment was 74.7 days (SD = 212.6), and the median time was 45 days. This waiting time was lower for subjects without diagnosis and without prior treatment (p = 0.001), and also for those with tumors at Stage 0, in situ or Stage I(p = 0.001). Time was significant for the outcomes of relapse (p = 0.004) and metastasis (p = 0.038). Having established diagnosis and treatment also resulted in lower time to start of the required care. Improvement to the structuring and functioning of the health service is an essential need, for dealing with the cases of the disease in an efficient manner, an important challenge for Brazil's Unified Health System.*

Key words *Breast cancer, Mammary neoplasia, Elderly women, Treatment, Diagnosis, Delay*

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Introduction

Breast cancer is the most common cause of death among women and, with the exception of non-melanoma skin cancer, is the most frequently occurring type of cancer in 140 countries[1]. In Brazil, a total of 57,120 new cases were estimated for the years 2014 and 2015, with an estimated risk of 56.09 cases for each 100,000 women[2]. For the same period the forecast is 30,740 new cases in Brazil's Southeastern region alone[1].

The increase in the occurrence of cancer is not only due to increased life expectancy, but is also related to the improvement in diagnostic technology, and the expansion of surveillance programs[3]. In the developed countries its frequency is greater, and could also be related to more advanced records, and sedentary and reproductive habits[4]. The mortality coefficients are higher in the developing countries[1], a reflection of inequalities in health[5].

Breast cancer progresses slowly and, if diagnosed early, the possibility of cure or prolongation of survival is considerably increased[6]. It is rare before the age of 35, but above this age group its incidence is rapid, growing and progressive[7]. Almost four out of every five cases takes place after the age of 50[2].

In the United States, in 2005, half of the patients diagnosed with breast cancer were over 65; and in 2015 it is estimated that this percentage will increase by 30%[8]. Populations with higher life expectancy, such as Switzerland, have the highest prevalence of this type of cancer in Europe, with old people representing 12% of that country's total cases[9].

Studies on the interval between diagnosis and start of treatment are important for deciding resolution measures. In Brazil there are tools, such as the *Registro de Câncer de Base Populacional* (RCBP) and the *Registro Hospitalar de Câncer* (RHC), which help in monitoring and evaluation of action for control and research on cancer, as well as helping indecisions on evaluation of the effects of treatments and control of the variables recorded for each tumor[10,11]. Information in the RHCs has provided input for several studies[12-14], and analyses of time trends of the phenomena associated with the disease[11].

The delay between diagnosis and start of treatment worsens breast cancer, making it progressive and irreversible[15]. Responding to this, Law 12732, enacted in November 2012, gave cancer patients a legal right to start of treatment in a period of 60 days or less after confirmation of diagnosis[16].

There are three components of delay in treatment of breast cancer: From the moment when the woman presents symptoms until her arrival at the health service; between attended by a doctor and her first access to specialized care for confirmation of the diagnosis; and finally between that access/diagnosis and the start of treatment[17]. Any individual patient may suffer delays in various phases of her diagnosis and treatment[15].

Access, and the time for diagnosis and treatment of this type of cancer vary, depending on geographical and socio-economic factors[15]. Delay can adversely affect prognosis, reducing the chances of cure, due to the growth of the tumor[15,18-20]. There is an association between delay from diagnosis to treatment and shorter progression-free survival, lymph node metastasis, the size of the tumor, and its staging[21]. On the other hand early detection is related to higher rates of cure[21,22].

The law guaranteeing cancer patients treatment in up to 60 days after diagnosis is recent[16], while networks to promote control of cancer have existed for longer[23]. The consolidation of the concept of Network as a strategy for managing oncological care in Brazil emerged in 2003. Brazil's National Cancer Institute – INCA (the *Instituto Nacional de Câncer José Alencar Gomes da Silva*), in partnership with the Health Ministry, planned a common agenda for actions to control cancer, involving various spheres of society, aiming to reduce cancer incidence and mortality in the population and assure quality of life for patients and their families. One of its aims was to strengthen planning and assessment of actions for oncological care, stimulating integration of this care in the health system and optimization of resources[23]. The Network possibly improves the effectiveness of breast cancer treatment in Brazil, helping in early diagnosis, and reduction of delays between diagnosis and treatment, because it is an indicator of efficacy and of the efficiency of the Service in all the phases of treatment of breast cancer.

With all the above in mind, this study analyzes time between diagnosis and start of treatment in elderly women diagnosed with breast cancer over the years 2001–2006, at a r service in São Paulo, São Paulo State, Brazil, and to discover the profile of these elderly women in terms of initial staging, primary location, tumor histological type, relapse, metastasis and treatments given.

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Methodology

This is a descriptive study, with secondary data. The population was constituted as all the cases occurring of elderly women with diagnosis of breast cancer who received treatment at the Pérola Byington Hospital, Women's Health Reference Center, in the municipality of São Paulo, over the period January 2001 to December 2006, registered in the Health Information System of the Cancer Hospital Registry (SIS-RHC) – a total of 1,299 cases.

The Women's Health Reference Center of the Pérola Byington Hospital, in the municipality of São Paulo, has the mission of providing outpatient and medical-hospital care, of reference quality, for the population of greater São Paulo, in the areas of human reproduction, and genital and mammary gynecology and oncology[24].

This hospital's level of therapy in mammary and gynecological cancer, among other activities, is gaining increasing recognition. It also maintains partnership activities with teaching institutions, and organizations in research, technology and community health education[24].

Cases with incomplete records of the variables related to time were excluded (case records were examined to understand reasons for this non-completeness). In women with more than one diagnosis of primary breast cancer, only the first case was considered.

The age of 60 was adopted as a characteristic of being elderly, in accordance with the definition used by the Brazilian Geography and Statistic Institute (IBGE)[25] and the National Policy for the Health of the Elderly[26].

13 variables were analyzed, all taken from the Tumor Record File and from the RHC of the Hospital, with information on age at diagnosis, year of diagnosis, prior diagnosis and treatment, primary location of the tumor, histological type of the tumor, clinical stage of the tumor at diagnosis, treatment carried out and combinations, relapse, metastasis, location of the metastasis, time between first consultation and start of treatment, time between diagnosis and start of treatment, and time between first consultation and diagnosis. Data on the variables *relapse* and *metastasis* were followed for a period of five years.

The software used for statistical treatment of the data was: (i) *Microsoft Office Excel 2007 for Windows*, and (ii) the IBM statistical package *SPSS Statistics 20.0*. Univariate descriptive analysis was carried out on the data obtained to establish the pattern of distribution of women who sought treatment for breast cancer. The results were analyzed using calculations of frequency, mean, median and standard deviation. For the association between time and the variables of the study the chi-squared test of association was used.

Two groups of women were formed based on the variable *time between diagnosis and start of treatment* – divided into 'up to 60 days' and 'more than 60 days'. A significance level of $p \leq 0.05$ was adopted.

There are no financial and/or political conflicts of interest.

Results

In the years 2001–2006, 1,318 new cases of elderly women with breast cancer were attended at the Pérola Byington Hospital. A total of 19 cases were excluded because no type of treatment was carried out after the diagnosis, thus presenting non-completion of the time variable. This resulted in a total of 1,299 women.

In Table 1 it is seen that more than 50% of the women were in the 60–69 age group. The average age of the women was 70.1 years (standard deviation 7.3 years) and the median was 69 years. The highest frequency of diagnoses was in 2006, 22% of the universe of subjects. More than 90% arrived at the service without diagnosis and without prior treatment. In 98% of the cases the primary location of the breast tumor was imprecise. As to the histological type, 78% were infiltrating ductal carcinoma. Stage II was present in 44% of the subjects, and Stage III in 28%.

The association of surgery, chemotherapy, radiotherapy and hormone therapy was the most used by the institution in the treatments, at 26% of the total, followed by surgery, radiotherapy and hormone therapy, with 22%.

Table 2 shows that in the great majority of cases (92%), there was no relapse. There was metastasis in 17% of the women, the most frequent location being isolated in the bronchial tubes and lungs (26%), followed by bones, joints and joint cartilage of the arms or legs (23%).

The average time between diagnosis and start of treatment was 74.7 days (SD = 212.6 days) and the median time was 45 days. The average time between the first consultation and diagnosis was 21 days (SD = 124.3 days). It was found that 5% of the women attended already having received the diagnosis, and that approximately 50% of the women had the date of diagnosis coinciding with

Table 1. Clinical and epidemiological profile of elderly women with breast cancer attended by the Pérola Byington Hospital. São Paulo, 2014.

Variable	N	%
Age group		
60-69	697	54%
70-79	443	34%
80 and over	159	12%
Year of diagnosis		
2001	167	13%
2002	193	15%
2003	245	19%
2004	186	14%
2005	223	17%
2006	285	22%
Prior diagnosis and treatment		
Without diagnosis / Without treatment	1200	92%
With diagnosis / With treatment	11	1%
With diagnosis / Without treatment	88	7%
Primary location of the tumor		
Breast, NOS (not otherwise specified)	1272	98%
Breast, UOQ (upper outer quadrant)	13	1%
Other locations	14	1%
Histological type of the tumor		
Infiltrating Ductal Carcinoma	1011	78%
Lobular carcinoma	97	7%
Other locations	195	15%
Initial Stage of the tumor		
In situ	81	7%
1	229	18%
2 (A, B)	555	44%
3 (A, B, C)	354	28%
4	37	3%
Treatments given and combinations		
Surgery only	107	8%
Chemotherapy only	11	1%
Radiotherapy only	2	0%
Hormone therapy only	8	1%
Surgery + Chemotherapy + Radiotherapy + Hormone therapy	350	27%
Surgery + Radiotherapy + Hormone therapy	291	22%
Surgery + Chemotherapy + Radiotherapy	203	16%
Surgery + Hormone therapy	136	10%
Other combinations	191	15%

Table 2. Profile of the variables relapse and metastasis in elderly people with breast cancer attended by the Pérola Byington Hospital. São Paulo, 2014.

Variable	N	%
Relapse		
Local	78	6%
Regional	20	2%
No relapse	1.201	92%
Metastasis		
Yes	221	17%
No	1.078	83%
Metastasis location		
Bronchial tubes and lungs	57	26%
Bones, joints and joint cartilage of arms and legs	51	23%
Lymph nodes	14	7%
Liver and intra-hepatic ducts	12	5%
Other locations and associations	87	39%

the date of the first consultation. On average the elderly person waited 95.7 days (SD = 193.0 days) between the first consultation at the service and the start of treatment. The average time was 60 days.

Table 3 shows that more than 80% of the women attended had an interval of up to two months between the diagnosis and treatment, the majority waited one or two months, and approximately 36% were attended in up to one month.

Table 4 shows that the most elderly women, aged 80 or more, had a lower time between diagnosis and treatment than women of age up to 69, but this variable did not show statistical significance.

In the last period of two years studied, there was a significant improvement (p = 0.001) in the time between diagnosis and treatment, compared to the pair of years 2002–3. In 2003, the majority of the elderly women received treatment after 60 days of diagnosis, and the contrary was true in the years 2005 and 2006.

Patients in the study who arrived at the hospital without diagnosis and without treatment took less time to start treatment than those that arrived with the diagnosis (p = 0.001). Receiving the diagnosis within the service itself favored access to the treatment.

Women with tumors at Stage 0 (in situ) or Stage I began treatment faster than those with the most advanced stage (III), p = 0.001.

Table 5 shows that time was significant for the outcomes of relapse and metastasis, with $p = 0.004$ and $p = 0.038$, respectively. Of the women who received care in up to 60 days, 6% had relapsed and 16% had metastases; among those who received care in more than 60 days, 12% had relapsed and 21% had metastases.

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Table 3. Statistics on time between diagnosis, first consultation and treatment of elderly women with breast cancer attended at the Pérola Byington hospital. São Paulo, 2014.

Time	N	%
Time (days) between first consultation and start of treatment		
Less than 30 days	196	15.1%
30 to 60 days	718	55.3%
61 to 180 days	303	23.4%
181 days or more	82	6.3%
Time (days) between diagnosis and start of treatment		
Less than 30 days	466	35.9%
30 to 60 days	581	44.7%
61 to 180 days	203	15.6%
181 days or more	49	3.8%
Time (days) between first consultation and diagnosis		
Less than 30 days	850	65.4%
30 to 60 days	218	16.9%
61 to 180 days	103	7.9%
181 days or more	29	2.2%
Diagnosis prior to first consultation*	99	7.6%

* Patients with diagnosis prior to the consultation.

Discussion

The average time between diagnosis and start of treatment was 74.7 days, and median time was 45 days. Arriving at the service without diagnosis and with no previous treatment, and being at an initial stage, favored access to treatment. The time interval between diagnosis and start of treatment was significant for the outcomes of relapse and metastasis.

In this study there were 19 women who did not start the treatment. Reasons given included some commonly described in their medical records such as: 'Belief in religion and that a miracle would happen'; 'Lack of hope for a cure when at an advanced stage'; 'Fear of confronting the illness and being mutilated', and, 'Patient returned to place of origin due to inability to pay the high cost of living in São Paulo'.

A study in Campinas found that abandonment of the treatment while it is in progress is common, and that the risk of abandoning the treatment is three times higher in elderly women with breast cancer than in women under age 55[27]. Another study showed that for hormone therapy, women below the age of 35 have a greater propensity to abandon treatment[28].

There is a scarcity of work dealing only with elderly women, and some even opt to exclude them from the sample[29,30], often due to the fact that they have factors concomitant with the basic illness, which can interfere in outcomes. A work on the profile of women with breast cancer, in the State of Espírito Santo, which included elderly women, also found a higher prevalence at age 60 to 69, among a group of only elderly people[29]. This group tended to respond well to the treatments, but after the age of 75 the prognosis was adverse for the cancer in question[31].

The number of diagnoses in 2006 was almost twice that of 2001. This phenomenon may be due, not to the increase in the existence of cases but due to the improvement in diagnosis and the guarantee of accessibility to the service. The creation of the consensus document for monitoring of breast cancer[3], in 2004, presented recommendations ranging from prevention of risk factors to palliative care, and was important for standardization of actions.

Women would usually arrive at the Service, on referral from the Primary Healthcare Unit, without confirmation of diagnosis, and without prior treatment. This contrasts with the situation at a philanthropic hospital, in the city of Vitória, in which the majority of the women attended already had the diagnosis and prior treatment[32].

Imprecision in the recording of the primary location of the mammary tumor was an item of concern. Since it is necessary to the diagnosis, it should be filled in on the medical record and recorded by the records of the RHC, but at some point there was a failure in this process. Since this concerns people diagnosed with cancer, and because the process of becoming ill is one of long duration, which calls for an interaction between doctor and patient, appropriate filling in of the medical record should be facilitated[33].

In developing countries recording the data is a complex task, due to the shortage of material and human resources. The risk of distortions is a fact[10], and completeness is often at low levels[11,33]. However, there is availability of training and updating of professionals[11,34], with a view to improvement in the quality of this recording.

As for the type of tumor, infiltrating carcinoma, or invasive ductal carcinoma, not otherwise specified (NOS), is the largest group of invasive carcinomas of the breast. It is a diagnosis of exclusion, which represents 75-80% of the invasive carcinomas[35]. These tumors offer a less

Table 4. Association between time and epidemiological variables of elderly people with breast cancer attended by the Pérola Byington Hospital. São Paulo, 2014.

Variable	Time between diagnosis and start of treatment				p-value
	60 days or less		60 days or more		
	N	%	N	%	
Age group					0.089
60-69	548	52,3	149	59.1	
70-79	361	34,5	82	32.5	
80-89	122	11,7	20	8	
≥ 90	16	1,5	1	0.4	
Year of diagnosis					0.001
2001	142	14	25	10	
2002	155	15	38	15	
2003	162	15	83	33	
2004	143	14	43	17	
2005	189	18	34	13	
2006	256	24	29	12	
Prior diagnosis and treatment					0.001
Without diagnosis & Without treatment	999	95,4	201	80	
With diagnosis & With treatment	3	0,3	8	3	
With diagnosis & Without treatment	45	4,3	43	17	
Stage of the tumor					0.001
0	76	7	5	2.2	
I	201	20	28	12.2	
II (A, B)	454	44	101	44.1	
III (A, B, C)	267	26	87	38	
IV	29	3	8	3.5	

Table 5. Association between time and the variables relapse and metastasis in elderly people with breast cancer attended by the Pérola Byington Hospital. São Paulo, 2014.

Variable	Time between diagnosis and start of treatment				p-value
	Up to 60 days		60 days or more		
	N	%	N	%	
Relapse					0.004
Yes	68	6	30	12	
No	979	94	222	88	
Metastasis					0.038
Yes	167	16	54	21	
No	880	84	198	79	

favorable prognosis, when compared to the other invasive carcinomas[35,36]. Normally they present necrosis, areas of infarction and a characteristic central acellular area[35].

Other surveys indicate similar results to the above, and to the present study, with predominance of infiltrating ductal carcinoma among the histological types studied[37-40]. It is important to note that patients with similar ages and tumors of the same histological type do not behave uniformly, and their developments are different[38].

The histological type of a tumor is not a prerequisite for assessing Stage of the tumor which, when well defined, gives a correct direction to therapy, and is closely correlated with outcome[41]. If diagnosed and treated rapidly, breast cancer has a very significant cure rate[21,22]. Arrival at the health service while still in the initial phase of the illness is the great challenge for Brazil. As Silva[32] also found, there was significant relation between illness first attended at Stages II or III and the variables 'low level of schooling' and 'origin of referral: SUS' – in the case of this study, respectively 4.3 and 1.9 times greater than chance. Cintra et al.[39] found a similar result when evaluating women of the city of Juiz de Fora (in the Brazilian State of Minas Gerais), and concluded from this that the focus should be on monitoring and

surveillance of breast cancer, as well as guarantee of treatment when diagnosed. Srur-Rivero and Cartin-Brenes[42] also found a similar distribution.

Evolution of breast cancer in elderly women seems to have a behavior similar to that of young women, however, with age, the same woman begins to have less access to monitoring programs, methods of diagnosis and more modern and complex treatments[29].

The INCA, based on epidemiological data, proposes monitoring by clinical examination for all women over 40, independently of age group, and by mammography for women between 50 and 69[43]. It is observed that there is no consensus on checking for breast cancer in women under 50 and over 70. The *U.S. Preventive Services Task Force*[44] recommends mammography every other year for women aged 50 to 74 – and that before age 50 it should be an individual decision, taking into account the cost-benefit of the procedure. There are no data that support its indication for women over the age of 75. For women of any age, self-examination of the breasts is not recommended, due to absence of evidence of its efficacy, and this absence also is the case for clinical examination of the breasts. According to the *American Cancer Society*[45], clinical examination of the breasts should be carried out every three years in all women between 20 and 30, and every year in women above 40 – and after this age, there should be an annual mammography. The ACS also says that all women should know their breasts well, and clinical examination is important as from age 20. The Canadian Task Force[46] does not recommend routine tracking with mammography for women between 40 and 49. It is recommended for each two to three years in women aged 50 to 69, and 70 to 74. As also argued by the U.S. Preventive Services Task Force, there is no confirmation of its efficacy for women above 75[44,46]. According to the *European Guidelines*, tracking by mammography should take place every two years, in the target group of women aged 50 to 69[47]. Authors argue that if the elderly woman has a life expectancy of more than five years, does not have any co-morbidities that are significant risks and has preserved cognition, routine tracking by mammography should be considered[29].

Elderly women have less possibility of early diagnosis[48]. Diagnosis in the initial phases calls for less aggressive treatments, and mammography is the principal method of early detection that is within the reach of the population[29].

The treatment of breast cancer in elderly women is harmed by innumerable mistakes, often resulting in sub-treatment, due to a belief that they are more fragile to the existing treatments, and that their co-morbidities will have a direct influence on the outcome[9,29]. It is observed in this present study that the majority of the elderly women were treated with all the therapeutic modalities available in the service, such as: surgery, chemotherapy, radiotherapy and hormone therapy. It can be seen that these subjects were evaluated for a series of variables, including age, stage of the disease, absence or presence of metastases, the power of toxicity of the medications, and their cost-benefit relationship. As to the therapeutic strategies, formulation of a single protocol for treatment is still distant, and the most coherent approach is discussion case by case in the context of a multidisciplinary team[49].

The Brazilian Society of Mastology[49] argues that omission of radiotherapy, although it does not interfere in the survival time of the patient, increases the risk of occurrence of local relapse, but that the benefit of this treatment may be less for elderly women, since they are a population with low risk of this type of relapse. Some authors[31] state that the size of the tumor is directly linked to the risk of relapse, and is a predictive factor. Relapse was uncommon, presenting similar results to those found in the existing literature[40,42].

The principal characteristic of cancer is the capacity to metastasize. The genetics of the tumor are an important factor in metastatic disease; it is believed that the information for development of the metastases is already contained on the DNA of the tumor as from its emergence[50].

Elderly women have a lower chance of developing metastases than younger women[49,51]. The percentage of this event varies between the studies[37,38,40], but it is clear that it is the principal cause of deaths from cancer[52]. As in the present study, the literature points to lungs and bones as frequent locations for occurrence of metastases[38,39].

Even before Law 12732 was enacted, the average time from diagnosis to start of treatment of the women studied was satisfactory – its institution, years later, showed a desire for speed and commitment in public health. Authors[15,53] argue that the most delayed factor is achievement of a diagnosis – the time between the first consultation and the diagnosis – which is not the case in the present study. The total time between seeking out the health service, diagnosis and start of treatment indicates a capacity for solution, and was lower than in studies carried out in other health services[15,53].

It is shown that older women were attended more rapidly; this result is in harmony with the study carried out in women over age 65 in the United States[54]. In the United Kingdom[55], on the other hand, women above this age group showed higher intervals of time between diagnosis and start of treatment.

At two health services in Florianópolis (Brazil), arrival at the service with a diagnosis and prior treatment conferred longer survival to women, while arrival without a diagnosis and without treatment doubled the risk of death[56]. In the present study, receiving the diagnosis and all of the treatment in the service studied achieved longer times. Considering that the time elapsed between the diagnosis and the start of treatment is an important variable and that it influences the prognosis of the patient[12], possibly, arriving at the service without a diagnosis and with no prior treatment improves the patient's prognosis, and can mean a longer survival time.

Since breast cancer has a much better prognosis when found at early stages[37,39,41,56], there has been a tendency to give priority to women with a higher chance of cure and/or survival time. The speed of the treatment in women with early stage disease and more delayed treatment in those with more advanced disease is seen in various other studies[15,57-59]. On the other hand, in a study in Espírito Santo State[12], the trend was to prioritize the most serious cases, treating women with Stage III and IV more rapidly.

It is important to emphasize that the populations studied have different characteristics, since the study referred to was carried out with women of all the age groups, and the present study involved only women over age 60. This could have affected the order of priority of attendance, since younger women (as from the third decade of life) have better prognoses than elderly women[31,49] and starting treatment more rapidly is a determining factor for increase of chances of cure/survival time[41]. Older women usually have associated co-morbidities, fragilities arising from age, less life expectancy, interfering in the choice[9,29,60,61] and in the speed of the treatment, often erroneously, due to unfounded beliefs[49,60,61], since aging is a multi-dimensional and totally individualized process and one that does not necessarily obey a pattern of physiological decline[29].

There are divergences in the literature as to the intervals between diagnosis and treatment and the consequences for patients[12,15,60,62]. Studies affirm that delay in the diagnosis does not harm the prognosis[12,60,62] and the survival time of the patient[12,62]. Others, on the other hand, conclude that this interval does have a negative impact on the patient[18-21]. In the present study it was observed that time does affect the outcome, and that faster care offers better conditions for treatment of the disease, with more satisfactory results. Early diagnosis and treatment of breast cancer are important factors in reduction of mortality[21,43]. Strategies such as monitoring for early detection are of fundamental importance and underline the importance of the race against time[22,43].

Authors consider that the earlier that treatment begins for initial tumors, the greater are the chances of cure[15]. Delay in diagnosis is related to later stages of the disease[63] and higher risks of metastasis[20]. Occurrence of metastasis and relapse is directly related to reduction of survival time and worse prognosis[12,21].

The non-completeness of some variables, and the imprecision of the data record, with possible loss of information due to incomplete filling in of medical records[64], were limitations of this study. The involvement of managers, health professionals and record keepers of the RHCs is vitally essential for achieving completeness and precision of data so as to improve the quality of the information[65].

Conclusion

Receiving of diagnosis, and all of the treatment, within the service that was the subject of this study, guaranteed better times. It is emphasized that the period studied preceded the '60-day Law', and that even so the intervals of time found showed quality and resolvability in the service provided.

This study, carried out with secondary data, was of extreme importance for improving knowledge on the time from diagnosis to start of treatment in elderly women with breast cancer. It serves as a basis for planning of strategies in clinical and policy intervention for the provision of care to elderly women by interdisciplinary teams.

Collaborations

CB Souza, SM Fustinoni, MH Amorim, E Zandonade, JC Matos and J Schirmer participated in the conception, design, analysis and interpretation of data; in the write-up of the article and relevant critical revision of intellectual content; and in final approval of the version for publication. They are responsible for all aspects of the study, and guaranteeing the accuracy and integrity of all elements of the research.

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