



LOCUS OF CONTROL IN ELDERLY PEOPLE WITH CANCER IN DIFFERENT CONTEXTS

LOCUS DE CONTROLE EM PESSOAS IDOSAS COM CÂNCER EM CONTEXTOS DISTINTOS LOCUS DE CONTROL EN PERSONAS DE EDAD AVANZADA CON CÁNCER EN DIFERENTES CONTEXTOS

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ABSTRACT

Objective: to evaluate the *locus* of control and to compare it among elderly people with cancer in different contexts. **Method:** descriptive, cross-sectional study with a quantitative approach, with a sample of 40 elderly people, intentionally selected in a University Hospital and a Supporting Institution. The data was collected by the Personal Characterization, Socioeconomic and Health Instrument and the *Locus* of Control Rating Scale were used. The data were entered into an electronic database and the descriptive statistics was used to analyze them. **Results:** the majority of the population presented external *locus* of control. **Conclusion:** externality was predominant among the elder, but, men showed a greater *locus* of internal control; in addition, the elderly subjects cared for at the Support House showed greater internality in relation to those hospitalized. **Descriptors:** Internal-External Control; Cancer; Aged; Geriatric Nursing.

RESUMO

Objetivo: avaliar o *locus* de controle e compará-lo entre pessoas idosas com câncer em contextos distintos. **Método:** estudo descritivo, transversal, com abordagem quantitativa, com amostra de 40 pessoas idosas, selecionadas intencionalmente em um Hospital Universitário e uma Instituição de Apoio. A coleta de dados se deu pelo Instrumento de Caracterização pessoal, Socioeconômico e de Saúde e da Escala de Avaliação de *Locus* de Controle. Os dados foram inseridos em um banco de dados eletrônico e utilizou-se a estatística descritiva para analisá-los. **Resultados:** a maioria da população apresentou *locus* de controle externo. **Conclusão:** predominou-se a externalidade nas pessoas idosas, contudo, homens evidenciaram maior *locus* de controle interno; ademais, os sujeitos idosos atendidos na Casa de Apoio exibiram maior internalidade em relação àqueles hospitalizados. **Descritores:** Controle Interno-Externo; Câncer; Idoso; Enfermagem Geriátrica.

RESUMEN

Objetivo: evaluar el *locus* de control y compararlo entre las personas mayores con cáncer en diferentes contextos. **Método:** estudio transversal, descriptivo con enfoque cuantitativo, con muestra de 40 ancianos, seleccionados intencionalmente en un Hospital Universitario y una institución de apoyo. La recolección de datos fue llevada a cabo por el instrumento de caracterización personal, socioeconómico y de salud y la Escala de Evaluación de *Locus* de Control se emplearon. Los datos fueron introducidos en una base de datos electrónicos y se utilizó la estadística descriptiva para analizarlos. **Resultados:** la mayoría de la población presenta *locus* de control externo. **Conclusión:** predominó la externalidad en las personas mayores, sin embargo, los hombres mostraron mayor *locus* de control interno; además, los sujetos ancianos atendidos en Casa de Apoyo exhibieron mayor internalidad que aquellos hospitalizados. **Descriptores:** Control Interno-Externo; Cáncer; Anciano; Enfermería Geriátrica.

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INTRODUCTION

This study focuses on the *locus* of control of Brazilian elderly people with cancer. Whereas the number of elderly people in Brazil has increased from three million in 1960, to approximately 21 million, in 2010 - a 700% increase in 50 years -, Brazil is now considered a "young white-haired country."^{1, 2} According to the World Health Organization (WHO),³ in 2050, there will be around two billion people in the world aged 60 and older and most of them living in countries such as Brazil. Each year, 650,000 new elderly people are incorporated into the Brazilian population, most of them with chronic diseases and functional limitations.² The increase in life expectancy, with exposure to the risk factors of chronic-degenerative diseases, causes them to become more frequent the health complications caused by these diseases.⁴ Thus, diseases inherent in aging acquire greater urgency in society as a whole, particularly those referred to as chronic non-transmissible diseases. Among which, cancer stands out.^{2,5-6}

Cancer is the generic name assigned to the set of more than 100 different types of diseases, which have in common the disordered growth of abnormal cells with invasive potential.⁷ According to global estimates of the Globocan 2012 project by the International Agency for Research on Cancer / World Health Organization, accounted for 14.1 million new cases of cancer and a total of 8.2 million deaths worldwide in 2012. In 2030, the global burden forecast is 21.4 million new cases and 13.2 million deaths by cancer. In Brazil, the estimate for the year 2015 indicates the occurrence of approximately 576 thousand new cases of cancer, which reinforces the magnitude of the problem in the country.⁸

Despite scientific advances in the treatment of cancer, knowing that if it carries the same tends to entail innumerable physical damages as well as to mental health, since it is still a disease stigmatized as painful, incapacitating and of high lethality. Considering this perspective of coping with the disease, it is relevant to know and interpret people's attitudes towards the disease experience, since they can provide clinical data that can support the implementation of interventions in achieving results.⁹ Thus, the control *locus* construct is emphasized because of its potential to identify "to whom" or "what" the person attributes what happens to him/her in his/her daily life.

Locus of control refers to an individual's characteristic of the perception of "who" controls events.¹⁰ This concept was constructed by the psychologist Jullian Rotter, in 1966, having three dimensions, one internal and two external. Internal *Locus* of control refers to the individual's belief about what happens to him/her in life as a consequence of his/her actions and to what extent he/she is able to control his/her destiny. External *Locus* of control refers to the individual's belief that what happens to him/her in their lives is not related to his/her behavior, but, to other factors beyond his/her control. This *locus* is subdivided into external-other -, that refers to those who are powerful that corresponds to other people such as doctors, family and friends. And the external-chance-, that is reported to luck, chance, God and destiny.¹¹ Thus, the *locus* influences the behavior of the patient in the face of the health problem, by directing their perception of the problem to factors dependent on themselves or for external forces.¹²

Given this context, studies focusing on the *locus* of control are relevant, particularly in elderly people with cancer, since this topic is little discussed by health professionals, especially those interested in Geriatrics, Gerontology and Oncology. Such studies favor the implementation of interventions that stimulate the adaptation of the type of *locus*, as well as those that aim at effective coping.

In view of the above, the objectives of this research were to know the socioeconomic and health characteristics and to evaluate the *locus* of control, comparing it among elderly people hospitalized with cancer and with those cared for in an institution to support cancer patients in the city of Pouso Alegre / MG.

METHOD

A descriptive, cross-sectional study with a quantitative approach was carried out at the São Rafael House (SRH) and Samuel Libânio University Hospital (SLUH), located in the city of Pouso Alegre, in the south of Minas Gerais State, Brazil. SRH is a philanthropic Institution that supports cancer patients, being restricted to the outpatient treatment offered by the professionals: nurse, physiotherapist, nutritionist and psychologist. On the other hand, SLCH distinguishes itself from the rest as a general Hospital that also provides surgical, chemo and radiotherapeutic treatment to the population with oncological diseases.

This study had elderly people with cancer as participants, attended or hospitalized in

the SRH or SLCH. The sample consisted of 40 people, 20 from each study scenario, to make it easier to compare the data between the Institutions. The sample calculation considered the number of elderly individuals cared for or hospitalized for cancer treatment during the period between August and October 2012. It was pointed out that some elderly patients might not consent to participate in the study or might not be able to participate in the study, as well as the need to perform the pre-test. From this perspective, sampling was distinguished as non-probabilistic, of the intentional type.

The criteria used to define the sample comprised: 1) To be aged 60 years or older; 2) To have a medical diagnosis of cancer; 3) To be in care in the SRH or hospitalized in the SLCH; 4) To be able to communicate verbally/orally and to present preserved cognitive functions, being oriented in relation to oneself, time and space, obtaining, after the application of the Mental Assessment Tool - Mini Mental, ¹³ score equal to or greater than 70%. Nevertheless, they should consent, freely and enlightenedly, to participate in the research.

Two instruments were used:

1) Questionnaire for Personal, Family, Social, Economic and Health Characterization - this questionnaire was validated in Brazil and consists of closed questions related to age, gender, marital status, number of children, family type, work situation, family budget, health status and others.¹⁴

2) *Locus of Control Rating Scale* - obtained from the original scale of the internal-external control *locus* of Rotter and has been translated and adapted to the Brazilian context by Dela Coleta.¹⁵ Its final form contains 15 items, which differ from the original form, in which these were paired two by two with an internal and an external option. In this adaptation, they should choose whether they agree or disagree with each statement. The scale can be applied collectively or individually. Without specifying the duration, in this study the respondent spent five minutes to answer. The scores are obtained from the application of the template, in which each item is assigned a point for the response in accordance with the template and zero if they disagreed with the statement. The total score ranges from zero to fifteen points, meaning that the higher the score, the greater the externality of the individual's *locus* of control.

The data were collected through a direct structured interview conducted between August and October 2012, with, an average

time of 20 minutes each interview. The data were collected by the researchers themselves and the data collection was performed in a single appointment with the elderly patient previously scheduled. In addition, we tried to apply the instruments in noise-free environments, to preserve the autonomy and privacy of the elderly patients.

Descriptive statistics were used for central tendency variables, such as: minimum value (MinV) and maximum value (MaxV), mean (M), median (MED) and amplitude (AMP) and standard deviation (SD). The information obtained in the data collection was inserted in an electronic database previously elaborated using the computer program Microsoft Excel 2010. After statistical analysis, the data were tabulated according to the nature of the variable.

The study project was appraised and approved by the Ethics and Research Committee of the Sapucaí Valley University, Pouso Alegre / MG, under the consubstantiated opinion number 27671; In accordance with Resolution No. 466/12 of 12 December 2012 of the National Health Council. The voluntary manifestation of the elders' decision to participate in the study was made through the signing of the Informed Consent Form.

RESULTS

They are presented in two distinct parts: in the first, one of the results of characterization of the sample is seen, separately, in the two study scenarios, and in the second part, the data on the control *locus* of elderly people cared for at the support institution and those hospitalized, respectively, and by gender, are displayed.

In the first institution, the mean age was 67.8 years (SD = 5.37). In relation to gender, the sample was homogeneous. All of the patients followed some religion, being that 75% were Catholics, they were literate and, of those, 85% they had not finished elementary school or they had not had an education; 70% were married, and similarly, were retired or pensioners, and 45% had monthly income of two minimum wages; 85% had chronic disease, of these, 47.1% had Systemic Arterial Hypertension (SAH); with 90% making continuous use of medication at home, and finally, 35% classified their current health status as "regular".

In the hospital setting, mean age was 70 years (SD = 7.55); 55% were male; their totality professed some religious belief, being 60% catholic; 70% knew how to read and

write, however, 60% had not finished elementary education or had no education; 45% were married; 85% were retired or pensioners and 35% had a monthly income of two minimum wages; 90% had chronic disease, of which 33.3% reported living with hypertension associated or not with diabetes mellitus (DM); 90% were in continuous use of

medicines at home and, finally, 60% described their current health status as "good".

The results concerning the *locus* of control of the elderly participants are organized in tables 1 and 2 below, separated by gender and by institution, aiming to offer the reader, a better visualization and comparison of the data.

Table 1. Measures of central tendency and dispersion, referring to the *locus* of control of the female interviewees, SLCH and SRH. Pouso Alegre (MG), Brazil, 2012 (n = 19).

		SLCH	SRH	n	%	
Locus of control type	External locus of control	8	6	14	73.7%	
	Internal locus of control	1	4	5	26.3%	
	M.	MED.	DP.	MinV.	MaxV.	AMP.
Locus of control						
SLCH	8.67	6.0	1.32	6.0	10.0	4.0
SRH	8.90	11.5	2.56	5.0	13.0	8.0

Table 2. Measures of central tendency and dispersion, referring to the control *locus* of the male interviewees, SLCH and SRH. Pouso Alegre (MG), Brazil, 2012 (n = 21).

			SLCH	SRH	n	%
Locus of control type	External locus of control		7	7	14	66.7%
	Internal locus of control		4	3	7	33.3%
	M.	MED.	DP.	VMin.	VMax.	AMP.
Locus of control						
SLCH	8.18	7.0	2.27	4.0	11.0	7.0
SRH	7.80	7.0	1.23	6.0	10.0	4.0

DISCUSSION

The mean age of the participants was 68.9 (SD = 6.46) years, corroborating with data from the Population Census of the Brazilian Institute of Geography and Statistics (IBGE), which shows the age group between 60 and 69 years as the most populous among the elderly. Naturally, this range will present a higher prevalence of chronic-degenerative diseases. In this study in particular, cancer.¹

The sample had a greater number of male elderly people, differing from the IBGE numbers, which estimate a greater number of women in the age group between 65-69 years; with approximately 40 thousand women in the State of Minas Gerais and 300 in the city of Pouso Alegre / MG, more than the elderly men in this age group.¹ This fact can be explained by data from the National Cancer Institute (INCA), which confirms a higher overall incidence of cancer in men.⁸

Regarding religion, the totality of the sample professed at least one of them, Catholicism being most prominent; this matches the data from 2010 Census, which indicates that approximately 65% of the Brazilian population defines itself as Catholic, accompanied by 22% of evangelicals.¹

As for education, 72.5% knew how to read and write and had not finished elementary school or even had no education at all. According to the Brazilian Institute of Geography and Statistics (IBGE),

approximately half of the Brazilian population has not finished primary school or had no education.¹ The occurrence of the studied population can be justified by the fact that the majority of the elderly people, when young, did not have the financial sustain to afford an education; since, in the mid-twentieth century only young people living in the urban area, with favorable financial conditions, had access to school and/or University.

Regarding marital status, 57.5% of the population was married, a figure higher than that found in the 2010 Population Census, which was 38.5% in the State of Minas Gerais, Brazil,¹ the percentage found by this study is justified, probably, by the fact that the participants in this study were only the elderly, while the Census covers the young and adult population. Regarding the monthly income, 77.5% of the population was retired or were pensioners. Still in relation to financial conditions, 30% had a monthly income of two minimum wages, in agreement with the one found in the State of Minas Gerais in 2010, which was approximately R \$ 1,200.00, the minimum wage being taken into account by the IBGE of R\$ 510.00.¹ Even considering the low value of retirement, this is still, most of the time, the main source of income for the elderly person, and often, for the whole family.

Finally, a large part of the sample had other pathologies besides cancer, since the

elderly person is vulnerable to accumulate chronic-degenerative diseases typical of aging, such as hypertension and DM, reaching old age with multiple comorbidities. Likewise, most of the interviewees made continuous use of medication for the symptomatic control of their diseases, such as antihypertensives, oral hypoglycemic agents, among others.

In spite of the *locus* of control construct, the presence of external *locus* of control (ELC) or the externality was present in the elderly of both genders, in the two Study Scenarios. Thus, the person with this type of *locus* gives others control over what happens to them, from everyday events to those of greater importance, such as those related to their health condition. The occurrence of a discrepancy in the results can also be seen, according to the genders, elderly women presented greater externality in relation to the men. One possible explanation may be related to the fact that, in contemporary Society, men still tend to centralize decision making. People with predominantly external control *locus* have attributes of:

A) tendency towards conformism; B) non-perception of daily demands; C) greater chances of being influenced, according to the status of the source of information and less ability to accept the implications of failure; D) immediacy; E) vision of negative future and suicidal ideation; F) dissatisfaction with social interaction.¹⁵ Thus, people with greater externality are more prone to pessimism, and it can be inferred that, if they need long-term treatment, such as, for example, control of chronic diseases with medications used, they can adhere non-assiduously to their treatment, because they believe, parsimoniously, in improvements.

The elderly hospitalized women had a higher externality index than those who were not hospitalized. Possible explanation for this increased occurrence in the hospital context rests on the fact that being hospitalized withdraws, even if partially, the autonomy of these woman to perform their daily life activities, tending to transfer their *locus* of control to the powerful external-other. Corroborating the above, authors have identified that women presented greater external perception at random to health conditions, therefore, they attributed the control of their disease to chance, which could bring negative influences in the control of their chronic diseases.¹⁶

Older men, in the two study scenarios, despite obtaining greater externality, differed from the interviewed women, since they presented a greater number of individuals

with internal *locus* of control (ILC). A person with a more internal *locus* of control tends to be more able to deal with illness and/or loss,¹⁷ tending to present: a) greater verbal fluency; B) greater resistance to social influences, coercion and dangerous behavior; C) more persistence in the solution of logical problems and in the effort to obtain better results; D) more inquisitive, curious and efficient in information processing; E) more active and alert, with more dangerous behaviors; F) less pessimism and more ability to face adverse situations; G) more tolerance for discomfort, and last, H) greater strength of the ego.¹⁵ Thus, the person with greater internality seeks to be more resilient and optimistic, if he/she suffers from a chronic illness and needs treatment in the long term, hypothetically it will be more assiduous and adherent to it, since it is more laborious, tolerant to the discomfort and skilled in the combat and overcoming adversities, in fact, more persistent. In a survey of elderly members of a longevity program in the city of Rio Grande do Sul, Brazil, it was found that the elderly with the greatest *locus* of internal control also had a better quality of life.¹⁸

Hospitalized elderly men, similarly to hospitalized women, had a higher externality than non-hospitalized ones. Possibly, due to the fact that the hospitalization brings with it a restriction of the autonomy of the patients, as well as other factors, such as dependence even for self-care, food, hygiene and medication, among others. In addition, aging itself is characterized as a situation of adversity, for both genders, in relation to the maintenance of life, security, and independence, a context accentuated by the evasion of children, dependence on medicines, caregivers and other professionals.

Thus, the challenge of being old and having cancer is even greater, due to the biopsychosocial and spiritual implications of the disease, resulting in the widening of the externality either in the hospital, outpatient or even in the community. In this study, the vast majority of the interviewees had cancer and other comorbidities, requiring medical treatment and the use of continuous medications, that is, they depended intensely on the care or guidance of others. In a Health System based on the Biomedical Model, traditionally, elderly people have their beliefs potentialized in the medical professional. In this way, he/she is characterized as a person with external *locus* of control to other-powerful ones.¹⁹

CONCLUSION

It was evidenced that, in most of the study scenarios the external *locus* of control was the most predominant and, when the type of *locus* by gender was evaluated, a greater externality was found, however, the internal *locus* of control was more present in men.

The *locus* of control is characterized as a relevant trait of the individual's personality that guides decision making and consequent behaviors of effective and unfavorable coping with the disease and prognosis.²⁰ The individual with an external *locus* of control tends to feel incapacitated to act in a way that is favorable to the control of their disease, as opposed to those that are guided by the internal *locus*. In view of this perspective, further study on the *locus* of control construct may prove convenient, with different methodological axes and health/disease, especially, in the identification of factors that precede or influence the externality or the internality of the *locus*, such as presence of chronic disease, continuous use of medications, level of schooling or even the age group.

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