

## Correlation between Intrafamily Relationships with The Level of Coping and Adaptation in Cancer Patients

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### Keywords

Cancer, Coping, Adaptation.

### Introduction

Cancer is one of the main causes of morbidity and mortality both in Mexico and worldwide; it is one of the most feared diseases because it is associated with physical and mental suffering, and especially, death. The World Health Organization defines cancer as a “broad group of diseases that can affect any part of the body, which have as a defining characteristic the rapid multiplication of abnormal cells that extend beyond their usual limits and can invade adjacent parts of the body or spread to other organs” [1]. Based on the statistics of the World Health Organization, in 2015, there were 8.8 million deaths in the world from this disease, the most common being lung, liver, colorectal, gastric cancer, and breast cancer [1].

In Mexico, cancer is also one of the main causes of death, currently, neoplasms are the third cause of death, 14 out of every 100 people die from this disease [2]. Due to changes in population growth and aging, the World Health Organization estimates that by 2030 new cases will exceed 20 million per year, a fact that can have economic and mental health consequences since this disease generates many expenses for either medical or non-medical treatment costs [2].

That is why patients who are diagnosed with cancer go through a grieving process which leads them to develop coping and adaptation strategies that require a great effort. These are variables that can influence both the development of the disease and the patients adherence to its therapy, which in turn, triggers both emotional and physical support needs. When a pathology such as cancer is present in the subjects system, it is difficult for the patient to maintain a state of balance and well-being, so it is

advisable to develop coping and adaptation strategies to improve the psychological well-being of the patient and, therefore, their quality of life.

Lazarus and Folkman define coping as “those constantly changing cognitive and behavioral efforts that are developed to handle specific external and / or internal demands that are evaluated as surplus or overflowing of the individuals resources” [3]. Therefore, coping can be defined as a process in which constant efforts are made to manage the psychological stress generated in any situation.

This research is based on the Adaptation Model of the theoretical Callista Roy who defines coping as the innate or acquired ways of interacting with the changing environment [4]. Innate coping mechanisms are those that are genetically determined and are usually seen as automatic processes, that is, they are not even thought about, while acquired coping mechanisms are those that are developed through strategies where the experiences of the life contribute to generating responses to stimuli [4]. On the other hand, it defines a persons adaptation as “a point that constantly changes and is made up of focal, contextual and residual stimuli that represent the persons standard of the range of stimuli to which they can react with normal responses of adaptation” [4].

It is a fact that both the diagnosis and the emotional reactions triggered from the diagnosis of cancer generate various changes in the patients environment and this will depend on various factors such as the patients previous level of adaptation, the stage or grade in which the disease has been diagnosed, their beliefs, culture, personality and, above all, the presence of emotional support including the level of their social relationships, specifically, family relationships.

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Family is one of the most important support mechanisms for people, the National Institute of Statistics and Geography (INEGI) affirms that the family is the environment where individuals are born and develop, as well as the context in which the identity of people is formed through the transmission and updating of socialization patterns [5]. However, it must be considered that the response of families to a stressful situation such as the diagnosis of cancer will depend on various elements such as their functionality, experiences, union, support, values, and beliefs, among others. Family members have participation that may or may not favor the coping and adaptation strategies that the patient carries out.

Therefore, the level of coping and adaptation, social support networks and family functioning are elements that must be considered throughout the evolution of the disease, as they intervene in its regulation facilitating its emotional and psychological adjustment. The present study aims to measure and identify the relationship between coping and adaptation strategies with the level of family relationships in patients diagnosed with lung, liver, colorectal, gastric cancer, and breast cancer.

## Methods

A descriptive, correlational, and cross-sectional study was carried out during January 2020. The sample was selected in a non-probabilistic way, consisting of 60 participants who attended the Oncology Unit of the State of Puebla. Each of the patients was informed about the objective of the research, the relevance of the study and the content of the most important points of the informed consent, considering the following inclusion criteria: age between 30 to 85 years, diagnosis of lung cancer, liver, colorectal, gastric or breast cancer, people who decide to participate in the study and sign the informed consent, and who do not present any disease that limits their understanding capacity.

To measure the level of coping and adaptation, the Roy Coping and Adaptation Process Measurement Scale, Spanish version (EsCAPS) (short version of 33 items to guarantee the viability of the study) was used. This instrument was developed in 2004 by the nurse Callista Roy who developed the measurement scale “to identify the way in which the person uses her skills to control situations that cause stress and promote adaptation” [6]. The modified version proposed by Carvajal, Botero and Sarmiento (2012) is composed of 33 items which are short sentences about how people respond to a stressful or difficult event, they have response options based on the Liker-type scale of 4 options: 0 = never, 1 = rarely, 2 = frequently and 3 = always. The minimum score is 0 and the maximum 99. It shows a facial validity of an acceptable percentage of 95%, a global content validity index of 0.83 and a Cronbachs alpha with a reliability of 0.70. Finally, the instrument has the following cut-off points: Low Coping and Adaptation: 33-57 points; Average Coping and Adaptation: 56-68 points; Coping and Adaptation high 66-99 points [6].

The second instrument that was used is the Intrafamily

Relationships Assessment Scale (E.R.I) in its intermediate version of 37 items to guarantee the viability of the study, which measures the interconnections that occur between the members of each family. It is a scale that contains five answer options, ranging from Totally Agree to Totally Disagree.

Based on what is established by Rivera & Andrade (2010), the scale assesses three dimensions 1) Union and support, which are defined as the familys tendency to carry out activities together, to live together and to support each other. 2) Expression, which refers to the possibility of verbally communicating the emotions, ideas, and events of family members within an environment of respect and 3) Difficulties, a dimension that assesses the aspects of intrafamily relationships considered either by the individual, or by society as undesirable, negative, problematic, or difficult. It allows identifying the degree of perception of conflict within a family [8]. This scale has response options based on the Liker-type scale of 5 options, being: 1 = Totally disagree, 2 = Disagree, 3 = Neutral (neither agree nor disagree), 4 = Agree and, 5 = Totally agree. The minimum score is 37 and the maximum 185 [7].

The project was approved by the quality department of the Oncology Unit of the State of Puebla, for the development of the research, the guarantee of confidentiality and anonymity of each of the participants was considered, making sure that each of them understood the objectives of the research and decide to participate freely with their consent.

Once the instruments were applied and the data collected, the information was processed to determine the correlation between the study variables. For this, the information was captured in the SPSS version 25 statistical package. Central tendency measures were used to describe the characteristics of the sample and the variables of interest. The reliability of both instruments was obtained using Cronbachs alpha coefficient. The variables were subjected to the Kolmogorov-Smirnov test to identify the use of parametric or non-parametric statistics, obtaining a curve with a normal distribution.

## Results

Sixty patients divided into two groups participated: 1 = Men and 2 = Women aged between 30 and 82 years. The average age between both genders was 54.2 (SD = 12.02). Concerning gender, 80% were women. The most representative schooling is given by primary school with a percentage of 46.7% (n = 28). Regarding the occupation of the sample, 25% (n = 15) are employed, 10% (n = 6) unemployed, 3.3% (n = 2) disabled, and 61.7% (n = 37) are dedicated to housework. In general, for 100% of the sample, the salary they obtain either from themselves or from their family is insufficient. Regarding support, 63.3% (n = 38) of the sample received support from their partner while 36.7% (n = 22) denied it.

Finally, the most representative marital status was married with 48.3% (n = 29), 21.7% (n = 13) single, and 15% (n = 9) are in free union. Regarding the type of cancer diagnosed, of the total

of participants, 71.7% (n = 43) reported breast cancer, 21.7% (n = 13) colorectal cancer, 5% (n = 3) gastric cancer and 1.7% (n = 1) lung cancer. Table 1 specifies the type of cancer in relation to the gender of the sample. Regarding the data obtained on intrafamily relationships, it is observed that 61.7% of the sample has a medium high level and 38.3% a medium level. The scores obtained by people who respond to the Intrafamily Relationship Assessment scale in its three dimensions, provide information on how family interaction is, regarding the expression of emotions, bonding and support, and the perception of difficulties or conflicts. Table 2 shows the data about gender and the dimensions of the instrument, where it is observed that there is not a great difference between the means of the two genders in relation to the three dimensions of the instrument, and that the dimension with a mean expression was highest with 69.66 (SD = 4.22) in men and 69.35 (SD = 8.27) in women.

**Table 1:** Description of cancer type by gender

Group	Type of cancer				Total
	Lung cancer	Colorectal cancer	Gastric cancer	Breast cancer	
Men	0.0%	69.2%	100%	0.0%	20%
Women	100%	30.8%	0.0%	100%	80%

Source: Study database.

**Table 2:** Description of the dimensions of the instrument in relation to gender.

Gender	Dimension	$\bar{X}$
Men	Union and support g and support	33.16
	Expression	69.66
	Difficulties	28.58
Women	Union and support	32.47
	Expression	69.35
	Difficulties	29.75

Source: Study database.

**Table 3:** Correlation.

		Correlation Coping and Adaptation sum	Union and support	Expression	Difficulties
Coping and Adaptation sum	Pearson's correlation	1	.076	.084	.087
	Sig. (Bilateral)		.566	.524	.509
Union and support	Pearson's correlation	.076	1	.785**	-.695**
	Sig. (Bilateral)	.566		.000	.000
Expression	Pearson's correlation	.084	.785**	1	-.702**
	Sig. (Bilateral)	.524	.000		.000
Difficulties	Pearson's correlation	.087	-.695**	-.702**	1
	Sig. (Bilateral)	.509	.000	.000	

Source: Study database.

About the level of coping and adaptation of the sample, it was found that 35% (n = 21) obtained a high level, 48.3% (n = 29) medium level and 16.7% (n = 10) a low level. Relating the level of coping with the sociodemographic variables, it was identified

that those who have a higher average level of coping are the male gender with 41.7% (n = 5) in both levels, unlike the female gender since 50% (n = 24) obtained a medium level and 33% (n = 16) a high level.

Subsequently, the correlation of the study variables, intra-family relationships and the level of coping and adaptation was carried out. First, the Kolmogorov-Smirnov test was performed, obtaining a normal distribution of the data. After that, a Pearson correlation analysis was carried out, yielding a significant positive correlation between the levels of the score obtained from family relationships, with the score obtained from the level of coping and adaptation. In Table 3 is a Pearson correlation of .076 and a significance of .566 between the dimension of union and support and the score of coping and adaptation, the direction of the correlation is positive, therefore, when increasing the level of union and support, the level of coping and adaptation would improve, and vice versa. This is the same case of the other two dimensions, the expression dimension is positively related to the level of coping and adaptation ( $r = .084$ ) ( $p = .524$ ) as well as to the difficulty dimension ( $r = .087$ ) ( $p = .509$ ).

## Conclusions

In conclusion, it can be stated that in the population studied, a significant correlation was found between the level of coping and adaptation and the level of intrafamily relationships in people diagnosed with cancer. It can be assumed that the family environment represents a very important element for cancer patients, and that it can positively or negatively influence the coping and adaptation strategies that the patient develops.

In this way, it can be concluded that the higher the level of intrafamily relationships in cancer patients, the better the level of coping and adaptation developed, since feeling supported and surrounded by people who are interested in their well-being generates a positive impact on the patients mood.

Therefore, oncological diseases, in addition to needing for some pharmacological or surgical therapy, also need a series of psychological and emotional elements to be addressed, in which their closest environment intervenes, specifically the patients family. Among the limitations of the study is that the results obtained in relation to gender and type of cancer cannot be generalized to the entire population diagnosed with cancer due to the size of the sample. For this reason, it is suggested to carry out investigations where the size of the sample is expanded so that the results obtained allow having a greater knowledge.

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