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Research Article

ANALYSIS OF CANCER PATIENTS' ILLNESS ACCEPTANCE AND HOPE LEVELS AS PER GENDER AND CANCER DIAGNOSIS

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Abstract: *The identification and evaluation of the factors associated with cancer are essential to the process of coping with cancer and adapting to it. This research was conducted to find the cancer patients' levels of illness acceptance and hope and analyze their illness acceptance and hope levels as per gender and cancer diagnosis. A total of 135 patients were included in the research that was designed as a descriptive and correlational study. The data were collected by using the patient identification form, the Acceptance of Illness Scale (AIS), and the Herth Hope Index (HHI). Percentage, mean, Pearson correlation analysis, student t-test, and Kruskal-Wallis test were used in the evaluation of the data. It was found that the participant patients obtained medium-level mean scores from the AIS and the HHI. Besides, it was identified that there was a low-level statistically significant positive relationship between the mean scores obtained by participant patients from these two measurement tools. Upon the comparison of participant patients' mean AIS and HHI scores as per gender, it was discerned that there was no statistically significant difference in the mean AIS and HHI scores as per gender. It was found that the participants diagnosed with respiratory cancer had higher levels of illness acceptance. While there was no statistically significant difference in the participant patients' mean HHI scores as per the cancer diagnosis; it was discerned that the participants diagnosed with gynecologic cancer obtained a higher mean score from the interconnectedness sub-scale of the HHI. It is recommended that therapies targeted to the patients with low-level illness acceptance and hope be organized and the patients' illness acceptance and hope levels be evaluated at certain intervals.*

Keywords: *Acceptance, Cancer, Diagnosis, Gender, Hope, Patients*

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1. Introduction

Cancer is the second leading cause of death in our country and in the world. Globally, one out of every 6 deaths, and one out of every 5 deaths in Turkey is due to cancer [1]. Despite technological advancements in health sciences that enrich and develop treatment methods, cancer is still perceived as an incurable illness. When the incurability and social weight of the illness are combined with the lifestyle changes, the idea that life is restricted comes into view [2,3]. This situation makes it difficult for the patients to successfully accept illness, adapt to it or cope with it [4]. On the other hand, the relevant literature showed that the high-level acceptance of illness prevented the patient from focusing on negative emotions, reduced the severity of symptoms, facilitated the acceptance of restrictions connected with illness, and provided more motivation for the fight with illness [5,6]. Besides, it was indicated that the constructive coping method was a significant quality that provided the patient with the

opportunity to live longer and have a better quality of life [7]. On the other hand, the patient's acceptance of illness is not alone adequate for the fight with illness. For each behavior that will promote adaptation to treatment, coping, and well-being, the patient needs strong positive emotions. The foundation of these positive emotions is the patient's hope of recovering from the illness [8].

Hope is a dynamic force that gives power to individuals for adaptation to the future and enables them to pay attention to the future and their lives and find meaning in life [9,10]. The patients' hopes are often threatened by cancer as it is an illness that affects the individual's emotional state, changes the individual's self-perception and perception about the future and the world, and reduces the individual's control by disrupting expectations about life [11]. The importance of high-level hope for cancer patients to both cope with illness and control symptoms is highlighted by the studies performed on this topic. The study by Taleghani et al. [12], found that hope was a significant coping strategy for women diagnosed with breast cancer, and the study by Lin et al. [13], identified that the cancer patients with high-level hope could better cope with pain and had a better emotional state. The study by Liu et al. [14], states that the cancer patients with low levels of hope more frequently had depression and these patients had a shorter lifespan.

In a cancer patient's treatment, the patient's psychological well-being and adaptation to treatment affect the success of treatment [15]. Therefore, it is important that the patient accept illness and have strong hope. On this topic, big responsibilities fall upon the nurses who form a professional group. As the nurses are next to the patient when illness is first diagnosed and later during illness and treatment, in other words, at all moments of illness, they are responsible for knowing the meanings attributed by the patient to illness and hope and the factors associated with illness, developing effective nursing initiatives with this knowledge, and in the end, using strategies for alleviating the patient's negative emotions [10]. This study was performed to enlarge the scientific data necessary for the fulfillment of these responsibilities and analyze the factors affecting cancer patients' illness acceptance and hope as per the relevant literature.

2. Material and Methods

2.1. Aim and Type of Research

The research was designed as a descriptive and correlational study to identify the cancer patients' levels of illness acceptance and hope and analyze their illness acceptance and hope levels as per gender and cancer diagnosis.

2.2. Population and Sample of the Research

The research population was comprised of individuals who were diagnosed previously at least six months ago with cancer and hospitalized at the Oncology Center, Oncology Surgery Service, Hematology Service, and the General Surgery Service of a university hospital between 22 April – 30 October 2019 or applied to these services on these dates. Using power analysis, with an error rate of α=0.05 and a medium effect size of 0.25, as well as the targeted testing power of 0.80, the minimum required sample size was determined as 124. In this context, the study included 135 cancer patients who were aged 18 years or above, could answer the questions independently, had no illness likely to affect the decision-making competency (dementia, psychological problems, and so on), and agreed to participate in the study were included the research sample.

2.3. Data Collection Tools

The research data were collected by using the Patient Identification Form, the Acceptance of Illness Scale, and the Herth Hope Index.

2.3.1 Patient Identification Form

The form that was prepared by the researchers had a total of 20 questions about participant cancer patients' data (age, marital status, education level, employment status, diagnosis, stage, & duration of illness, treatment method & its duration, and so on).

2.3.2 Acceptance of Illness Scale (AIS)

The scale was developed by Felton and Revenson (1984) to measure the patient's illness acceptance level. With the participation of diabetic individuals, Besen and Esen [16] performed the validity and reliability study for the scale in Turkish. Designed as a five-point Likert-type scale, the AIS has eight items and is scored based on the respondent's agreement or disagreement with each item. The minimum and maximum scores to be obtained from the scale are respectively 8 and 40 points. Agreeing with the statements presented in the scale is rated with a low score (one point) and this refers to the lack of illness acceptance and points to poor adaptation to illness and serious physical illness. Disagreeing with the statements under the scale is rated with a high score (five points) and the high score is the proof that the illness is embraced by the patient and refers to the absence of negative emotions about illness and presence of illness acceptance. High-level acceptance of illness is an indicator of the adaptation to illness and shows that the physical illness is felt just a little. In the validity and reliability study performed in Turkish for the scale, Cronbach's alpha coefficient as the measure of internal consistency was found as 0.79 [16]. In this study, Cronbach's alpha coefficient was calculated as 0.89 for the scale.

2.3.3 Herth Hope Index (HHI)

The index was developed by Herth [17]. Aslan et al. [8] performed the validity and reliability study for the index in Turkish and adapted it to Turkish society. The index has 12 items. Four options ("I strongly disagree", "I disagree", "I agree", and "I strongly agree") are present for each item. The HHI has three sub-scales (temporality and future, positive readiness and expectancy, and interconnectedness). The sub-scale of temporality and future addresses the cognitive-temporal aspect of hope, the sub-scale of positive readiness and expectancy refers to the emotional-behavioral aspect of hope, and the sub-scale of interconnectedness pertains to the aspect of hope relevant to the relationships and conditions that the respondent has. There are four items under each sub-scale. The total score is calculated by summing the scores obtained from each item. The total score to be obtained from the HHI ranges from 12 to 48 points while the score to be obtained from each HHI sub-scale ranges from 4 to 16 points. A high total score indicates that the respondent has high-level hope. In the study by Aslan et al. [8], Cronbach's alpha coefficient was found as 0.88 for the HHI. In this study, Cronbach's alpha coefficient was calculated as 0.83 for the HHI, 0.81 for the sub-dimension of temporality and future, 0.84 for the sub-dimension of readiness and expectancy, and 0.83 for the sub-dimension of interconnectedness.

2.4. Data Collection

The research data were collected in a comfortable setting via face-to-face interviews. Filling in the data collection forms took participants approximately 25-30 minutes.

2.5. Ethical Dimension

Before collecting the research data, the ethical endorsement was obtained from the ethics committee of Sivas Cumhuriyet University (Decision Number and Date: 2019-04/03; 17.04.2019) and written permission was received from the institution where the research was conducted. Besides, each cancer patient was informed about the coverage of the research, was told that participation in the research was voluntary, and was asked to consent verbally to participate in the research.

2.6. Evaluation of Data

The research data were evaluated with the Statistical Package for Social Science 23.0. Whether the data were normally distributed was checked via the Kolmogorov-Smirnov test. The data about the participant patients' socio-demographic and illness-related characteristics were expressed as percentages and arithmetic means, and the Pearson correlation test was utilized to analyze the relationship between participant patients' mean AIS and HHI scores. In the correlation analysis, the r coefficient was evaluated as 0.00-0.25 very weak, 0.26-0.49 weak, 0.50-0.69 moderate, 0.70-0.89 high, and 0.90-1.00 very high correlation [18]. The student t-test and the Kruskal-Wallis H test were used to find whether there were statistically significant differences in participant patients' mean AIS and HHI scores as per gender and cancer diagnosis. In the research, the statistical significance was identified if the p-value was below 0.05 ($p<0.05$).

3. Results

The participant cancer patients had a mean age of 61.05±12.78 years and 67.4% of the participants were male. Of all participant patients, 30.4% were elementary school graduates, 67.4% were married, 6.7% lived alone, 91.1% were not working, 82.2% stated that they had medium-level income, 54.1% had a history of cigarette smoking, and 5.2% still smoked.

The mean duration of having illness and the mean duration of having treatment were successively 7.20±7.14 and 6.58±6.37 years for the participant patients. While 42.2% of the participant patients were diagnosed with hematological cancer, 20.7% of them were diagnosed with gastrointestinal cancer. It was discerned that, of all participant patients, 54.8% were stage 2 cancer patients, 28.9% had a family member with a similar illness, 54.8% had an additional chronic disease, and 92.6% received information about the illness from a doctor or nurse. While 44.7% of the participant patients evaluated that they had a good general state of health, 55.6% of them said that they could meet their daily needs with outside help, and 95.6% of them told that there was an individual who dealt with their care and treatment at home (Table 1).

Table 1. Characteristics of the patients regarding the disease and treatment

Characteristics	**X̄± SD**	
Age (year)	61.05±12.78	
Disease duration (year)	7.20±7.14	
Treatment duration (year)	6.58±6.37	
Diagnosis	**n**	**%**
Hematological cancers	57	42.2
Gastrointestinal system cancers	28	20.7
Gynecological cancers	27	20.0
Respiratory system cancers	23	17.1

Table 1. continued

Cancer stage		
I. stage	23	17.0
II. stage	74	54.8
stage	38	28.1
Type of Treatment		
Only chemotherapy	64	47.4
Only radiotherapy	15	11.1
Only surgical	17	12.6
Chemotherapy and surgery	19	14.1
Chemotherapy and radiotherapy	13	9.6
Radiotherapy and surgery	7	5.2
Presence of an individual with a similar disease in the family (mother, father, sibling, spouse, child)		
Yes	39	28.9
No	96	71.1
Presence of other chronic diseases		
Yes	74	54.8
No	61	45.2
The status of receiving education from a physician or nurse about the disease		
Yes	125	92.6
No	10	7.4
General health assessment		
Good	60	44.4
Middle	59	43.7
Bad	16	11.9
Ability to meet daily needs alone		
She/he can do it alone	60	44.4
She/he can do with the help	75	55.6
Presence of individuals interested in home care and treatment		
Yes	129	95.6
No	6	4.4
Presence of friends or family members to share their distress and feelings with		
Yes	130	96.3
No	5	3.7

Table 2 displayed the breakdown of participant patients' mean AIS and HHI scores. In this respect, it was identified that the participant patients had a medium-level mean AIS score (24.57±7.87 points), and hence, they had medium-level adaptation to cancer and felt physical illness at the medium level. Besides, it was found that the participant patients had a medium-level mean HHI score (32.65±7.44 points). Moreover, it was discerned that there was a low-level statistically significant positive relationship between the participant patients' mean AIS and HHI scores ($r=0.284$, $p=0.001$).

Table 2. The breakdown of participant patients' mean AIS and HHI scores

Scales	The min-max points that can be obtained	Min-max points received	X̄± SD	Acceptance of Illness Scale Test/ p
Acceptance of Illness Scale	8-40	10-40	24.57±7.87	-
Herth Hope Index	12-48	16-48	32.65±7.44	r=0.284/ 0.001*
Temporality and future	4-16	4-16	9.45±3.08	r=0.300/0.000*
Positive readiness and expectancy	4-16	5-16	10.88±2.81	r=0.389/0.000*
Interconnectedness	4-16	6-16	12.11±2.38	r=0.037/ 0.669

*p<0.01

Upon the comparison of participant patients' mean AIS and HHI scores as per gender, it was discerned that there was no statistically significant difference in the female and male patients' illness acceptance and hope levels (p>0.05) (Table 3).

Table 3. The comparison of participant patients' mean AIS and HHI scores as per gender

Scales	Female	Male	Test/ p
Acceptance of Illness Scale	24.16±7.53	24.85±8.12	t=0.494 / 0.622
Herth Hope Index	32.51±7.81	32.74±7.23	t=0.169 / 0.866
Temporality and future	9.55±3.24	9.72±2.99	t=0.318 / 0.751
Positive readiness and expectancy	10.81±2.83	10.92±2.82	t=0.224 / 0.823
Interconnectedness	12.14±2.49	12.08±2.31	t=-0.147 / 0.883

t: Student t-test

Likewise, upon the comparison of participant patients' mean AIS scores as per the cancer diagnosis, it was found that there was a statistically significant difference in the participant patients' illness acceptance levels as per the cancer diagnosis (p<0.05). In this regard, it was identified that the participant patients diagnosed with respiratory cancer had higher levels of illness acceptance. Furthermore, there was no statistically significant difference in the participant patients' mean HHI scores as per the cancer diagnosis (p>0.05) whereas there was a statistically significant difference in the mean HHI Interconnectedness sub-scale scores as per the cancer diagnosis and the participant patients diagnosed with gynecologic cancer obtained a higher mean score from the HHI Interconnectedness sub-scale (p<0.05) (Table 4).

Table 4. The comparison of participant patients' means AIS and HHI scores as per the cancer diagnosis

Scales	Hematological cancers	Gastrointestinal system cancers	Gynecological cancers	Respiratory system cancers	Test/ p
Acceptance of Illness Scale	24.08±7.60	22.35±7.15	24.22±8.13	28.91±7.89	KW=8.586 / 0.035*
Herth Hope Index	30.73±6.89	34.64±7.17	35.11±8.11	32.08±7.31	KW=5.979 / 0.113
Temporality and future	8.92±2.54	10.35±2.87	10.48±3.86	9.65±3.29	KW=6.486 / 0.090
Positive readiness and expectancy	10.28±2.62	11.57±2.97	11.33±3.25	11.00±2.37	KW=3.948 / 0.268
Interconnectedness	11.52±2.49	12.71±2.15	13.29±1.89	11.43±2.27	KW=13.200/0.004**

*p<0.05;** p<0.01; KW: Kruskal-Wallis test

4. Discussion

The socioeconomic variables can affect the levels of illness acceptance, adaptation to illness, and hope. Age, gender, education level, and economic status are among these variables [19]. On the other hand, in this study, it was found that, as per gender, there was no statistically significant difference in the participant cancer patients' levels of illness acceptance and hope. Likewise, in another study, it was identified that there was no statistically significant difference in the levels of hope as per gender [8]. Also, in a systematic study of collected works that analyzed three studies, it was put forward that only one study found that gender was a significant factor affecting hope and, in this sense, women had higher levels of hope than men [20]. On the other hand, certain studies demonstrated that male cancer patients had significantly higher levels of hope than female cancer patients [9,21]. The finding of this study about the effect of the variable of gender may have been obtained since the numbers of female and male participants were not close to each other in this study.

The acceptance of illness enables cancer patients to evaluate their health status objectively and is a significant motivating factor for cancer patients to cope with illness. In this study, it was found that the participant patients had a medium-level acceptance of illness whilst they had medium-level adaptation to cancer and felt the physical illness at the medium level. It was ascertained that the cancer patients' illness acceptance levels varied across the studies in the relevant literature. In certain studies, that used a similar scale, it is identified that the cancer patients had higher levels of illness acceptance than the participant patients in this study. Among these patients with higher levels of illness acceptance, it is discerned that there were patients with breast cancer [22-24], colorectal cancer [24,25], and urinary tract cancer [19,24,26]. In a study that analyzed the lung cancer patients, an illness acceptance level that was close to the one found in this study was obtained [24]. In a study performed with patients diagnosed with leukemia, it was discerned that the illness acceptance level was low [27]. Unlike other studies in the relevant literature, obtaining medium-level illness acceptance in this study may have stemmed from the characteristics and size of the study sample. Additionally, it is considered that medium-level illness acceptance is not enough to ensure that the best adaptation to illness will be attained, and hence, psycho-oncological therapy is needed to raise the level of illness acceptance.

In this study, it was found that the patients diagnosed with respiratory cancer had higher levels of illness acceptance. In contrast to this finding of this study, certain studies in the relevant literature identified that the patients with lung cancer and gastrointestinal cancer had lower levels of illness acceptance as the lung cancer and gastrointestinal cancers had a bad prognosis and the life expectancy was shorter, on the other hand [24]; the patients diagnosed with breast cancer [22-24], and urinary tract cancers had higher levels of illness acceptance [19,24,26]. Likewise, in the study carried out by Religioni et al. [24], to examine the illness acceptance levels of the patients with lung, prostate, and colorectal cancers, it was found that the illness acceptance levels depended on the cancer type and the patients with prostate cancer had the highest levels of illness acceptance whilst the patients with lung cancer had the lowest levels of illness acceptance. Also, in the study by Ślusarska et al. [28], it was asserted that there was a statistically significant difference in the mean acceptance scores of the women with breast cancer and the women with lymphoma, and the women with breast cancer had higher levels of illness acceptance in this sense. In light of the finding of this study that differs from the relevant literature, it can be considered that the cultural factor affects the process of coping with cancer. The fatalistic approach is common in the case of fatal diseases in Turkish culture [29], and hence, it is supposed that this approach would have implications also on the illness acceptance levels.

Hope is acknowledged as a significant component of coping with cancer [8]. However, in this study, it was found that the participant cancer patients had medium-level hope. Contrary to this finding of this study, the studies in the relevant literature found that the cancer patients had higher levels of hope

[10,30-32]. Likewise, in a study performed on patients with breast cancer, it was discerned that the level of hope was higher in the period after treatment than the period before treatment [33]. The cancer patients in this study may have had lower levels of hope than cancer patients addressed in the relevant literature since the cancer patients included in this study were hospitalized in the data collection phase of the research and a large part of them were in the treatment process.

The high-level illness acceptance and hope reduce the intensity of patients' illness-related negative emotions and enable patients to embrace the illness-related restrictions because high-level illness acceptance and hope appertain to positive emotions that lower the psychological burden of the illness and enhance the quality of life. In this study, it was found that there was a positive relationship between illness acceptance and hope levels. In a similar vein, the study performed by Sze et al. [34] on patients with brain tumors identified that, as the patients' hope levels increased, the life expectancy, symptom controls, and illness acceptance went up in patients. The positive sensation starting with the acceptance of illness is reinforced by hope. Finding a positive relationship between illness acceptance and hope just as the one found in this study is an expected result.

The most important limitation of the research is that the research was conducted in a single center and within a certain time period. Another limitation is the collection of data based on hope and illness perception by the self-report method.

5. Conclusion

In this study, it was found that the participant cancer patients had medium-level illness acceptance and hope, and as the level of illness acceptance increased, the level of hope also increased. Additionally, it was discerned that the patients diagnosed with respiratory cancer had higher levels of illness acceptance, and also, as per gender, there was no difference in the participant patients' illness acceptance and hope levels. To be able to cope with illness effectively, it is important that the patients accept illness and have the hope of recovery. Having these positive emotions at the highest level reduces the feeling of dependence, increases self-esteem, and enhances self-efficacy. During the disease process, healthcare professionals, especially nurses can elevate the patient's hopes and reinforce the patient's adaptation to disease by allocating some time to speak to the patient, answering the patient's questions, exhibiting positive and honest behaviors toward the patient, being next to the patient, giving patient information about the disease, and providing the patient with effective care. In this context, it is recommended that therapies targeted to the patients with low-level illness acceptance and hope be organized and the patients' illness acceptance and hope levels be evaluated at certain intervals.

Ethical Declaration: This work was approved by the ethics committee of Sivas Cumhuriyet University (Decision Number and Date: 2019-04/03; 17.04.2019).

Conflict of interest: The authors declare that they have no conflict of interest.

Authors' Contributions: The authors declare that their contribution to the work is equal.

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