

## Hopelessness and Social Support among Cancer Patients in Saudi Arabia

Hawazen Rawas<sup>1,2,3\*</sup>, Jennifer De Beer<sup>4</sup>, Osamah Alturki<sup>2,3,5</sup>, Mohammed Altorki<sup>2,3,5</sup>, Tareq Alhelali<sup>2,3,5</sup>, Anas Althagfi<sup>2,3,5</sup>, Nawaf Faisal<sup>2,3,5</sup>, Faisal Albalawi<sup>2,3,5</sup>, Muhammad Anwar Khan<sup>2,3,5</sup>

### Abstract

**Background:** Receiving a cancer diagnosis can be extremely stressful for patients, as it is a life-threatening disease. However, when this topic is discussed or researched, the psychological state of cancer patients is often ignored or forgotten. The study aimed to measure the levels of hopelessness and social support among cancer patients. It also aimed to assess the relationship between different demographic variables, hopelessness, and social support of these patients. **Methods:** The study followed a cross-sectional quantitative design. The setting included Princess Norah Oncology Center, at King Abdul-Aziz Medical City, Jeddah. A convenience sampling technique including 300 cancer patients was followed. Data collection included a demographic questionnaire, the Beck Hopelessness Scale (BHS), and the Multidimensional Scale of Perceived Social Support (MSPSS). Ethical principles of anonymity and confidentiality were followed. **Results:** The total number of respondents was 300, with 50% being male and 50% being female. The mean age of patients was  $52.6 \pm 14.83$  years. The most prevalent types of cancer were breast cancer (21.4%), colorectal (15.2%), and lymphoma (12.1%) respectively. Most of the patients were married (71.3%). The mean value of the BHS was 4.5, whereas the mean value of the MSPSS was 67.7. Moreover, the type of cancer showed a significant association between family support and total social support. In colorectal cancer patients, the total social support ( $71.2 \pm 20.1$ ) and family support ( $26.2 \pm 5.0$ ) provided was the highest followed by leukemia ( $70.3 \pm 15.5$  and  $25.2 \pm 5.1$ ) and breast cancer ( $68.3 \pm 20.3$  and  $24.3 \pm 6.8$ ). **Conclusion:** The findings of the present study suggest that the levels of hopelessness in cancer patients are moderate, and the levels of social support received by participants are high. In addition, the relationship between the levels of hopelessness and the levels of social support received is inversely proportional.

**Keywords:** Cancer- hopelessness- social support- Saudi Arabia

*Asian Pac J Cancer Prev*, 25 (4), 1363-1370

### Introduction

In 2020, there were more than 19.3 million (19,300,000) new diagnosis of cancer cases leading to approximately 10 million deaths in 2020 [1]. Receiving a cancer diagnosis can be extremely stressful for patients, as it is a life-threatening disease [2] and life-changing [3,4]. In recent years, the life expectancy of cancer patients has increased due to advancements in technology and medical sciences. However, patients experience a host of problems ranging from poor therapeutic responses to treatment; side effects of the treatment; costly treatments, anxiety, fear of disease reoccurrence; and psychological and physical distress [5].

The psychological state of cancer patients has a significant prognostic impact and should be assessed and

analyzed to further increase awareness and improve the overall treatment quality. Cancer is a disease that has significant physical, emotional, social, and economic repercussions. The diagnosis of cancer patients is preceded by a period of gradual, non-specific symptoms or through routine screenings. After the diagnosis, patients get into a whirlwind of diagnostic testing, invasive procedures, and complex treatments with little prior notice or opportunity to adjust to their circumstances [6].

Hope is essential in predicting cancer patients' ability to cope with the nature of the disease and subsequent therapy. It improves the mental and physical health of cancer patients. Unfortunately, cancer patients are more susceptible to hopelessness, especially those who are in the late stages of cancer. Many cancer patients suffer from hopelessness after their diagnosis and during their

<sup>1</sup>College of Nursing, King Saud bin Abdulaziz University for Health Sciences, Jeddah, Saudi Arabia. <sup>2</sup>King Abdullah International Medical Research Center, Jeddah, Saudi Arabia. <sup>3</sup>Ministry of the National Guard - Health Affairs, Jeddah, Saudi Arabia. <sup>4</sup>King Faisal Specialist Hospital and Research Center, Jeddah, Saudi Arabia. <sup>5</sup>College of Medicine, King Saud bin Abdulaziz University for Health Sciences, Jeddah, Saudi Arabia. \*For Correspondence: rawassh@ksau-hs.edu.sa

treatment period for reasons such as chronic pain and anxiety. Hopelessness may endanger a patient's physical and mental health [7]. The study by Yildirim and his colleagues assessed the levels of hopelessness and its associated characteristics in a sample of cancer patients in Turkey. The results revealed that cancer metastasis, and the degree of pain, anxiety, and depression symptoms all significantly affected patients' feelings of hopelessness [8]. In addition, another study highlighted that patients with recurrent disease displayed greater levels of hopelessness than first-time cancer patients [5].

Social support can be defined as the understanding by which an individual is accepted, protected, and given care by people [9]. The actual (received) social support a patient gets is considered the objective social support. On the other hand, subjective social support is the patients' perceived social support from their point of view, and how they feel about the social support that is provided to them [10]. The sources of the social support perceived can vary from a spouse, friends, and family members to health care providers. The effect of social support on the health and well-being of individuals is undeniable, especially in people with chronic illnesses [9]. Moreover, studies show that individuals with low social support have a greater chance of being affected by stressful events [9]. Cancer patients for example need social support to overcome stress, anxiety, and depression, which may come with their diagnosis, treatment, and symptoms [11]. Thus, social support plays an important role in the psychological condition of patients. Improving cancer patients' quality of life is also linked to adequate social support [12]. Furthermore, evidence supports that mortality rates have a positive association with the lack of social support [11].

In 2020, in Saudi Arabia, there were about 27,885 new cancer cases with approximately 13,069 deaths. The most common cancers were breast cancer (3,954 new cases), colorectal (2,756 new cases), and cervical cancer (1,016 new cases) [13,14]. Many patients suffer from hopelessness during their adjustment period, and the social support provided improves their level of hope [15]. Many studies have been conducted in several countries, such as Qatar, Turkey, Iran, and Ethiopia, that assessed the levels of hopelessness and its relation to social support [5, 8, 10, 15, 16]. However, no similar studies were found in Saudi Arabia, hence it is within this backdrop that the current study aimed to assess the levels of hopelessness and social support among cancer patients at Princess Norah Oncology Center (PNOC) in Jeddah, Saudi Arabia. Also, this study aimed to assess the relationship between different demographic variables, hopelessness, and social support.

## Materials and Methods

### *Study Design, Setting, and Participants*

The study followed a cross-sectional, quantitative, descriptive survey approach. The data was collected from inpatient and outpatient oncology wards and clinics at PNOC, at King Abdul-Aziz Medical City, Ministry of the National Guard in the Western Region of Saudi Arabia. Adult oncology services commenced in 1994, as part of

the General Medicine department, and in 2001, PNOC was established, to improve services to cancer patients. PNOC has been reputable for many years, as a superior tertiary care hospital. It is the most prominent cancer center in the region and serves the Western, Northern, and Southern parts of the Kingdom. The population included cancer patients who visited the oncology clinics and the four inpatient wards. In 2020, there were 4,361 admissions to all wards and 881,515 outpatient visits (total visits does not exclude multiple visits by the same patient [17].

The inclusion criteria included patients who were above 18 years of age; admitted to PNOC or visiting an oncology clinic. Patients with psychiatric illnesses; who were uncooperative or incapacitated were excluded from the study. A convenient sampling technique was followed. Sample size was estimated at 95% confidence level with an estimated 45% response distribution and a margin of error of +5%. The determined sample size was 383. Data collection included a questionnaire with a demographic section; the Beck hopelessness scale (BHS), and the Multidimensional Scale of Perceived Social Support (MSPSS).

The demographic section was used to assess patients' basic information, such as age, gender, marital status, education level, occupation, income, and type and stage of cancer. The BHS is a 20-item scale that measures aspects related to feelings regarding the future, loss of motivation, and expectations [18]. The scale is separated into three subdivisions which include; "feelings and expectations about future" (five items: 1st, 3rd, 7th, 11th, and 18th items); "loss of motivation" (eight items: 2nd, 4th, 9th, 12th, 14th, 16th, 17th, and 20th items); and "hope" (seven items: 5th, 6th, 8th, 10th, 13th, 15th, and 19th items). Options for answering questions include true or false (true=1, false=0) with a highest score of 20 and a lowest score of 0. A higher score indicates more hopelessness and a lower score indicates less hopelessness. Scores can range between 15-20 (severe hopelessness); 9-14 (moderate hopelessness), and 4-8 (mild hopelessness). The survey has an existing reliability coefficient of  $\alpha$  ranging from 0.82 to 0.93 [18].

The MSPSS is a survey that was developed by Canty-Mitchell and Zimet in 2000 to assess participants' perceived social support elements. The survey is used to predict the adequacy of perceived social support namely family (four items: 3rd, 4th, 8th, and 11th ), friends (four items: 6th, 7th, 9th, and 12th ), and special person (four items: 1st, 2nd, 5th, and 10th ). It is a 12-item Likert scale from 1 to 7, where 1 means very strongly disagree, and 7 means very strongly agree [19]. Higher scores indicate high perceived social support and low scores indicate low perceived social support. The reliability is well established, with a Cronbach's alpha of 0.81 to 0.98 in non-clinical samples, and 0.92 to 0.94 in clinical samples [20-23].

For the current study, the researchers and expert academic members conducted content validity testing on the questionnaires, evaluating item relevance, comprehensiveness, and comprehension. The questionnaire's content validity was assessed using an index based on the rating agreement of five experts,

resulting in a content validity index (CVI) of 87. This CVI score of 87 confirms its validity, as scores above 0.79 are considered appropriate. Scores between 0.79 and 0.70 are deemed questionable and in need of correction, while scores below 0.70 are considered unacceptable and warrant removal [24]. Additionally, a pilot study was conducted involving 20 patients, to ensure the questionnaires' face validity, clarity, and applicability, and to estimate the time required for completing the questionnaire. No modifications were deemed necessary based on the pilot study results. For reliability, the internal consistency coefficient for the BHS in the current study was found to be 0.93, and for the MSPSS was found to be 0.89.

Data was collected after obtaining Institutional Review Board (IRB) approval from King Abdullah International Medical Research Center (KAIMRC) (IRB/0840/22), and the Director of the Oncology department. Data was collected over four months. The recruitment process for study participants involved a personalized approach followed by the researchers. The researchers visited patients in wards in the inpatient areas. In the case of patients in the waiting area for outpatient clinics, a similar approach was employed. Researchers approached patients who met the predetermined inclusion criteria and extended an invitation to participate in the study. The researchers provided a detailed explanation of the study's purpose, emphasizing that participation was voluntary. Patients were given written consent forms containing comprehensive information about the study. The researchers took the time to address any questions or concerns raised by the participants before obtaining their informed consent. The questionnaire was self-administered and the distribution of the questionnaire was conducted in private rooms within each respective area to uphold the confidentiality of participants' responses. The questionnaire took approximately 15 minutes to complete. Part of the sample was illiterate which resulted in patient escorts or the researchers assisting patients by reading the questions and answer options to the patients.

The data was managed, coded, and analyzed using Statistical Package for the Social Science (SPSS) version 27.0. Cronbach's alpha correlation coefficient was used to test the study's tool for internal reliability. Descriptive statistics was carried out using the count/frequency and percentages for the categorical variables like gender, type of cancer, stage of cancer parity, education level, etc., and mean and standard deviation for numerical variables like age, BMI, Total BHS, and Total MSPSS. Independent t-test and ANOVA were used when comparing the means of numerical variables with categorical variables. A P-value less than 0.05 was considered statistically significant.

## Results

### Patient Demographics

Table 1 presents the socio-demographic characteristics of the study participants. A total of 385 patients were invited to participate in this study, however, only 300 patients responded to the survey with a response rate

of approximately 78%, with 150 (50%) being male and 150 (50%) being female. Two hundred and sixty-five participants of the total responses stated their age. The mean age of patients was 52.6± 18.83 years. Two hundred and fourteen participants (80.3%) were married, 44 (14.7) were single, and 42 (14.0) were divorced or widowed. One hundred and sixty (54.3%) participants had a general education degree, and 32 % were employed. A total of 290 (96.6%) participants were Saudi Citizens, while the remaining eight were from other Arab countries. One hundred and twenty-nine (43%) of the participants had an income below 8000 Saudi Riyals, and only 15 (6%) of patients refused to disclose their income. The mean value of BHS was 4.5 ± 4.13. The mean value of MSPSS was 67.7 with a standard deviation of 19.19.

Table 2 depicts the lifestyle and clinical characteristics

Table 1. Socio-Demographic Characteristics of Cancer Patients (N=300)

Variables	N	%
Age [Mean ± SD]	265	Range 18-85 52.6±14.83
Gender (n=300)		
Male	150	50.2
Female	149	49.8
Marital Status		
Single	44	14.7
Married	214	71.3
Divorced/ Widowed	42	14
Education Level		
Illiterate	33	11
General Degree	163	54.3
Higher Education	104	34.7
Occupation		
Employee	96	32
Retired	55	18.3
Others	149	49.7
Ethnicity		
Saudi	290	96.7
Other Arab	9	3.3
Income (n=285)		
<8,000	129	45.3
8,000-14,999	101	35.4
>15,000	55	19.3
Total BHS [Mean ± SD]	300	4.5±4.13
A Special Person [Mean ± SD]	300	23.5± 6.53
Family [Mean ± SD]	300	24.2±6.34
Friends [Mean ± SD]	300	20.5±7.35
Total MSPSS [Mean ± SD]	300	67.7±19.19

Table 2. Lifestyle and Clinical Characteristics of Study Sample (N=300)

Variables	N	%
Type of Cancer (n=257)		
Breast	55	21.4
Colorectal	39	15.2
Lymphoma	31	12.1
Leukaemia	34	13.2
Other	98	38.1
Stage Cancer (n=88)		
Early	32	36.4
Late	56	63.6
Physical activity (walking/day) (n=300)		
30 min	139	46.5
60 min	36	12.0
None	124	41.5
Parity (n=298)		
<3 children	68	22.8
>3 children	174	58.4
None	56	18.7
Illness Duration (years)		
1-2	178	59.3
3-4	61	20.3
>5	61	20.3
Treatment modality (n=297)		
Chemotherapy	163	54.9
Chemo+Others	88	29.6
Others	46	15.5
Smoking		
Yes	49	10.3
No	251	89.7
Sheesha/ Hookah		
Yes	31	10.3
No	269	89.7
Height (cm)	222	Range 135-190
[Mean ± SD]	164.6± 9.21	
Weight (kg)	231	Range 30-190
[Mean ± SD]	72.9± 19.84	
Body Mass Index (BMI)	219	Range 13.0-74.22
[Mean ± SD]	27.0± 6.80	

of the study sample. The most prevalent types of cancer were breast cancer (21.4%), colorectal (15.2%), and lymphoma (12.1%) respectively. Only 88 (34.2%) of the participants were aware of their staging and, more than half of them were in the late stages of cancer. One hundred and sixty-three out of 297 (54.9%) participants were on chemotherapy alone, and 122 of 248 were diagnosed for more than three years. One hundred and seventy-four (58.3%) had more than three children, 68 (22.8%) had less than three children, and 56 (18.7) patients did not have children. The percentages of cigarette smokers and sheesha smokers were 16.3% and 10.3% respectively, and more than half of the patients walked for 30-60 minutes per day. Two hundred and twenty-two out of the 300

participants stated their height. The mean of patients' height was 164.6 ± 9.21 cm. 231 participants stated their weight. The mean of the patient's weight was 72.9 ± 19.84 kg. Two hundred and nineteen patients stated their BMI. The mean of the patient's BMI was 27±6.88.

Table 3 presents a mean score of socio-demographic variables, hopelessness, and social support to the patients' descriptive characteristics. Social support provided by friends was the lowest, and social support provided by the family was the highest in all patients. There was a significant relationship between smokers and non-smokers with their respective BHS scores. Smokers had higher levels of hopelessness (5.8 ± 4.6) compared to non-smokers (4.3 ± 4.0). Also, sheesha/hookah users had lower levels of social support (54.8 ± 24.9) especially family support (21.2 ± 7.3), compared to non-users (69.3 ± 17.9). Moreover, the type of cancer showed a significant association regarding the family support and total social support. In colorectal cancer patients, the total social support was (71.2 ± 20.1) and family support was (26.2 ± 5.0) followed by leukemia (70.3 ± 15.5) and family support (25.2 ± 5.1) and breast cancer (68.3 ± 20.3) and family support (24.0 ± 6.8) respectively. However, in lymphoma, the total social support was significantly lower (59.0 ± 20.1) and family support (21.1 ± 6.9). Marital status showed a significant relationship with social support and its three sub-divisions. Married patients had the highest social support (69.2 ± 19.3) followed by divorced/widowed (68.5 ± 15.4), and single people (59.5 ± 22.0).

Income levels and family support also showed a significant relationship. The patients whose monthly income was between 8000-14999 Saudi Riyals (SAR) had the highest family support (25.2 ± 5.2) followed by <8000 SAR (23.7 ± 7.3) and the lowest was in patients with >15000 SAR (23.4 ± 6.5). Furthermore, physical activity was significantly associated with levels of hopelessness and levels of total social support. Patients who were physically inactive and did not walk every day had higher levels of hopelessness (5.7 ± 4.7), and lower levels of social support (64.8 ± 20.1). However, patients who walked 30 minutes every day had higher levels of social support (70.0 ± 18.5), and lower levels of hopelessness (3.7 ± 3.4).

## Discussion

The main objective of this study was to measure the levels of hopelessness and social support. The current study suggests that cancer patients have mild levels of hopelessness (4.5 ± 4.13) (scores of 4–8 mild hopelessness, 9–14 moderate hopelessness, 15-20 severe hopelessness) and high levels of social support (69.8±16.2). Scores of 12-35 indicated a low level of perceived support, 36-60 medium level of perceived support, and 61-84 high level of perceived support. The results are encouraging, as they suggest that cancer patients have high levels of social support, which is an important factor in preventing patients' long-term psychological difficulties and hence benefits their general well-being [25]. However, the finding of mild levels of hopelessness is slightly concerning, as even mild feelings of hopelessness can

Table 3. Mean Score of Socio-Demographic Variables, Hopelessness, and Social Support to the Patients' Descriptive Characteristics (N=300)

Variables		N	Beck Hopelessness Scale	Multidimensional scale of perceived social support			
			Total BHS Mean±SD	A Special Person Mean±SD	Family Mean±SD	Friends Mean±SD	Total MSPSS Mean±SD
Gender	Male	150	4.3±4.1	24.1±5.7	24.6±5.8	21.3±6.8	68.9±18.4
	Female	149	4.8±4.2	22.8±7.2	23.9±6.8	19.7±7.8	66.4±20.4
Stage Cancer	Early	32	4.5±4.2	24.9±4.8	25.6±3.5	21.0±6.9	71.5±12.3
	Late	56	5.0±4.2	24.1±5.2	24.5±4.6	21.5±6.6	70.1±15.2
Smoking	Yes	49	5.8±4.6*	22.6±6.7	23.2±7.1	19.6±7.2	65.3±19.2
	No	251	4.3±4.0	23.7±6.5	24.5±6.2	20.7±7.4	68.2±19.2
Sheesha/Hookah	Yes	31	5.7±4.3	19.0±8.5*	18.9±9.2*	16.8±8.0*	54.8±24.8*
	No	269	4.4±4.1	24.0±6.1	24.9±5.6	20.9±7.2	69.3±17.9
Ethnicity	Saudi	290	4.6±4.2	23.5±6.5	24.3±6.3	20.5±7.4	67.8±19.2
	Other Arab	10	3.6±3.3	23.3±7.3	24.0±6.8	20.0±7.5	67.3±20.9
Type of Cancer	Breast	55	4.2±3.4	23.5±7.0	24.0±6.8*	20.8±7.6	68.3±20.3
	Colorectal	39	3.5±3.4	25.3±5.5	26.2±5.0	21.8±7.3	71.2±20.1
	Lymphoma	31	4.5±3.8	22.3±6.3	21.1±6.9	18.3±7.1	59.0±20.1
	Leukaemia	34	4.5±4.8	24.6±5.0	25.2±5.1	20.5±7.2	70.3±15.5
	Other	98	5.4±4.7	22.6±7.4	23.7±7.0	20.0±7.9	66.2±20.8
Marital status	Single	44	4.8±3.5	20.8±7.7*	21.4±7.9*	17.4±7.9*	59.5±22.0*
	Married	214	4.3±4.2	24.0±6.3	24.7±6.1	21.3±7.1	69.2±19.3
	Divorced / Widowed	42	5.6±	23.7±	24.9±	19.9±	68.5±
Education status	Illiterate	33	5.8±	25.4±	25.4	22.8	73.5
	General Degree	163	4.7±	23.0±	23.9	20	66.3
	Higher Education	104	4.0±	23.6±	24.4	20.7	67.9
Occupation	Employee	96	4.5±	22.6±	23.2	19.3	63.4
	Retired	55	4.6±	24.5±	24.8	21.8	71.1
	Others	149	4.6±	23.7±	24.7	20.8	69.2
Income status	<8000	129	5.2±4.1*	22.8±7.5	23.7±7.3	19.7±8.2	66.2±21.6
	8000-14999	101	3.9±4.4	24.4±5.3	25.2±5.2	21.1±6.7	69.0±18.3
	>15000	55	4.0±3.6	23.2±6.0	23.4±6.5	20.9±6.7	67.6±17.5
Physical activity (walking/day)	30 min	139	3.7±3.4*	24.0±6.5	24.6±6.5	21.4±7.0	70.0±18.5
	60 min	36	3.6±3.7	23.3±7.2	24.0±6.4	20.7±8.0	68.0±20.1
	None	124	5.7±4.7	22.9±6.4	23.9±6.3	19.4±7.4	64.8±20.1
Parity	<3 children	68	5.4±4.2	22.3±7.6*	23.3±7.7*	19.7±7.7*	65.3±21.5*
	>3 children	174	4.1±4.2	24.6±5.6	25.2±5.2	21.7±6.8	70.6±17.2
	None	56	4.9±3.7	21.4±7.4	22.3±7.4	17.8±7.8	61.5±20.7
Illness duration (years)	1-2	178	4.3±4.2	23.6±6.8	24.5±6.4	21.1±7.5	68.7±19.8
	3-4	61	5.2±3.8	22.4±7.1	23.0±7.0	19.6±7.4	64.9±19.6
	>5	61	4.5±4.3	24.3±5.0	24.9±5.3	19.8±6.9	67.8±17.0
Treatment Modality	Chemotherapy	163	4.3±4.0	23.5±6.7	24.1±6.9	20.8±7.3	67.3±20.9
	Chemo+Others	88	4.4±3.8	24.2±6.0	24.7±5.4	20.4±7.2	69.3±17.0
	Others	46	5.5±4.8	22.4±6.6	23.9±6.2	19.4±7.9	65.7±19.1

\*p, 0.001 statistically significant

have negative effects on a patient's coping mechanism and treatment quality [15]. Similar findings were reported among 85 breast cancer patients in Turkey, the level of hopelessness was shown to be mild (5.49±3.8) and social support was high (57.41±13.97) [15]. In addition, a study

found that the hopelessness of patients with breast cancer decreased with the increase in their social support [10].

The relationship between hopelessness and social support was shown to be significant. High levels of social support provided to cancer patients reinforce feelings of

comfort and security, as it can help them cope with mental and physical challenges that accompany a diagnosis. On the other hand, low levels of social support can worsen feelings of isolation and despair, which further exacerbates the feeling of hopelessness. This shows that social support and hopelessness levels are inversely proportional. Thus, healthcare providers should assess the social support needs of cancer patients, and facilitate access to resources such as support groups, counseling, and other forms of assistance that can help patients cope with their disease and improve their prognoses. This is similar to the findings of other studies [5, 10,15].

A second objective was to study the relationships between various demographic variables with hopelessness, and social support among cancer patients. The highest social support resource was found to be the family. This correlates with the cultural context in Saudi Arabia. The Saudi Arabian culture is family-oriented. Another finding is that smokers have high hopelessness levels compared to non-smokers. This may be because smoking itself causes anxiety and stress, which could worsen the mental and physical health of the patients, thus worsening the level of hopelessness. Sheesha/hookah users were found to have lower levels of social support, particularly from families. This may be due to the negative social stigma that is associated with sheesha users in Saudi Arabia.

The type of cancer was found to have a significant relationship with social support level. Colorectal and breast cancer patients had the highest level of social support, which could be explained by the fact that colorectal and breast cancer are the most common cancer types in Saudi Arabia. Thus, the resources and the support systems are more established compared to less common types of cancer. The finding from the present study is inconsistent with the results of another study which reported that the lowest levels of social support provided by family is in gastric cancer patients, and the highest is in bone, liver, and pancreas [5].

Marital status and income level were found to have a significant relationship with social support level. Married patients had significantly higher social support levels, which emphasizes the importance of having a partner who can be emotionally supportive and share the burden of the life journey with the patient. Another study found a similar finding as in the present study [5]. Moreover, patients whose income was between 8000-15000 SAR had significantly highest family support. Öztunç and his colleagues found that patients with moderate to high-income levels had significantly higher total social support, friends' support, and special person support, unlike the insignificant family support [15]. This finding does not correspond with the findings of the present study.

Additionally, physically active patients have higher social support and lower hopelessness. This is supported by the recommendations of the American Cancer Society who suggest that physical activity is very beneficial for cancer patients in every aspect of their lives including their treatment, quality of life, and coping with side effects [26]. Lastly, patients treated with chemotherapy had better friend support. This result could be due to the increased awareness of chemotherapy as a treatment

option, resulting in friends offering support to the patients during their treatment period. The result of Öztunç and his colleagues' study showed a significant finding where patients receiving chemotherapy had a high result in total social support [15].

#### *Limitations and recommendations*

This study acknowledges certain limitations. Firstly, the sample was confined to a single hospital in Saudi Arabia, potentially limiting the generalizability of the findings. Secondly, the current study uses a self-reported questionnaire, which could have introduced bias to the results. To attain a more comprehensive understanding, larger-scale studies involving multiple hospitals and data triangulation are recommended, to establish a robust database about the phenomenon of hopelessness and social support among cancer patients from a patient experience perspective in Saudi hospitals. The present findings are based solely on a one-time survey. Given this context, it is suggested that a subsequent study on cancer patients be conducted using a mixed-methods design. Despite these limitations, the study's findings significantly contribute to the literature on cancer patients in Saudi Arabia, from a major hospital in the Makkah and Western region. Considering the study aimed to assess the levels of hopelessness and social support among cancer patients in Saudi Arabia, it is recommended that the findings be utilized to inform targeted interventions and support services. Understanding the experiences of hopelessness and the impact of social support among cancer patients can guide healthcare practitioners, policymakers, and support organizations in tailoring comprehensive and culturally sensitive approaches. The insights gained from this study have the potential to contribute significantly to the enhancement of psychosocial care for cancer patients in Saudi Arabia. Moreover, it is advised that the results be disseminated within the healthcare community and shared with relevant stakeholders, to foster a collaborative effort in addressing the emotional and social well-being of individuals facing cancer diagnoses. By incorporating the study's outcomes into clinical practice and support programs, healthcare providers can contribute to a more holistic and empathetic approach to cancer care in the Saudi context.

In conclusion, the findings of the present study suggest that the levels of hopelessness in cancer patients are mild, and the levels of social support received are high. In addition, the relationship between the levels of hopelessness and the levels of social support received is inversely proportional. Some demographic variables affected the levels of hopelessness and social support in a significant manner, namely smoking; sheesha/hookah; type of cancer; marital status; income levels; physical activity; and treatment modality. These findings can be used as a guide to improve the quality of life of cancer patients and to encourage social support. Partners, families, friends, and medical practitioners should all work together to ensure the best social support. Also, depression should be added as a factor in further studies.

## Author Contribution Statement

All authors have substantial contributions to conceptualization, methodology, software, and data curation. The author(s) wrote the original draft preparation and final manuscript draft. The author(s) read and approved the final manuscript.

## Acknowledgements

The authors thank all the participants who took part in the current study.

### Ethical Approval

This study has IRB approval from KAIMRC (IRB/0840/22).

### Availability of data and material

All data generated or analyzed during this study are included in this published article [and its supplementary information files].

### Competing interests

The authors declared no potential conflicts of interest.

## References

1. Chhikara B, Parang K. Global cancer statistics 2022: The trends projection analysis. *Chem Biol Lett.* 2022;10:451.
2. White CA, Macleod U. ABC of psychological medicine: cancer. *BMJ: British Medical Journal.* 2002 Aug 8;325(7360):377.
3. Coronado AC, Tran K, Chadder J, Niu J, Fung S, Louzado C, et al. The experience of patients with cancer during diagnosis and treatment planning: A descriptive study of canadian survey results. *Curr Oncol.* 2017;24(5):332-7. <https://doi.org/10.3747/co.24.3782>.
4. Krieger T, Salm S, Dresen A, Cecon N. Cancer patients' experiences and preferences when receiving bad news: A qualitative study. *J Cancer Res Clin Oncol.* 2023;149(7):3859-70. <https://doi.org/10.1007/s00432-022-04311-8>.
5. Madani H, Pourmemari M, Moghimi M, Rashvand F. Hopelessness, perceived social support and their relationship in iranian patients with cancer. *Asia Pac J Oncol Nurs.* 2018;5(3):314-9. [https://doi.org/10.4103/apjon.apjon\\_5\\_18](https://doi.org/10.4103/apjon.apjon_5_18).
6. Niedzwiedz CL, Knifton L, Robb KA, Katikireddi SV, Smith DJ. Depression and anxiety among people living with and beyond cancer: A growing clinical and research priority. *BMC Cancer.* 2019;19(1):943. <https://doi.org/10.1186/s12885-019-6181-4>.
7. Nierop-van Baalen C, Grypdonck M, van Hecke A, Verhaeghe S. Associated factors of hope in cancer patients during treatment: A systematic literature review. *J Adv Nurs.* 2020;76(7):1520-37. <https://doi.org/10.1111/jan.14344>.
8. Yildirim Y, Sertoz OO, Uyar M, Fadiloglu C, Uslu R. Hopelessness in turkish cancer inpatients: The relation of hopelessness with psychological and disease-related outcomes. *Eur J Oncol Nurs.* 2009;13(2):81-6. <https://doi.org/10.1016/j.ejon.2009.01.001>.
9. Walker RJ, Smalls BL, Campbell JA, Strom Williams JL, Egede LE. Impact of social determinants of health on outcomes for type 2 diabetes: A systematic review. *Endocrine.* 2014;47(1):29-48. <https://doi.org/10.1007/s12020-014-0195-0>.
10. Bener A, Alsulaiman R, Doodson L, Agathangelou T. Depression, hopelessness and social support among breast cancer patients: In highly endogamous population. *Asian Pac J Cancer Prev.* 2017;18(7):1889-96. <https://doi.org/10.22034/apjcp.2017.18.7.1889>.
11. Ikeda A, Kawachi I, Iso H, Iwasaki M, Inoue M, Tsugane S. Social support and cancer incidence and mortality: The jpch study cohort ii. *Cancer Causes Control.* 2013;24(5):847-60. <https://doi.org/10.1007/s10552-013-0147-7>.
12. Adam A, Koranteng F. Availability, accessibility, and impact of social support on breast cancer treatment among breast cancer patients in kumasi, ghana: A qualitative study. *PLoS One.* 2020;15(4):e0231691. <https://doi.org/10.1371/journal.pone.0231691>.
13. International Agency for Research on Cancer. Cancer Today. Data visualization tools for exploring the global cancer burden in 2020. Available online: [gco.iarc.fr](http://gco.iarc.fr) (accessed on 24 September 2020). 2018.
14. Khamjan NA, Ahmed FA, Madkhali NM, Ayyoub LA, Dighriri RY, Kariri KA, et al. Evaluation of the knowledge of the most common cancers among health students at jazan university, saudi arabia: A cross-sectional study. *Cureus.* 2023;15(9):e44871. <https://doi.org/10.7759/cureus.44871>.
15. Öztunç G, Yeşil P, Paydaş S, Erdoğan S. Social support and hopelessness in patients with breast cancer. *Asian Pac J Cancer Prev.* 2013;14(1):571-8.
16. Wondimagegnehu A, Abebe W, Abraha A, Teferra S. Depression and social support among breast cancer patients in addis ababa, ethiopia. *BMC Cancer.* 2019;19(1):836. <https://doi.org/10.1186/s12885-019-6007-4>.
17. Ministry of National Guard health affairs. Princess Noorah Oncology Center.[Accessed 2 October 2022]. 2022.
18. Beck AT, Weissman A, Lester D, Trexler L. The measurement of pessimism: The hopelessness scale. *J Consult Clin Psychol.* 1974;42(6):861-5. <https://doi.org/10.1037/h0037562>.
19. Canty-Mitchell J, Zimet GD. Psychometric properties of the multidimensional scale of perceived social support in urban adolescents. *Am J Community Psychol.* 2000;28(3):391-400. <https://doi.org/10.1023/a:1005109522457>.
20. Zimet GD, Powell SS, Farley GK, Werkman S, Berkoff KA. Psychometric characteristics of the multidimensional scale of perceived social support. *J Pers Assess.* 1990;55(3-4):610-7. <https://doi.org/10.1080/00223891.1990.9674095>.
21. Dahlem NW, Zimet GD, Walker RR. The multidimensional scale of perceived social support: A confirmation study. *J Clin Psychol.* 1991;47(6):756-61. [https://doi.org/10.1002/1097-4679\(199111\)47:6<756::aid-jclp2270470605>3.0.co;2-l](https://doi.org/10.1002/1097-4679(199111)47:6<756::aid-jclp2270470605>3.0.co;2-l).
22. Clara IP, Cox BJ, Enns MW, Murray LT, Torgrudc LJ. Confirmatory factor analysis of the multidimensional scale of perceived social support in clinically distressed and student samples. *J Pers Assess.* 2003;81(3):265-70. [https://doi.org/10.1207/s15327752jpa8103\\_09](https://doi.org/10.1207/s15327752jpa8103_09).
23. Pedersen SS, Spinder H, Erdman RA, Denollet J. Poor perceived social support in implantable cardioverter defibrillator (icd) patients and their partners: Cross-validation of the multidimensional scale of perceived social support. *Psychosomatics.* 2009;50(5):461-7. <https://doi.org/10.1176/appi.psy.50.5.461>.
24. Madadzadeh F, Bahariniya S. Tutorial on how to calculating content validity of scales in medical research. *Perioper. Care Oper Room Manag.* 2023;31:100315. <https://doi.org/https://doi.org/10.1016/j.pcorn.2023.100315>.
25. Yoo GJ, Levine EG, Aviv C, Ewing C, Au A. Older women, breast cancer, and social support. *Support Care Cancer.* 2010;18(12):1521-30. <https://doi.org/10.1007/s00520-009-0774-4>.
26. Rock CL, Thomson C, Gansler T, Gapstur SM, McCullough ML, Patel AV, et al. American cancer society guideline for diet and physical activity for cancer prevention. *CA*



This work is licensed under a Creative Commons Attribution-Non Commercial 4.0 International License.