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ORIGINAL ARTICLE

Situation Analysis of the Ongoing Services and Activities Related to Cancer Prevention and Control Continuum at the Governmental Hospitals in the Gaza Strip, Palestine

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ABSTRACT:

Background: This study was conducted to assess the ongoing services and activities related to the cancer prevention and control continuum at the governmental hospitals in the Gaza Strip, Palestine.

Method: This cross-sectional study was conducted at the oncology departments in the general hospitals in the Gaza Strip, Palestine, among a census sample of Palestinian health care professionals. The ongoing services and activities related to the cancer control program were assessed using the WHO-IAEA NCCP Core Self-Assessment Tool. Data regarding the participants' characteristics was obtained using an interview-based questionnaire. Statistical analysis was performed using SPSS version 20.

Results: A total of 100 participants were included in the present study. Regarding the participants' responses to the main variables of ongoing services and activities related to the cancer prevention and control continuum at Al Shifa Medical Complex, European Gaza Hospital, and Al-Rantisi Hospital, and the total of the three included hospitals. The findings revealed that only 2.0%, 3.1%, 8.6%, and 13.8% had well-established prevention activities; only 3.0%, 1.75%, 9.75%, and 14.9% had well-established early detection activities; only 4.0%, 4.33%, 11.16%, and 18.33% had well-established diagnosis and treatment activities, respectively; and only 2.0%, 4.25%, 8.87%, and 14.87% had well-established palliative care activities, respectively.

Conclusion: The current study demonstrated critical gaps in the governmental hospital's ongoing services and activities related to the cancer prevention and control continuum. A balanced and comprehensive approach for the improvement of different elements of the national cancer control program, strengthening the ongoing activities and initiating the missing parts, is extremely required.

Keywords: Cancer control program, Ongoing activities, Palestine, Resources, Situation analysis

ISRAA UNIVERSITY JOURNAL OF APPLIED SCIENCE
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Introduction

The top cause of death in the world is cancer. According to the World Health Organization, 7.6 million people died from cancer in 2005, and 84 million more people will die from the disease if no action is taken in the next ten years (Ferlay et al. 2010). Furthermore, in low- and middle-income nations, where there are few or no resources available for cancer prevention, diagnosis, and treatment, more than 70% of all cancer-related fatalities occur (Magrath et al. 2013; Albelbeisi et al. 2021b). Global trends reveal that Asia is expected to account for roughly 60% of all new cases and deaths from cancer in 2018, both for men and women combined. This is due in part to the region's high population density (Bray et al. 2018). Along with having less access to appropriate diagnosis and treatment in many nations, these locations also experience a higher frequency of specific cancer types that are linked to worse prognoses and higher fatality rates (DeSantis et al. 2015).

Additionally, the goal of cancer control is to improve the quality of life for cancer patients and decrease the incidence, morbidity, and mortality of the disease in a defined population by systematically putting into practice interventions for palliative care, early detection, prevention, and early diagnosis that are supported by the latest scientific research (Parkin D, 2008). The most successful long-term strategy for cancer control is prevention, particularly when combined with the prevention of chronic diseases and other related issues (such as reproductive health, hepatitis B vaccination, HIV/AIDS, and occupational and environmental health) (Thun et al. 2010; Nofal, Adam, and Aljeesh). Additionally, the majority of cancers are connected to cigarette use, a poor diet, or infectious diseases (Thun et al. 2010). On the other hand, early detection identifies (or diagnoses) the illness when it still has a good chance of being treated (e.g., cervical or breast cancer). Around one-third of cases can be treated effectively and early with the use of interventions (Carroll et al. 2015). After a cancer diagnosis has been confirmed by the most appropriate medical techniques, treatment seeks to treat the illness, extend life, and enhance the quality of life while it is still possible. The best treatment is based on evidence-based standards of care and is connected to early detection programs.

Volume 6 :Issue1, October, 2022 | ISSN: 2523-0522

When tumors are highly treatable despite being widely spread, patients can get either a cure or a longer lifespan. This part also covers rehabilitation to enhance the quality of life for cancer patients who have disabilities (Brom et al. 2014). Palliative care also addresses the requirements of all patients who require symptom alleviation as well as those of patients and their families who require psychosocial and supportive care. This is especially true for patients whose illnesses are advanced and in the latter stages, when there is no possibility of recovery. Palliative care services addressing the needs of patients and their families from the time of diagnosis can improve quality of life and the capacity to cope due to the emotional, spiritual, social, and economic repercussions of cancer and its management (Zimmermann et al. 2014).

In Gaza Strip, Palestine, based on the annual report of the Palestinian Ministry of Health (MOH) in the year 2019, during the period between 2014-2018, there were a total of 8326 new cancer cases (MOH, 2019). Additionally, the Palestinian MOH, as the main health care provider for cancer management was working hard and under overcrowding, conditions to provide at least the minimum duties and requirements to continuously keep cancer care as effective as it was possible (MOH, 2019). To market the offered services, however, the MOH required information. To the best of our knowledge, this study is the first to assess the ongoing programs and initiatives connected to the continuum of cancer prevention and control. In order to evaluate the ongoing programs and initiatives for the continuum of cancer prevention and control at the public hospitals in the Gaza Strip, Palestine, our study was undertaken.

Methods and participants

Study design:

In order to evaluate the existing programs and initiatives for the continuum of cancer prevention and control at the public hospitals in the Gaza Strip, Palestine, a cross-sectional study was carried out**.**

Study setting:

This study was carried out in the Gaza Strip's general hospitals' oncology departments at the Palestinian Ministry of Health. Three general hospitals in the

Gaza Strip, Al-Shifa Medical Complex, European Gaza Hospital, and Al-Rantisi Hospital, offer cancer management for all oncology and hematology patients (Abo El-Aish ZM, 2020).

Study participants and sampling:

All multidisciplinary cancer management team members from the three general hospitals run by the Palestinian MOH in the Gaza Strip, including oncologists, hematologists, pharmacists, and clinical nurse specialists of both sexes, were included in the current study. The study did not include non-multidisciplinary cancer management team members at the general hospitals of the Palestinian MOH. Additionally, the census sampling technique was used to choose the study participants. Three facilities, Al-Shifa Medical Complex, European Gaza Hospital, and Al-Rantisi Hospital, offer cancer management for all oncology and hematology patients in the Gaza Strip (Abo El-Aish ZM, 2020). There are 100 people in the multidisciplinary team in these hospitals for the management of cancer (Abo El-Aish ZM, 2020).

Data collection:

The following information was gathered via a questionnaire from each participant (all members of the multidisciplinary committee team for cancer management): At the governmental hospitals in the Gaza Strip, Palestine, the WHO-IAEA NCCP Core Self-Assessment Tool (Rouhollahi et al. 2014) was utilized to evaluate the ongoing services and activities connected to cancer prevention and control continuum. An interview-based questionnaire was also used to gather information about the participants' sociodemographics and personal traits. A pilot study with fifteen participants was conducted prior to the data collection process to allow the researcher to assess the study's tools in terms of acceptability, applicability, and timeline. The data collection procedure and questionnaire were changed in response to the pilot study's findings. Five trained data collectors—five nurses—collected the data after the researcher explained and trained them on the study's objectives, protocols, and methods for distributing and gathering the questionnaires.

Data analysis:

With the help of SPSS version 20, statistical analysis was carried out. For determining the difference between various variables, significant tests such as

Volume 6 :Issue1, October, 2022 | ISSN: 2523-0522

mean, standard deviation (SD), frequency, percentage, chi-square test, and Fisher's exact test were utilized. Statistical significance was defined as a P-value of 0.05 or lower.

Ethical approval:

Both the Palestinian Health Research Council and the Albutana University Ethics Committee gave their approval to the study protocol (Helsinki Ethical Committee of Research PHRC/HC/785/20). Furthermore, the study participants and the relevant organizations provided signed informed consent.

Results

This study was conducted in the oncology departments in the main general hospitals at the Palestinian MOH in the Gaza Strip, Palestine, which provide cancer management for all oncology and hematology patients, including Al-Shifa Medical Complex, European Gaza Hospital, and Al-Rantisi Hospital. Table 1 shows the main characteristics of the study participants by hospitals. A total of 100 participants were included in the present study (59% of the study participants were females and 41% were males.). The findings of the present study revealed that the mean age (years) for the study participants was 40.38±10.08. In addition, the majority (80%) of the study participants were nurses, and 10%, 6%, and 4% were pharmacists, oncologists, and hematologists. About 5% of the participants have a Ph.D., 11% have a master's, most participants (74% have a bachelor's degree), and only 10% have a diploma. The majority of the participants, 85% of the total, did not have special studies in cancer care. Furthermore, 59% of the participants did not have training courses in cancer care. Moreover, the findings of the present study demonstrated that the mean training duration (weeks) was 39.63±80.38. Additionally, no statistically significant differences were found between the characteristics of the study participants by hospitals (P-value > 0.05).

ISRAA UNIVERSITY JOURNAL OF APPLIED SCIENCE
Volume 6 :Issue1, October, 2022 | ISSN: 2523-0522

Table 1: Characteristics of the Study Participants by Hospitals

Variables	Al-Shifa Medical Complex		European Gaza Hospital		Al-Rantisi Hospital		Total		P-Value
	No.	%	No.	%	No.	%	No.	%	
Age (Mean±SD) (40.38±10.08)									
30 years and less	2	4.8%	11	26.2%	29	69%	42	42%	**0.268**
31-45 years	6	15.8%	11	28.9%	21	55.3%	38	38%	
45 years and more	3	15%	8	40%	9	45%	20	20%	
Gender									
Males	7	11.9%	20	33.9%	32	54.2%	59	59%	**0.503**
Females	4	8.9%	10	24.4%	27	65.9%	41	41%	
Job									
Oncologist	0	0%	3	50%	3	50%	6	6%	**0.539**
Hematologist	0	0%	2	50%	2	50%	4	4%	
Nurse	9	11.2%	21	62.5%	50	26.2%	80	80%	
Pharmacist	2	20%	4	40%	4	40%	10	10%	
Qualification									
Diploma	1	10%	6	30%	3	60%	10	10%	**0.076**
Bachelor	8	10.8%	17	23%	49	66.2%	74	74%	
Master	2	16.7%	3	33.3%	6	50%	11	11%	
Ph.D.	0	0%	4	25%	1	75%	5	5%	
Special studies in cancer care									
Yes	0	0%	6	40%	9	60%	15	15%	**8.289**
No	11	12.9%	24	28.2%	50	58.8%	85	85%	
Training courses in cancer care									
Yes	3	7.3%	12	29.3%	26	63.4%	41	41%	**0.636**
No	8	13.6%	18	30.5%	33	55.9%	59	59%	
For categorical variables, data is represented as a percentage. Fisher's exact test is used for statistical testing. A P-value less than 0.05 was considered statistically significant									

Regarding the ongoing services and activities related to the cancer prevention and control continuum, Table 2 shows the prevention activities related to the cancer prevention and control continuum by hospitals. The participants of the present study demonstrated that 32% of the hospitals had a general awareness of cancer prevention, 20% were not addressed, 16% were slightly developed, and 32% of the hospitals were partially developed. Only 4% of the hospitals had tobacco control prevention activities. In addition, just 9% of the included hospitals had alcohol consumption control activities. Furthermore, in most hospitals, 89% did not have a promotion of a healthy diet and physical activity. Moreover, about 37% of the study participants demonstrated that the included hospitals had an HBV vaccination, 10% of the hospitals had an HPV vaccination, and all of the included hospitals did not have

ISRAA UNIVERSITY JOURNAL OF APPLIED SCIENCE
Volume 6 :Issue1, October, 2022 | ISSN: 2523-0522

activities related to the control of environmental carcinogens. The findings of the present study revealed that no statistically significant differences were found between the included hospitals regarding all

Table 2: The Prevention Efforts Carried out by Hospitals as Part of the Cancer Prevention and Control Continuum.

Variables	Al-Shifa Medical Complex		European Gaza Hospital		Al-Rantisi Hospital		Total		P-Value
	No.	%	No.	%	No.	%	No.	%	
General awareness on cancer prevention									
Not addressed	2	10%	8	40%	10	50%	20	20%	**0.351**
Slightly developed	1	6.2%	6	37.6%	9	56.2%	16	16%	
Partially developed	2	6.2%	11	34.4%	19	59.4%	32	32%	
Well established	6	18.8%	5	15.6%	21	65.6%	32	32%	
Tobacco control									
Not addressed	2	7.4%	10	37%	15	55.6%	27	27%	**0.751**
Slightly developed	3	8.8%	10	29.4%	21	61.8%	34	34%	
Partially developed	6	17.1%	8	22.9%	21	60%	35	35%	
Well established	0	0%	2	50%	2	50%	4	4%	
Alcohol consumption control									
Not addressed	4	7.8%	19	27.3%	28	54.9%	51	51%	**0.551**
Slightly developed	3	25%	2	16.7%	7	58.3%	12	12%	
Partially developed	3	10.3%	7	25%	18	64.3%	28	28%	
Well established	1	11.1%	2	22.2%	6	66.7%	9	9%	
Promotion of healthy diet and physical activity									
Not addressed	2	9.1%	8	1%	12	54.5%	22	22%	**0.696**
Slightly developed	3	9.4%	8	50%	21	62.6%	32	32%	
Partially developed	3	8.6%	11	0%	21	60%	35	35%	
Well established	3	27.3%	3	29.9%	5	45.5%	11	11%	
HBV vaccination									
Not addressed	2	9.5%	7	33.3%	12	57.1%	21	21%	**0.528**
Slightly developed	0	0%	3	42.9%	4	27.1%	7	7%	
Partially developed	7	20%	10	28.6%	18	51.4%	35	35%	
Well established	2	5.4%	10	27%	25	67.6%	37	37%	
HPV vaccination									
Not addressed	6	12%	18	36%	26	52%	50	50%	**0.281**
Slightly developed	1	3.7%	7	25.9%	19	70.4%	27	27%	
Partially developed	1	7.7%	4	30.8%	8	51.5%	13	13%	
Well established	3	30%	1	10%	6	60%	10	10%	

Volume 6 :Issue1, October, 2022 | ISSN: 2523-0522

Control of environmental carcinogens									
Not addressed	2	4.8%	18	42.9%	22	52.4%	42	42%	**0.061**
Slightly developed	5	12.8%	7	17.9%	27	69.2%	39	39%	
Partially developed	4	21.1%	5	26.3%	10	52.6%	19	19%	
Well established	0	0%	0	0%	0	0%	0	0%	
Control of occupational carcinogens									
Not addressed	2	5.3%	14	36.8%	22	57.9%	38	38%	**0.607**
Slightly developed	5	15.2%	10	33.3%	18	54.5%	33	33%	
Partially developed	3	13.6%	4	18.2%	15	68.2%	22	22%	
Well established	1	14.3%	2	28.6%	4	57.1%	7	7%	
For categorical variables, data are expressed as a percentage. Fisher's exact test is used for statistical testing. Statistical significance was defined as a P-value of less than 0.05.									

Furthermore, table 3 shows the early detection activities related to the cancer prevention and control continuum by hospitals. The participants of the present study demonstrated that 21% of the hospitals had a general awareness of cancer early detection and treatment, 20% were not addressed, 34% were slightly developed, and 33% of the hospitals were partially developed. Only 4% of the hospitals had early diagnoses of cervical cancer activity. In addition, 30% of the included hospitals had an early diagnosis of breast cancer activity. Only 4% of the study participants agreed that the hospitals had early diagnoses of oral cancer activity. About 12% of the study participants demonstrated that the included hospitals had an early diagnosis of prostate cancer; 10% of the hospitals had an early diagnosis of bladder cancer. Moreover, in most of the hospitals, 91% did not have an early diagnosis of skin cancer activity. In addition, 93% of the included hospitals did not have activities related to VIA screening of cervical cancer. About 70% and 75% of the hospitals did not have activities related to breast cancer screening by clinical breast examination and by mammography screening, respectively. No statistically significant differences were found between the included hospitals regarding all items of early detection activities related to the cancer early detection and control continuum (P-value < 0.05 for all). Additionally, the participants of the present study demonstrated that 18% of the hospitals had an early diagnosis of colorectal cancer, 25% had not addressed it, 35% were slightly

ISRAA UNIVERSITY JOURNAL OF APPLIED SCIENCE
Volume 6 :Issue1, October, 2022 | ISSN: 2523-0522

developed, and 26% of the hospitals were partially developed. Only 11% of the hospitals had cytology screening for cervical cancer. We found statistically significant differences between the included hospitals regarding the early diagnosis of colorectal cancer and the cytology screening of cervical cancer activities, P-value = 0.01 and 0.02, respectively.

Table 3: Early Detection by Hospitals

Variables	Al-Shifa Medical Complex		European Gaza Hospital		Al-Rantisi Hospital		Total		P-Value
	No.	%	No.	%	No.	%	No.	%	
General awareness on cancer early detection and treatment									
Not addressed	1	8.3%	4	33.3%	7	58.3%	12	12%	**0.165**
Slightly developed	1	9.1%	15	44.1%	18	52.9%	34	34%	
Partially developed	5	15.2%	8	24.2%	20	60.6%	33	33%	
Well established	4	19%	3	14.3%	14	66.7%	21	21%	
Early diagnosis of cervical cancer									
Not addressed	2	8%	10	40%	15	52%	27	27%	**0.056**
Slightly developed	0	0%	10	40%	21	60%	31	31%	
Partially developed	7	15.6%	10	22.2%	21	62.2%	38	38%	
Well established	2	40%	0	0%	2	60%	4	4%	
Early diagnosis of breast cancer									
Not addressed	1	7.7%	4	30.8%	8	61.5%	13	13%	**0.416**
Slightly developed	0	0%	5	35.7%	9	64.3%	14	14%	
Partially developed	5	11.6%	16	37.2%	22	51.2%	43	43%	
Well established	5	16.7%	5	16.7%	20	66.7%	30	30%	
Early diagnosis of oral cancer									
Not addressed	1	3.4%	11	37.9%	17	58.6%	29	29%	**0.123**
Slightly developed	7	16.7%	12	28.6%	23	54.8%	42	42%	
Partially developed	1	4%	7	28%	17	68%	25	25%	
Well established	2	50%	0	0%	2	50%	4	4%	
Early diagnosis of prostate cancer									
Not addressed	1	4%	10	40%	14	56%	25	25%	**0.098**
Slightly developed	2	6.9%	10	34.5%	17	58.6%	29	29%	
Partially developed	6	17.6%	10	29.4%	18	52.9%	34	34%	
Well established	2	16.7%	0	0%	10	83%	12	12%	
Early diagnosis of bladder cancer									
Not addressed	1	3.4%	11	37.9%	17	58.6%	29	29%	**0.111**
Slightly developed	2	8%	10	40%	13	52%	25	25%	
Partially developed	6	16.7%	9	25%	21	58.3%	36	36%	
Well established	2	20%	0	0%	8	80%	10	10%	
Early diagnosis of colorectal cancer									
Not addressed	1	4%	11	44%	13	52%	25	25%	
Slightly developed	4	12.9%	8	25.8%	19	61.9%	31	31%	

Volume 6 :Issue1, October, 2022 | ISSN: 2523-0522

Partially developed	2	7.7%	11	42.3%	13	50%	26	26%	**0.010**
Well established	4	22.2%	0	0%	14	77.8%	18	18%	
Early diagnosis of skin cancer									
Not addressed	2	5.4%	14	3738%	21	56.8%	37	37%	**0.102**
Slightly developed	5	16.1%	9	39%	17	54.8%	31	31%	
Partially developed	1	4.3%	7	30.4%	15	65.2%	23	23%	
Well established	3	33.3%	0	0%	6	66.7%	9	9%	
VIA screening of cervical cancer									
Not addressed	6	12.8%	18	38.3%	23	48.9%	47	47%	**0.187**
Slightly developed	3	8.8%	6	17.6%	25	73.5%	34	34%	
Partially developed	1	6.7%	6	40%	8	53.3%	15	15%	
Well established	1	25%	0	0%	3	75%	4	4%	
Cytology screening of cervical cancer									
Not addressed	2	6.1%	15	45.5%	16	48.5%	33	33%	**0.023**
Slightly developed	4	9.5%	10	23.8%	28	9.5%	42	42%	
Partially developed	1	7.1%	5	35.7%	8	57.1%	14	14%	
Well established	4	36.4%	0	0%	7	63.6%	11	11%	
Breast cancer screening by clinical breast examination									
Not addressed	1	5%	7	35%	12	60%	20	20%	**0.417**
Slightly developed	0	0%	8	44.4%	10	55.6%	18	18%	
Partially developed	5	15.6%	8	25%	19	59.4%	32	32%	
Well established	5	16.7%	7	23.3%	18	60%	30	30%	
Mammography screening of breast cancer									
Not addressed	1	5.6%	6	33.3%	11	61.1%	18	18%	**0.244**
Slightly developed	0	6%	4	40%	6	60%	10	10%	
Partially developed	3	6.5%	14	30.4%	29	63%	46	46%	
Well established	7	26.9%	6	23.1%	13	50%	26	26%	
For categorical variables, data are expressed as a percentage. Fisher's exact test is used for statistical testing. Statistical significance was defined as a P-value of less than 0.05.									

On the other hand, table 4 shows the diagnosis and treatment activities related to the cancer prevention and control continuum by hospitals. The participants of the present study demonstrated that the minority, 17% of the hospitals, had diagnoses and treatment of adults with curable cancers, and the majority, 83% of the hospitals, did not have diagnoses and treatment of adults with curable cancers. Only 13% of the hospitals diagnosed and treated children with curable cancer. About 22% of the included hospitals diagnosed and treated adults with cancers that are treatable but not curable. In addition, only 18% of the study participants agreed that the hospitals had psychosocial support for cancer patients and family members' activities, and in most of the included hospitals, 82% did not have psychosocial support for cancer patients and family members' activities. Further, about 25% of the study participants demonstrated that the included hospitals had cancer patient follow-up, and 15% of the hospitals had cancer patient rehabilitation. No statistically significant differences were found

ISRAA UNIVERSITY JOURNAL OF APPLIED SCIENCE
Volume 6 :Issue1, October, 2022 | ISSN: 2523-0522

between the included hospitals regarding all items of the diagnosis and treatment activities related to the cancer prevention and control continuum (P-value < 0.05 for all).

Table 4: Diagnosis and Treatment by Hospitals

Variables	Al-Shifa Medical Complex		European Gaza Hospital		Al-Rantisi Hospital		Total		P-Value
	No.	%	No.	%	No.	%	No.	%	
Diagnosis and treatment of adults with curable cancers									
Not addressed	1	5.9%	6	35.6%	10	58.8%	17	17%	**0.732**
Slightly developed	1	4.8%	6	28.6%	14	66.7%	21	21%	
Partially developed	7	15.6%	11	24.6%	27	60%	45	45%	
Well established	2	11.8%	7	41.2%	8	47.1%	17	17%	
Diagnosis and treatment of children with curable cancers									
Not addressed	1	6.2%	6	37.5%	9	56.2%	16	16%	**0.569**
Slightly developed	2	5.4%	10	27%	25	67.6%	37	37%	
Partially developed	5	14.7%	11	32.4%	18	52.9%	34	34%	
Well established	3	23.1%	3	23.1%	7	53.8%	13	13%	
Diagnosis and treatment of adults with cancers that are treatable but not curable									
Not addressed	1	7.1%	4	28.6%	9	64.3%	14	14%	**0.158**
Slightly developed	2	5.9%	9	26.5%	23	67.6%	34	34%	
Partially developed	2	6.7%	13	43.3%	15	50%	30	30%	
Well established	6	27.3%	4	18.2%	12	54.5%	22	22%	
Psychosocial support for cancer patients and family members									
Not addressed	2	9.8%	7	33.3%	12	27.1%	21	21%	**0.859**
Slightly developed	6	14.3%	10	23.8%	26	61.9%	42	42%	
Partially developed	1	5.3%	8	42.1%	10	52.6%	19	19%	
Well established	2	11.1%	5	27.8%	11	61.1%	18	18%	
Follow-up of cancer patients									
Not addressed	1	6.2%	4	25%	11	68.8%	16	16%	**0.358**
Slightly developed	4	12.1%	12	36.4%	17	51.5%	33	33%	
Partially developed	4	15.4%	10	38.5%	12	46.2%	26	26%	
Well established	2	8%	4	16%	19	76%	25	25%	
Rehabilitation of cancer patients									
Not addressed	1	4.5%	5	22.7%	16	72.7%	22	22%	**0.527**
Slightly developed	7	15.9%	14	31.8%	23	52.3%	44	44%	
Partially developed	1	5.3%	8	42.1%	10	52.6%	19	19%	
Well established	2	13.3%	3	20%	10	66.7%	15	15%	
For categorical variables, data are expressed as a percentage. Fisher's exact test is used for statistical testing. Statistical significance was defined as a P-value of less than 0.05.									

ISRAA UNIVERSITY JOURNAL OF APPLIED SCIENCE
Volume 6 :Issue1, October, 2022 | ISSN: 2523-0522

Furthermore, table 5 shows the palliative care activities related to the cancer prevention and control continuum by hospitals. The participants of the present study demonstrated that 21% of the hospitals had the capability to manage the pain and other symptoms of adults with advanced cancer; 13%, 14%, and 52% of the hospitals were not addressed, slightly developed, and partially developed, respectively. Only 20% of the hospitals had activities for the management of pain and other symptoms of children with advanced cancer. In addition, the majority (88%) of the hospitals did not have psychosocial and spiritual support from patients, family members, and caregivers. Most of the hospitals, 95%, did not have bereavement care for family members and caregivers. Moreover, in most of the hospitals, 93% did not have home-based care supervised by trained health caregivers. The findings of the present study revealed that no statistically significant differences were found between the included hospitals regarding all items of palliative care activities related to the cancer early detection and control continuum (P-value < 0.05 for all).

Table 5: Palliative Care by Hospitals

Variables	Al-Shifa Medical Complex		European Gaza Hospital		Al-Rantisi Hospital		Total		P-Value
	No.	%	No.	%	No.	%	No.	%	
Pain management of adults with advanced cancer									
Not addressed	1	7.7%	4	30.8%	8	61.5%	13	13%	**0.872**
Slightly developed	0	0%	4	30.8%	9	69.2%	13	13%	
Partially developed	7	13%	15	27.8%	32	59.3%	54	54%	
Well established	3	15%	7	35%	10	50%	20	20%	
Management of other symptoms of adults with advanced cancer									
Not addressed	1	7.7%	4	30.8%	8	61.5%	13	13%	**0.940**
Slightly developed	1	6.7%	5	33.3%	9	60%	15	15%	
Partially developed	5	10%	14	28%	31	62%	50	50%	
Well established	4	18.2%	7	31.8%	11	50%	22	22%	
Pain management of children with advanced cancer									
Not addressed	1	6.2%	6	37.5%	9	56.2%	16	16%	**0.925**
Slightly developed	3	12.5%	7	29.2%	14	58.3%	24	24%	
Partially developed	4	10%	10	25%	26	65%	40	40%	
Well established	3	15%	7	35%	10	50%	20	20%	
Management of other symptoms of children with advanced cancer									

Not addressed	2	9.1%	9	40.9%	11	50%	22	22%	**0.912**
Slightly developed	1	5.6%	6	33.3%	11	60.1%	18	18%	
Partially developed	5	12.5%	12	30%	23	57.5%	40	40%	
Well established	3	15%	3	15%	14	70%	20	20%	
Psychosocial and spiritual support of patients									
Not addressed	3	11.1%	9	33.3%	15	55.6%	27	27%	**0.579**
Slightly developed	5	16.1%	6	19.4%	20	64.5%	31	31%	
Partially developed	3	11.1%	10	37%	14	51.9%	27	27%	
Well established	0	0%	5	33.3%	10	66.7%	15	15%	
Psychosocial support for family members and caregivers									
Not addressed	4	12.9%	10	32.3%	17	54.8%	31	31%	**0.959**
Slightly developed	4	10.3%	11	28.2%	24	61.5%	39	39%	
Partially developed	3	15%	6	30%	11	55%	20	20%	
Well established	0	0%	3	30%	7	70%	10	10%	
Bereavement care for family members and caregivers									
Not addressed	4	11.8%	10	29.4%	20	58.8%	34	34%	**0.685**
Slightly developed	4	12.1%	9	27.3%	20	60.6%	33	33%	
Partially developed	3	10.7%	11	39.3%	14	50%	28	28%	
Well established	0	0%	0	0%	5	100%	5	5%	
Home-based care supervised by trained health caregivers									
Not addressed	4	10%	10	25%	26	65%	40	40%	**0.938**
Slightly developed	4	12.9%	11	35.5%	16	51.4%	31	31%	
Partially developed	2	9.1%	7	31.8%	13	59.1%	22	22%	
Well established	1	14.3%	2	28.6%	4	57.1%	7	7%	
For categorical variables, data are expressed as a percentage. Fisher's exact test is used for statistical testing. Statistical significance was defined as a P-value of less than 0.05.									

Moreover, in most hospitals, 93% did not have home-based care supervised by trained health caregivers. The present study findings revealed that no statistically significant differences were found between the included hospitals regarding all items of palliative care activities related to the cancer early detection and control continuum (P-value < 0.05 for all).

Discussion

The current study included 100 individuals in total, with 59% of the female participants and 41% of the male participants being male. According to the study's participants, 32% of hospitals had a general understanding of cancer prevention, 20% did not, 16% had a light level of development, and 32% had a full level of development. Only 4% of the hospitals had programs for preventing tobacco use. Tobacco use, in all of its exposure forms, is the leading factor in cancer-related fatalities among men and, to a greater and greater extent, among women globally. Active smoking, involuntary or passive inhalation of secondhand smoke, and the use of smokeless tobacco are all forms of exposure. Lung, esophagus,

Volume 6 :Issue1, October, 2022 | ISSN: 2523-0522

laryngeal, oral, bladder, kidney, stomach, cervical, and colorectal cancers are just a few of the cancers caused by tobacco. According to Thun et al. (2010) and Albelbeisi et al. (2021a), tobacco use caused 5.4 million deaths worldwide in 2005, including 1.5 million cancer deaths. According to projections, 6.4 million people will die from tobacco-related causes worldwide in 2015, including 2.1 million people from cancer. The estimated total death toll in 2030 will be 8.3 million. Deaths due to tobacco use are expected to rise in low- and middle-income countries between 2002 and 2030. (Benjamin et al. 2018). Additionally, our study's findings indicate that just 9% of the hospitals we considered had programs in place to reduce alcohol consumption. Alcohol consumption increases the chance of developing a variety of cancers, including those of the breast, liver, colorectum, pharynx, larynx, and esophagus. The amount of alcohol ingested affects the risk of cancer. If a person also smokes heavily, their risk of developing multiple cancer kinds from heavy drinking rises significantly.

Men and women have different percentages of alcohol-related cancers that are attributable, primarily due to disparities in average alcohol use (Marmet et al. 2014). In addition, 89% of hospitals did not actively promote a healthy diet and regular exercise. Cancer is caused in part by physical inactivity, poor diet, obesity, and being overweight. Numerous common malignancies, such as those of the esophagus, colorectum, breast in postmenopausal women, endometrial, and kidney, are causally linked to being overweight or obese (Pischon et al. 2016). In many parts of the world, the prevalence of overweight and obesity is on the rise, and physical inactivity itself raises the risk of various malignancies. Raised body mass index and physical inactivity combination are responsible for 26% of colorectal cancer deaths and 19% of breast cancer deaths (Brenner DR, 2014).

A further 37% of survey participants showed that the included hospitals had an HBV vaccination, 10% of the hospitals had an HPV vaccination, and none of the included hospitals had any environmental carcinogen control initiatives. About 52% of hepatocellular carcinomas in the globe are caused by chronic HBV infection (chronic hepatitis), which results in over 340 000 fatalities per year (Ott et al. 2011). Hepatitis C virus (HCV) infection accounts for another 20% of hepatocellular malignancies (124 000 deaths) in the population. Aflatoxin exposure from eating tainted food interacts with HBV infections

Volume 6 :Issue1, October, 2022 | ISSN: 2523-0522

to increase the risk of liver cancer (Ginsberg et al. 2012; Shaheen, Etewa, and El Bilbeisi). With an estimated 660 million cases per year, HPV is the most widespread sexually transmitted viral infection of the reproductive system in the world. Additionally, 90% of anal cancers, 40% of malignancies of the external genitalia, and practically all occurrences of cervical cancer are thought to be caused by it. Oropharynx and mouth cancer are also caused by HPV. Cervical cancer is caused by the numerous HPV genotypes types 16, 18, and more than ten more forms. Around 70% of cervical cancer cases globally are caused by the two most prevalent high-risk genotypes, 16 and 18. (Agorastos et al. 2015).

1-4% of all cancers are caused by the environmental contamination of soil, water, and air with carcinogenic substances (Ames et al. 1997). Drinking water contamination and indoor and outdoor air pollution are two ways that people can be exposed to cancer-causing substances in the environment. Around 1.5% of lung cancer deaths worldwide are caused by indoor air pollution from home coal burning (Smith et al. 2004). As a matter of fact, around 40% of all cancers are avoidable, hence cancer prevention should be a key element of all effective cancer management strategies (Given et al. 2005).

Regarding hospital early detection programs connected to the continuum of cancer prevention and control. According to the study's participants, 21% of hospitals had a general understanding of cancer early detection and treatment, 20% had no such awareness, 34% had a light level of development, and 33% had some degree of development. According to estimates, a third of all malignancies can potentially be treated to prevent further spread and allow for early detection. Many cancer patients can be cured or have their lives greatly extended if cancer is discovered early and treated according to a thorough cancer control plan. Without early detection, the expense of therapy skyrockets, resources are squandered, and palliative care services become more and more necessary. Programs for early detection educate the general population and medical professionals to raise awareness of the possibility of early cancer identification. The establishment of an early diagnosis program may be the most practical early diagnosis strategy to decrease the proportion of patients presenting with late-stage cancer and increase survival rates in a population where the majority of cancers amenable to early detection are diagnosed in late stages (Brocklehurst et al. 2013). Only 4% of the hospitals have a cervical cancer early diagnosis. Today, there is a strong chance that HPV vaccine will prevent cervical cancer. However, even if a widespread vaccination campaign is launched with a focus on young women, it could

Volume 6 :Issue1, October, 2022 | ISSN: 2523-0522

take up to 40 years until the prevalence of the disease significantly decreases. To reach the elderly population of women who have already contracted persistent HPV infection, early diagnostic and screening programs will therefore need to be developed or strengthened for several decades (Moscicki AB, 2005). Additionally, 70% of hospitals did not conduct early breast cancer diagnosis procedures. Additionally, 96% of hospitals in the majority did not have an early diagnosis of oral cancer activity. Additionally, only around 10% of hospitals had an early diagnosis of bladder cancer activity, and 88% of hospitals did not have an early diagnostic of prostate cancer activity. Furthermore, 91% of hospitals in the majority did not make an early diagnosis of skin cancer activity. By screening, a significant number of the target cancers should be found (Kramer et al. 1993).

In addition, 93% of the hospitals that were involved in the study had no VIA cervical cancer screening programs. The percentage of hospitals without mammography screening or clinical breast examination screening programs was about 75% and 70%, respectively. Regarding all early detection actions connected to the continuum of cancer early detection and control, no statistically significant differences were discovered across the included hospitals (P-value 0.05 for all). In screening programs that test screening programs that test screening of a sizable asymptomatic population, quality assurance is very crucial. When tests like cytology and visual inspection with acetic acid (VIA), which are fundamentally subjective, are used, quality control is challenging to put into practice. For visual testing to remain at a high standard, test positive and illness detection rates must be closely monitored as well as retrained on a regular basis (Sankaranarayanan et al. 2010). The participants in the current study also showed that 25% of hospitals did not address colorectal cancer, 35% had a modest development, and 26% had a partial development, with 18% of hospitals having an early detection of the disease. In hospitals, cytology screening for cervical cancer was available in just 11% of cases. Regarding the cytology screening for cervical cancer and the early diagnosis of colorectal cancer, we discovered statistically significant differences between the participating hospitals P-value = 0.01 and 0.02 correspondingly. A crucial element of a comprehensive cancer control plan is a strategy for cancer early detection. It makes it possible to identify cases early, when therapy is more successful and there is a higher probability of recovery. An early diagnosis program is far simpler and less expensive than a cancer screening program.

Volume 6 :Issue1, October, 2022 | ISSN: 2523-0522

Therefore, early detection of the most common malignancies, coupled with adequate treatment, is probably the best choice to reduce early deaths and suffering from cancer in areas with low resources and where the majority of cases are discovered in advanced stages. HPV vaccination now offers a significant chance of preventing cervical cancer. However, even if a widespread vaccination campaign is launched with a focus on young women, it could take up to 40 years until the prevalence of the disease significantly decreases. To reach the elderly population of women who have already contracted persistent HPV infection, early diagnostic and screening programs will therefore need to be developed or strengthened for several decades (Simms et al. 2019).

The study's participants showed that just 17% of hospitals had diagnosed and treated persons with malignancies that could have been cured. 87% of hospitals lacked a diagnosis and treatment for children with curable cancer activity, compared to 13% of hospitals that had such diagnoses and services. Adults with cancer that could be treated but not cured were diagnosed and treated in around 22% of the hospitals that were included. Millions of cancer patients with treatable malignancies are thought to exist globally. Many cancer patients' lives can be spared or significantly extended with early detection, prompt diagnosis, and sufficient therapy carried out within the framework of an all-encompassing cancer control plan (Martin-Moreno et al. 2012). Unfortunately, diagnostic and treatment services are not well designed in many nations, especially low-income nations. Therefore, the creation of high-quality diagnostic and therapeutic services is crucial, particularly in the vast majority of low-income nations. This would help preserve lives, prevent needless suffering, and use scarce resources more effectively (Dupas P, 2011).

Furthermore, just 18% of the research's participants agreed that the hospitals offered psychosocial support for cancer patients and their families' activities, while in the majority of the hospitals included in the study, 82% did not. Additionally, 25% of research participants showed that the hospitals included in the study provided cancer patients with follow-up care, and 15% of the hospitals provided cancer patients with rehabilitation. Services for cancer diagnosis and treatment, such as therapy, psychosocial support, and patient education programs, may be provided at different levels of care and in the

Volume 6 :Issue1, October, 2022 | ISSN: 2523-0522

neighborhood. Each nation must develop its own organizational model while taking into account the targeted diseases, the patients' and their families' physical, emotional, social, and spiritual requirements, as well as the complexity, cost-effectiveness, and accessibility of therapies. To achieve the greatest results, it is essential to have networks of specialists who collaborate on diagnosis, treatment, rehabilitation, and psychological support inside and between levels of care as well as in the community (Buytaert et al. 2014). Any general cancer control plan must also include a plan for the diagnosis and treatment of cancer.

Regarding the hospital's palliative care programs related to the spectrum of cancer prevention and control. According to the study's participants, 21% of hospitals managed adults with advanced cancer's pain and other symptoms; 13%, 14%, and 52% of hospitals were not addressed, just slightly developed, and partially developed, respectively. Only 20% of hospitals had programs for the management of children's pain and other symptoms associated with advanced cancer, whereas the majority, 80% of hospitals, lacked such programs. In addition, 88% of hospitals did not provide patients, family members, and carers with psychosocial or spiritual assistance. In addition, 95% of hospitals lacked mourning services for family members and caregivers. Through the early detection, accurate assessment, and treatment of pain and other difficulties, physical, psychosocial, and spiritual, palliative care is a method that enhances the quality of life for patients and their families dealing with the issues associated with life-threatening illnesses (Larkin et al. 2008). Millions of cancer patients are thought to require palliative care on a global scale. A huge percentage of advanced cancer patients could experience pain relief and have their quality of life significantly enhanced with proper planning of cancer palliative care within a comprehensive cancer control plan (Bakitas et al. 2013).

Furthermore, only 7% of the survey subjects showed that the included hospitals provided home-based treatment that was managed by qualified medical professionals. Local managers and healthcare providers should collaborate closely with community leaders and groups involved in the program to accomplish a common objective. Strong leadership and overall program management should ensure that this occurs. According to Gomez-Batiste et al. (2017), palliative care generally necessitates a strong

Volume 6 :Issue1, October, 2022 | ISSN: 2523-0522

network of skilled medical professionals, local authorities, traditional healers, and family caregivers with specialized roles and responsibilities throughout the various levels of care and within the community. In all settings, there is a need for evidence-based standards for palliative care services that improve clinical and organizational understanding and practice. To reach the majority of the target population, particularly in low-resource countries where the majority of illnesses are diagnosed in the late stages, straightforward and affordable public health models of palliative care can be implemented (De Lima et al. 2016). The cross-sectional design of this study is its primary drawback. The primary advantage of this study was that it was the first to evaluate the continuing services and initiatives connected to the continuum of cancer prevention and control at the public hospitals in Gaza, Palestine.

Conclusion

The present analysis identified significant gaps in the government hospital's continuing programs and initiatives for the continuum of cancer prevention and control. It is imperative to take a balanced and all-encompassing approach to enhancing the various components of the national cancer control program, bolstering the ongoing initiatives, and starting the initiatives that are still in need. Overall, there is still a lack of public understanding and awareness about cancer screening. The necessity of adopting healthy lifestyles should therefore be highlighted, and preventative and control methods should be strengthened accordingly. Information about healthcare, cancer screening, treatment, nutritious eating, and healthy lifestyle choices should be emphasized at all levels of society.

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