

Health Related Quality of Life Assessment of Cancer Patients during Chemotherapy / Radiotherapy among Saudi Population

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ABSTRACT. One hundred and five (105) patients participated in this study (54 males, 51 females). Fifty-five (52.4%) patients < 50 years of age and 50 (47.6%) patients > 50 years of age. Fifty-seven (54.3%) patients with early stage (I, II) at diagnosis and 48 (45.7%) patients with advanced stage (III, IV). Fifty-nine (56.2%) patients received chemotherapy and 46 patients (43.8%) received radiotherapy. Patient's responses to all questions revealed significant health related quality of life problems among such patients during treatment. Generalized weakness was found in 64 (61%) patients ; nausea in 36 (34.3%) patients; inability to cope with family wishes in 52 (49.5%) patients; pain in 48 (45.7%) patients; feeling bad about treatment side effects in 65 patients (61.9%); feeling sick during treatment in 72 (68.6%) patients; need to rest on bed for a long time in 60 (57.1%) patients; no satisfaction with daily home work in 69 (65.7%) patients; not able to enjoy life these days in 65 (61.9%) patients; not able to do all daily duties in 63 (60%) patients; not accepting their illness in 2 (1.9%) patients; do not sleep well in 47 (44.8%) patients; not enjoying their hobbies in 65 (61.9%) patients and finally not satisfied with their quality of life in 18 (17.1%) patients. Analysis of all responses with negative impact in relation to age, sex, stage of the disease and treatment modality revealed more problems in patients > 50 years of age than younger patients, males more than females, advanced stage more than early stage and finally chemotherapy group more than radiotherapy. It is concluded that health related quality of life issues are

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present in such patients and hence awareness and more support are needed.

Keywords: Physical, Practical, Quality of life, Questionnaire, Cancer, Saudi Arabia.

Introduction

The diagnosis of cancer often brings with it a series of emotional, social, physical and practical responses. Such responses and reactions are often related to the stage of illness or treatment and vary for each individual. The presence of cancer disrupts virtually every aspect of life of the patient and family. Psychiatric disorders, anxiety, physical and practical issues occur in a significant percentage of cancer patients, particularly as disease advances and as cancer treatments become more aggressive^[1]. Physicians and other health care personnel have an active role in helping patients and families to cope and function.

To the author's knowledge, physical and practical evaluation and assessment of cancer patients in many tertiary health care centers are neglected in the Saudi society, such patients (pts) need a lot of support from healthcare personnel and their families. For this reason, the author used the physical and practical subscale from the Functional Assessment of Cancer Treatment – General (FACT-G) to have an idea about such issues in the Saudi society during the first six months of diagnosis and treatment^[2]. This will also give us an idea about the health-related quality of life (HRQoL) for such patients.

Patients and Methods

A cross-sectional study was conducted using 14-item self-administered questionnaire on 105 cancer pts with mixed diagnoses between April and November 2003. It was distributed during the first 6 months of diagnosis and treatment. Two tertiary health care centers in Saudi Arabia participated in this study. The questionnaire was based on the physical and practical sub-scale of the FACT-G questionnaire which consisted of the following questions: (1) Do you have generalized weakness?; (2) Do you have nausea?; (3) Do you cope with family wishes?; (4) Do you have pain?; (5) Do you feel bad about treatment side effects?; (6) Do you feel sick during treatment?; (7) Do you need to rest on bed for a long time?; (8) I am satisfied with my daily home work?; (9) I am able to enjoy my life these days?; (10) I am able to do all my daily duties?; (11) I am accepting my illness?; (12) I sleep well?; (13) I enjoy my hobbies?; (14) I am satisfied with my HRQoL this period? Pts agreed verbally to submit these data for publication to support others in the future.

Answers were collected and analyzed. Simple descriptive statistical analysis was performed including range and various frequency distributions. Chi-square test was used to determine the statistical significance of some variables.

Results

Of the questionnaires distributed, 105 (100%) were completed. Fifty-five (52.4%) pts were < 50 years of age (Y) and 50 (47.6%) pts > 50 Y . Fifty-four (51.4%) pts were males and 51 (48.6%) pts were females. Fifty-seven (54.3%) pts with early stage at diagnosis and 48 (45.7%) pts with advanced stage. Fifty-nine (56.2%) pts received chemotherapy and 46 (43.8%) pts received radiotherapy (Table 1).

TABLE 1. Characteristics of the study population with physical and practical problems related to their illness affecting their quality of life.

Characteristics	Number (No.)	Percentage (%)
1. Age:		
– < 50 Y	55	52.4
– > 50 Y	50	47.6
2. Sex:		
– Male (M)	54	51.4
– Female (F)	51	48.6
3. Site of Cancer:		
– Breast	28	26.7
– Gastro-intestinal	16	15.2
– Head and Neck	18	17.1
– Lymphoma	11	10.5
– Gynecological	10	9.5
– Lungs	9	8.6
– Others	13	12.4
4. Stage at Diagnosis:		
– Early (I, II)	57	54.3
– Advanced (III, IV)	48	45.7
5. Treatment		
– Chemotherapy (CT)	59	56.2
– Radiotherapy (RT)	46	43.8

The summary of the patient's response to all questions can found in Table 2. Responses to all questions revealed significant physical and practical problems among such pts during treatment.

TABLE 2. Patient's responses to all questions regarding physical and practical issues during chemotherapy / radiotherapy treatment.

Questions	Answers		
	Yes No. (%)	No No. (%)	P-value
1. Do you have generalized weakness?	64 (61.0)	41 (39.0)	0.051
2. Do you have nausea?	36 (34.3)	69 (65.7)	0.003
3. Do you cope with family wishes?	52 (49.5)	53 (50.5)	0.608
4. Do you have pain?	48 (45.7)	57 (54.3)	0.259
5. Do you feel bad about treatment side-effects?	65 (61.9)	40 (38.1)	0.081
6. Do you feel sick during treatment?	72 (68.6)	33 (31.4)	0.001
7. Do you need to rest in bed for a long time?	60 (57.1)	45 (42.9)	0.356
8. I am satisfied with my daily home work?	36 (34.3)	69 (65.7)	0.010
9. I am able to enjoy my life these days?	40 (38.1)	65 (61.9)	0.081
10. I am able to do all my daily duties?	42 (40.0)	63 (60.0)	0.182
11. I am accepting my illness?	103 (98.1)	2 (1.9)	< 0.001
12. I sleep well?	58 (55.2)	47 (44.8)	0.124
13. I enjoy my hobbies?	40 (38.1)	65 (61.9)	0.081
14. I am satisfied with my quality of life this period?	87 (82.9)	18 (17.1)	< 0.001

Analysis of all responses with negative impact in relation to age revealed more problems in pts > 50 Y than < 50 Y; more generalized weakness (74% vs 49.1%, P – value = 0.010), feeling sick during treatment (82% vs 56.4%, P – value = 0.006), poor satisfaction about daily home work (76% vs 56.4%, P – value = 0.041), not enjoying life (74% vs 50.9%, P – value = 0.017), not able to do daily duties (70% vs 50.9%, P – value = 0.050), and not enjoying their hobbies (74% vs 50.9%, P – value = 0.017) (Table 3).

TABLE 3. Comparisons of all responses with negative impact (either “Yes” or “No”) in relation to age: Group 1 (< 50 years); Group 2 (> 50 years).

Questions	Answers		
	Group 1 (< 50 y) No. (%) (Y / N)	Group 2 (> 50 y) No. (%) (Y / N)	P-value
1. Do you have generalized weakness?	27 (49.1) (Y)	37 (74) (Y)	0.010
2. Do you have nausea?	18 (32.7) (Y)	18 (36) (Y)	0.837
3. Do you cope with family wishes?	25 (45.5) (N)	28 (56) (N)	0.331
4. Do you have pain?	23 (41.8) (Y)	25 (50) (Y)	0.437
5. Do you feel bad about treatment side-effects?	31 (56.4) (Y)	34 (68) (Y)	0.235
6. Do you feel sick during treatment?	31 (56.4) (Y)	41 (82) (Y)	0.006
7. Do you need to rest in bed for a long time?	28 (50.9) (Y)	32 (64) (Y)	0.236
8. I am satisfied with my daily home work?	31 (56.4) (N)	38 (76) (N)	0.041
9. I am able to enjoy my life these days?	28 (50.9) (N)	37 (74) (N)	0.017

TABLE 3. Contd.

Questions	Answers		
	Group 1 (< 50 y) No. (%) (Y / N)	Group 2 (> 50 y) No. (%) (Y / N)	P-value
10. I am able to do all my daily duties?	28 (50.9) (N)	35 (70) (N)	0.050
11. I am accepting my illness?	1 (1.8) (N)	1 (2) (N)	1.000
12. I sleep well?	21 (38.2) (N)	26 (52) (N)	0.173
13. I enjoy my hobbies?	28 (50.9) (N)	37 (74) (N)	0.017
14. I am satisfied with my quality of life this period?	6 (10.9) (N)	12 (24) (N)	0.118

Males were also found to have more problems than females; more generalized weakness (70.4% vs 51%, P – value = 0.048) (Table 4).

TABLE 4. Comparisons of all responses with negative impact (either “Yes” or “No”) in relation to sex: Group 1 (Males (M)); Group 2 (Females (F)).

Questions	Answers		
	Group 1 (M) No. (%) (Y / N)	Group 2 (F) No. (%) (Y / N)	P-value
1. Do you have generalized weakness?	38 (70.4) (Y)	26 (51.0) (Y)	0.048
2. Do you have nausea?	19 (35.2) (Y)	17 (33.3) (Y)	1.000
3. Do you cope with family wishes?	31 (57.4) (N)	22 (43.1) (N)	0.174
4. Do you have pain?	24 (44.4) (Y)	24 (47.1) (Y)	0.846
5. Do you feel bad about treatment side-effects?	35 (64.8) (Y)	30 (58.8) (Y)	0.553
6. Do you feel sick during treatment?	40 (74.1) (Y)	32 (62.7) (Y)	0.293
7. Do you need to rest in bed for a long time?	35 (64.8) (Y)	25 (49.0) (Y)	0.118
8. I am satisfied with my daily home work?	40 (74.1) (N)	29 (56.9) (N)	0.069
9. I am able to enjoy my life these days?	36 (66.7) (N)	29 (56.9) (N)	0.322
10. I am able to do all my daily duties?	36 (66.7) (N)	27 (52.9) (N)	0.168
11. I am accepting my illness?	0 (0.0) (N)	2 (3.9) (N)	0.234
12. I sleep well?	28 (51.9) (N)	19 (37.3) (N)	0.170
13. I enjoy my hobbies?	37 (68.5) (N)	28 (54.9) (N)	0.165
14. I am satisfied with my quality of life this period?	10 (18.5) (N)	8 (15.7) (N)	0.798

Regarding stages, pts with advanced stages (III, IV) were found to have more problems than the early stages (I, II); more generalized weakness (72.9% vs 50.9%, P – value = 0.027); more nausea (45.8% vs 24.6%, P – value = 0.025); having more pain (56.3% vs 36.8%, P – value = 0.052); feeling sick during treatment (83.3% vs 56.1%, P – value = 0.003); no satisfaction with daily home work (83.3% vs 50.9%, P – value = <0.001); not able to enjoy life (75% vs 50.9%, P – value = 0.015); not able to do all daily duties (75% vs 47.4%, P – value = 0.005); not enjoying their hobbies (72.9% vs 52.6%, P – value = 0.044) and, finally, not satisfied with their HRQoL during that period (31.3% vs 5.3%, P – value = 0.001) (Table 5).

TABLE 5. Comparisons of all responses with negative impact (either “Yes” or “No”) in relation to the stage of the disease: Group 1 (Early Stage (ES) (Stage I, II)); Group 2 (Advanced Stage (AS)(Stage III, IV)).

Questions	Answers		
	Group 1 (ES) No. (%) (Y / N)	Group 2 (AS) No. (%) (Y / N)	P-value
1. Do you have generalized weakness?	29 (50.9) (Y)	35 (72.9) (Y)	0.027
2. Do you have nausea?	14 (24.6) (Y)	22 (45.8) (Y)	0.025
3. Do you cope with family wishes?	26 (45.6) (N)	27 (56.3) (N)	0.329
4. Do you have pain?	21 (36.8) (Y)	27 (56.3) (Y)	0.052
5. Do you feel bad about treatment side-effects?	33 (57.9) (Y)	32 (66.7) (Y)	0.422
6. Do you feel sick during treatment?	32 (56.1) (Y)	40 (83.3) (Y)	0.003
7. Do you need to rest in bed for a long time?	28 (49.1) (Y)	32 (66.7) (Y)	0.079
8. I am satisfied with my daily home work?	29 (50.9) (N)	40 (83.3) (N)	< 0.001
9. I am able to enjoy my life these days?	29 (50.9) (N)	36 (75.0) (N)	0.015
10. I am able to do all my daily duties?	27 (47.4) (N)	36 (75.0) (N)	0.005
11. I am accepting my illness?	0 (0.0) (N)	2 (4.2) (N)	0.207
12. I sleep well?	24 (42.1) (N)	23 (47.9) (N)	0.562
13. I enjoy my hobbies?	30 (52.6) (N)	35 (72.9) (N)	0.044
14. I am satisfied with my quality of life this period?	3 (5.3) (N)	15 (31.3) (N)	0.001

Regarding treatment modality, chemotherapy group developed more physical and practical problems than radiotherapy group in; having more nausea (45.8% vs 19.6%, P – value = 0.007) and bad feeling about treatment side effects (72.9% vs 47.8%, P – value = 0.015) (Table 6).

TABLE 6. Comparisons of all responses with negative impact (either “Yes” or “No”) in relation to treatment modality: Group 1 (Chemotherapy (CT)); Group 2 (Radiotherapy (RT)).

Questions	Answers		
	Group 1 (CT) No. (%) (Y / N)	Group 2 (RT) No. (%) (Y / N)	P-value
1. Do you have generalized weakness?	37 (62.7) (Y)	27 (58.7) (Y)	0.692
2. Do you have nausea?	27 (45.8) (Y)	9 (19.6) (Y)	0.007
3. Do you cope with family wishes?	32 (54.2) (N)	21 (45.7) (N)	0.434
4. Do you have pain?	29 (49.2) (Y)	19 (41.3) (Y)	0.438
5. Do you feel bad about treatment side-effects?	43 (72.9) (Y)	22 (47.8) (Y)	0.015
6. Do you feel sick during treatment?	44 (74.6) (Y)	28 (60.9) (Y)	0.145
7. Do you need to rest in bed for a long time?	35 (59.3) (Y)	25 (54.3) (Y)	0.692
8. I am satisfied with my daily home work?	43 (72.9) (N)	26 (56.5) (N)	0.099
9. I am able to enjoy my life these days?	39 (66.1) (N)	26 (56.5) (N)	0.418
10. I am able to do all my daily duties?	37 (62.7) (N)	26 (56.5) (N)	0.552
11. I am accepting my illness?	2 (3.4) (N)	0 (0.0) (N)	0.503
12. I sleep well?	26 (44.1) (N)	21 (45.7) (N)	1.000
13. I enjoy my hobbies?	38 (64.4) (N)	27 (58.7) (N)	0.686
14. I am satisfied with my quality of life this period?	11(18.6) (N)	7 (15.2) (N)	0.795

In general, the results confirmed that physical and practical problems are present in Saudi cancer pts with some differences between various groups, which affected their HRQoL, significantly.

Discussion

For each phase of the diagnostic and treatment experience, there are normal emotional and psychological responses that a patient may exhibit. When a patient is initially diagnosed, there is often a sense of shock and disbelief, which may be followed by symptoms like sleeplessness, anxiety, reduced appetite, irritability and diminished ability to function in normal daily activities. These normal responses to the stress of cancer and its treatment may persist for a few weeks but then resolve on their own.

Many questionnaires were used in the literature to assess these distresses^[3]. To the author's knowledge, this issue affecting cancer pts in this society was not evaluated or discussed in the literature. Because of utmost importance of this subject, this author elected to evaluate and assess this issue in the Saudi society. This questionnaire was considered a simple screening test for the most common physical and practical issues to enable the majority of cancer pts to answer it easily.

From the results obtained in this present study (Table 2), it was found that the majority of cancer pts have some form of physical or practical problems that may affect their quality of life. This was noticed more in pts > 50 Y or elderly pts (Table 3). Aging is associated with a progressive reduction in the functional reserve of multiple organ systems and reduced tolerance of physical, emotional and social stress^[4]. This may influence pharmacokinetics and pharmacodynamics of anti-neoplastic drugs and reduce the tolerance of normal tissues for treatment complications^[5]. The risk of chemotherapy complications *e.g.*, neutropenia, anemia, thrombocytopenia and mucositis, are higher among older pts^[6]. Such complications will increase the risk of fatigue, infections and bleeding^[7, 8]. Regarding sex, there was no significant difference between males and females except for item No. 1 about having generalized weakness which was greater in males than females (70.4% vs 51%, P-value = 0.048) which has no clear explanation (Table 4). Poor HRQoL was also noted in pts with advanced stage and terminal disease (Table 5). Physical problems and psychiatric disorders are noted higher in terminally ill cancer pts^[9]. Generalized weakness and fatigue can be extremely debilitating and may have a severe negative impact on quality of life. This symptom is a problem in 75% to 90% of pts with cancer or other chronic illnesses^[10]. Although pain is commonly associated with end of life distress, other physical symptoms often contribute to the suffering of terminally ill pts^[11] *e.g.*, anorexia, cachexia, nausea, vomiting, constipation, delirium and dyspnea^[12].

Other factors need to be considered in such pts were the prognosis, pre-morbid personality, type of treatment and its complications, and finally awareness of illness and expectations about its treatment outcome. Regarding type of treatment, in this present study, it was found that chemotherapy caused more nausea and poor tolerance to its side effects than radiotherapy (Table 6).

Social stress, physical and practical distress, and psychosocial support may influence cancer pts experience and adherence to medical treatment and may affect the course of their illness^[13]. Psychosocial oncology care also improves HRQoL and cost offset^[14].

It is concluded that physical and practical problems to the diagnosis and treatment of cancer among Saudi population are common especially during chemotherapy and radiotherapy. This results in poor quality of life. This issue is under-estimated in this study's society, which have lead to poor general support. Physical and practical assessments for newly diagnosed cancer pts are highly recommended especially for elderly or advanced stage pts, and hence more support and management. Education programs to physicians and health-care providers dealing with cancer pts improve doctor-patient interaction; therefore, training should be integrated into continuing medical education^[15].

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المشاكل الصحية التي تتعلق بنوعية الحياة و تقييمها لمرضى الأورام الخبیثة أثناء العلاج الكیمیائي و الإشعاعي في المجتمع السعودي

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المستخلص . تم عمل استبيان لتقييم الناحية الجسمانية والعملية على ١٠٥ مريض (٥٤ ذكور و ٥١ إناث)، منهم: واحد وخمسون مريضاً (٤٠، ٤٧٪)، أقل من ٥٠ سنة، و ٥٠ مريضاً أكبر من ٥٠ سنة (٦، ٤٧٪)، وسبعة وخمسين مريضاً (٣، ٥٤٪) في مرحلة مرضية مبكرة، و ٤٨ مريضاً في مرحلة متأخرة (٧، ٤٥٪)، وتسعة وخمسين مريضاً (٢، ٥٦٪) تلقوا علاجاً كيميائياً، و ٤٦ مريضاً (٨، ٤٣٪) تلقوا علاجاً إشعاعياً. أثبتت نتائج الاستبيان أنه توجد مشاكل جسمانية وعملية كثيرة لدى هؤلاء المرضى، وهي كالتالي :

- ضعف عام عند ٦٤ مريضاً (٦١٪)، وغثيان عند ٣٦ مريضاً (٣٤، ٣٪)، وعدم القدرة على التقبل والتعامل مع رغبات العائلة عند ٥٢ مريضاً (٤٩، ٥٪)، وألم عند ٤٨ مريضاً (٤٥، ٧٪)، وإحساس بالتعب خصوصاً الآثار الجانبية للعلاج عند ٦٥ مريضاً (٦١، ٩٪)، وإحساس بالمرض أثناء العلاج عند ٧٢ مريضاً (٦٨، ٦٪)، ويحتاج للراحة على السرير فترات طويلة عند ٦٠ مريضاً (٥٧، ١٪)، وعدم الرضى بالقيام بالواجبات المنزلية عند ٦٩ مريضاً (٦٥، ٧٪)، وغير قادر على الاستمتاع بالحياة هذه الأيام عند ٦٥ مريضاً (٦١، ٩٪)، وعدم القدرة على القيام بالواجبات المنزلية عند ٦٣ مريضاً (٦٠، ٦٪)، وغير مستمتع بهواياته المفضلة عند ٦٥ مريضاً (٦١، ٩٪)، وأخيراً غير راضٍ عن نوعية الحياة عند ١٨ مريضاً (١٧، ١٪). ولقد تم تحليل جميع السلبيات الجسمانية والعملية بين الفئات المختلفة لهذه العينة من المرضى و وجد التالي:

كثرة السليبيات عند المرضى الأكبر من ٥٠ سنة مقارنة بالأصغر ، وعند الرجال أكثر من النساء ، وعند مرضى المراحل المتأخرة بالمقارنة بالمراحل المبكرة و أخيراً عند مرضى العلاج الكيماوي أكثر من مرضى العلاج الإشعاعي . نستنتج من هذا البحث كثرة وجود المشاكل الجسمانية والعملية عند هؤلاء المرضى ، ولذلك يجب عمل توعية ومن ثم الدعم لهم .