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An evaluation of lifestyle changes in cancer patients after diagnosis

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Summary

Purpose: Cancer is an increasingly important health problem, and is second only to cardiovascular disease as cause of death. Cancer diagnosis causes significant changes in patients and their families, and social relationships are affected. For this reason, we examined the lives of patients subsequent to their diagnosis and sought to determine any changes in their lifestyles.

Methods: Between March 16th and September 30th, 2011, a questionnaire consisting of 20 questions was distributed via a face-to-face interview to 150 patients at the Marmara University Hospital Oncology Unit. Each patient was queried during the administration of his/her chemotherapy. Six of the questions were independent choices, and 14 were dependent (multiple choice). A Local Ethics Committee approval was obtained.

Results: Of the 150 patients, 70 (46%) were male and 80 female, and their median age was 55 years (range: 22-82).

Following their diagnosis, 71% of males and 50% of females reported that they were complying with guidelines for a healthy lifestyle, and 19% of the patients said that they were eating healthier food. At the time they filled in the questionnaire, 61% said that they were hopeful; however, close to 10% said that they felt hopeless. Approximately 53% of the participants said that following their diagnosis they had a more sympathetic view of the underserved and underprivileged.

Conclusions: It was surprising that an unexpectedly high percentage of the respondents reported that they did not make any changes in their lifestyles after their diagnosis of cancer, including eating healthier food. It appears Turkish cancer patients are coping with cancer in different means and ways than we expected of them.

Key words: cancer, change, chemotherapy, lifestyle, media, psychological status

Introduction

Cancer is an increasingly important health problem, and is second only to cardiovascular disease as cause of death. Each year, one out of every 250-350 people in Western countries is diagnosed with cancer, and in people over the age of 60, the incidence of cancer is even higher (4-5 per 300 people). Reliable estimates of the incidence of cancer in Turkey are not available; however, according to the Turkish Cancer Society, it is roughly two-thirds that of Western Europe [1,2].

To our general observation, the diagnosis of cancer causes significant changes in the life of both the patients and their close relatives. Furthermore, the word "cancer" generally tends to invoke fear in society. Consequently, patients may be reluctant to talk about their disease and may misunderstand information about the diagnosis and treatment. In addition, cancer can adversely affect the social relationships of patients and decrease their cooperation concerning their treatment. There have been claims that changes toward healthier lifestyle of cancer patients are related to improved treatment outcome [3,4], therefore we wanted to know how much these claims are accepted and realized by cancer patients after the diagnosis of malignancy.

Methods

Between March 16th and September 30th, 2011, a

questionnaire consisting of 20 questions was distributed via a face to face interview to 150 patients at the Marmara University Hospital, Oncology Unit (Appendix). Each patient was queried during the administration of his/her chemotherapy. Six of the questions featured independent choices, and 14 had dependent (multiple) choices. We also asked them to grade their perception of how their treatment have effected their daily life from a scale of 1-4, 1 being not at all or slight effect, 2 moderate, 3 severe and 4 very severe effect.

Statistics

All data were analyzed using the Statistical Package for Social Sciences (SPSS) version 14.0 software program (SPSS Inc., Chicago, Illinois, USA). Study data were presented with descriptive statistics (e.g., mean, median, standard deviation, range, number, percentage). Quantitative and qualitative data were compared with t-test and chi-square test, respectively. The statistical level of significance was accepted as $p < 0.05$.

Results

The socio-demographic characteristics of the patients who participated in the study are summarized in Table 1. The oldest age category was 60-69 years, with 28.7% of the patients being in that age group. The median patient age was 55.7 years (range 22-82).

An unusually large percentage (28%) of the patients reported that they did not know their diagnosis, and in another question 25% reported that they did not want to talk about their illness. The percentage of respondents who were not aware of their diagnosis was 22% for females and 34% for males, but the difference was not statistically significant.

The percentage of patients who followed the recommendations for a healthy lifestyle was higher in males than in females (71.4 vs 50.0%; p=0.008) and some of the other questions are summarized in Table 2. When we specifically asked whether the patient had healthy dietary habits, 81.1% of the respondents answered affirmatively. Of those who replied negatively, some said that they were not able to follow the dietary recommendations because chemotherapy prevented them from eating. Eighty-one percent of the respondents who reported that their awareness had not increased, declared that they had been aware of such campaigns even before their diagnosis. The responses to difficulty in expressing themselves after the diagnosis differed significantly between men and women (p=0.006) (women had more difficulty).

Participants were asked about their interest

Table 1. Socio-demographic characteristics of the patients

Characteristics	N	%
Gender		
Male	70	46.7
Female	80	53.3
Level of education		
Not educated	18	12
Primary-secondary school (8 years)	62	41.3
High school	45	30
Undergraduate student	22	14.7
Postgraduate student	3	2
Marital status		
Single	26	17.3
Married	124	82.7
Diagnosis		
Unknown	42	28
Breast cancer	32	21.3
Colon cancer	20	13.3
Lymphoma	9	6
Lung cancer	14	9.3
Stomach cancer	7	4.7
Others	26	17.3
Total	150	100

Table 2. Change in attitude of patients after the diagnosis of cancer

	N	%
Change to a healthier lifestyle after the diagnosis of cancer		
Yes	90	60
No	60	40
Preferences for healthier food after the diagnosis of cancer		
Yes	122	81.3
No	28	18.7
Preferences to contribute more to help campaigns		
Yes	79	52.7
No	71	47.3
Difficulty in expressing themselves		
Yes	29	19.3
No	121	80.7
Total	150	100.0

in travelling and following the media. Roughly one-third of the patients said their overnight travels and daily excursions were unaffected by their diagnosis and treatment; 5% said that their overnight travels had even increased in order to go to places where they thought they could receive

better treatment. In addition, 6% of the patients reported that they now had more time to travel because they were free from their daily responsibilities.

Two-thirds of the patients said that their interest in being informed of the daily news by the media was unaffected by their diagnosis and treatment. In the remaining one-third, half of the patients said their interest in news media had increased and the other half stated that it had decreased.

We asked the respondents whether the types of movies that they watched had been affected by their diagnosis. One-third of the respondents reported no effect, 23% reported that they had an increased interest in watching movies about health and disease, 21% reported that they no longer watch movies regularly, and 18% reported that they watched movies just to spend time. Less than 1% of the respondents said that they watched movies that they had postponed watching in the past.

Patients were asked about their level of socializing after being informed of their diagnosis. For 48% the level had increased, for 33% it remained unchanged, and for 18% it had decreased.

Twenty-five per cent of the participants indicated that they preferred not to talk about their illness. Of the remaining 75%, 25% said that if they had to talk they would like to talk about their treatment protocols, 25% wanted to talk about the onset of the disease, 17% wanted to talk about their interaction with their doctor, and 10% said that they usually talk about the side effects. Of the respondents who preferred not to talk about their illness, 54% had a low level of education. However, in general, a respondent's preferences with respect to talking with others about their disease appeared to be unrelated to their level of education. The respondents were also asked about the impact of their treatment on their lifestyles, and 28% reported that their treatment had no effect, 35% stated it had a negative effect, 22% said it had a very negative effect and 14% said it had an extremely negative effect.

To evaluate the current psychological state of the patients, we asked them what kind of statements best described their response to their diagnosis and treatments. The answers included optimistic statements such as "I feel stronger now" and "I have begun to understand the meaning of life" along with pessimistic statements such as "Why me?" and "I feel like I am losing control". Of the respondents who reported that they did not

know the diagnosis of their illness, 21% answered "Why me?" and 19% said "I feel stronger now." The participants who had solid organ cancers were more likely to select optimistic statements such as "I feel stronger now" or "I understand the meaning of my life". In contrast, those who had been diagnosed with lymphoma tended to have a strong negative response to their diagnosis. They were more likely to answer "I feel like I am losing control" or "Why me?". The respondents who had been diagnosed with lung cancer were the exception as they were more likely to select statements such as "Why me?" and "I feel stronger now".

We evaluated the relationship between the current psychological state and treatment modalities for those who were not negatively affected by chemotherapy and had more positive responses such as "Now I understand the meaning of my life" or "I feel stronger now".

In the last part of the questionnaire, respondents were asked about their current feelings, and 33% reported that they felt stronger. Sixty-one percent of the patients also felt positive.

When evaluating the relationship between the respondents' knowledge of their diagnosis and their educational level 45% of them who did not understand their diagnosis had received an elementary school education or less; however, this group of patients' desires in expressing themselves compared with the ones who knew their diagnosis showed no differences (21 vs 19%) so even if they did not understand their diagnosis these group of patients were just as eager to express themselves as the ones who knew what was going on.

Discussion

Despite our *a priori* expectations, our analysis on cancer patients receiving chemotherapy found no evidence of overall differences on lifestyle changes. This lack of difference in lifestyle after the diagnosis of cancer contradicts somewhat the data reported from the west of Turkey [5-7].

The fact that 28% did not know their diagnosis and another 25% had received insufficient information regarding the course of their disease, could have been due to the low level of education of the patients or perhaps because they preferred not to discuss their diagnosis and treatment with a medical student whom they had contacted just for this questionnaire and with whom they did not have any previous interaction. This finding has a wide variation in our part of the world and else-

where as well, depending on cultural values and the society's attitude toward cancer [8-11]. But we found no evidence that a patient's difficulty in expressing himself depended on whether he was aware of his diagnosis or not.

We expected the most of our patients would start to follow a healthier lifestyle following cancer diagnosis and to begin to eat healthier food. But a sizeable portion of the patients said that they were already following these recommendations even before their diagnosis. These findings are in line with previous reports from other parts of our country [12]. Also the patients' attitudes toward campaigns for helping the disadvantaged did not change because they stated that they favored helping those who were disadvantaged even before their diagnosis with cancer. These statements support the notion that the majority of our patients are satisfied with their attitude toward life. They see no need to change it with the diagnosis of cancer.

The patients reduced their travels (both day trips and overnight excursions) due to the side effects of chemotherapy. Within the subgroup of patients who had difficulty in expressing themselves, there were twice as many males as females, but this may be related to the status of women in the Turkish society. The patients with less education had more difficulty in this area as reported in a similar context elsewhere [13].

We expected the patients' attitudes toward the media would change following the diagnosis of cancer. However, because of the low educational level of the respondents, they did not have regular reading habits and this did not change. Also, against our expectations, the type of movies the respondents watched did not change following their diagnosis, while a 68% reported that they continued to watch TV series rather than full-length movies.

The participants interacted with a larger number of people following their cancer diagnosis because of the increased number of people who visited them. However, the subject of their conversations did not change. This might be attributed to the fact that the visitors did not want to undermine the patients' morale by talking about their disease. The patients were more willing to talk about their cancer if they had more than a high school education. However, most patients did not want to talk about the side effects of treatment regardless of their level of education.

Males may have been more likely (p=0.008) than females to follow recommendations for a healthy lifestyle because they tended to have a higher level of education. The relation of education, gender or race as a determinant of cancer related lifestyle changes are an active area of research [14,15].

Conclusion

The majority of studies focusing on cancer and lifestyle have looked into both the causal relationship between lifestyle and the occurrence of a particular type of cancer or the role that lifestyle changes play in preventing the recurrence of an already existing cancer. Our study is unique in that we checked to see whether patients change the way they lived after their cancer diagnosis, and at least for the patients we studied, few if any changes seemed to have taken place.

The results of this study will be helpful to the society at large and to healthcare providers who work with cancer patients. Understanding the cancer patients' thinking and reasoning should be a goal of anyone dealing with them. Healthcare providers should also take notice of how their patients' behavior changes rather than making assumptions and having preconceived opinions.

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Appendix. The questionnaire: Changes in patient life after diagnosis, how the process started and how it continues

Survey No: Diagnosis: Stage:

Stage I

Your age
Your gender
  Female
  Male
Marital status
  Single
  Single and I am responsible for looking after a person / persons
  Married
Education
  No education
  Primary / Secondary School
  High School
  Bachelor Degree
  Post-graduate

Stage II

1) The books I read after the diagnosis of my disease
  a) Started to become about the subjects of health-diseases.
  b) Started to become time-killing, entertaining, resting.
  c) I kept my previous habits.
  d) I chose from the books which I delayed for later.
  e) I do not read regularly.

2) The movies I watch after the diagnosis of my disease
  a) Started to become about the subjects of health-diseases.
  b) Started to become time-killing, entertaining, resting.
  c) I kept my previous habits.
  d) I chose from the movies which I delayed for later.
  e) I do not regularly watch movies.

3) When it comes to your disease during a chat, what is your starting point at it?
  a) My current treatment.
  b) Side effects of my treatments.
  c) The reason for cancer and how my first diagnosis was made.
  d) My doctor's opinions about the course of the disease.
  e) I express my unwillingness to talk about this subject.
  f) Other..............

4) After my disease was diagnosed:
(Check one selection from both categories)

I – Group of people I frequently see
  a) Increased in quantity (my acquaintances more frequently concern about me).
  b) No changes in quantity.
  c) Decreased in quantity (I realized that some of my former acquaintances do not see me anymore).
 II - The subjects you are talking about
  d) Got deeper– We started to pour out more than in the past.
  e) No changes.
  f) Got more superficial – We were unable to pour out as much as in the past.

5) I started to care about whether my food was healthy or not rather than its taste, after the diagnosis of my disease.
  a) Yes
  b) No

c) Your additional input: ....

6) I started practicing healthy living recommendations such as regular exercising and quitting smoking, after the diagnosis of my disease.
   a) Yes
   b) No
   c) Your additional input: ....

7) My sympathy and support for charity campaigns increased after the diagnosis of my disease.
   a) Yes
   b) No
   c) Your additional input: ....

8) After the diagnosis of my disease (You may check more than one selection)
   a) I felt like I lost control over my life.
   b) I began to feel the meaning of my life.
   c) I started questioning; "Why me".
   d) I began to feel stronger.
   e) Your additional input: ....

9) I started to experience difficulties in expressing myself in various environments, which I never experienced before, after the diagnosis of my disease.
   a) Yes
   b) No
   c) Your additional input.......................

10) To what extent do the side effects of your current method of treatment affect your life?
   a) They affect extremely negatively – I cannot ignore them.
   b) They affect very negatively – I can rarely ignore them.
   c) They affect negatively– I can frequently ignore them.
   d) No negative effects at all– I can completely ignore them.

11) After your disease was diagnosed:
   a) The number of my live-in travels/expeditions decreased.
   b) The number of my live-in travels/expeditions increased.
   c) The number of my live-in travels/expeditions did not change.

12) The number of your daily travels/expeditions after your disease was diagnosed:
   a) Decreased
   b) Increased
   c) Did not change

13) My interest in current media (daily newspapers, magazines, TV news) after diagnosis of my disease:
   a) Decreased
   b) Increased
   c) Did not change

14) What is the closest to your mood currently?
(You may check more than one)
   a) I feel strong.
   b) I feel weak.
   c) I feel hindered and angry.
   d) I think I am hopeless and pessimistic.
   e) I feel I am hopeful and optimistic.
   f) I feel confused.