EPIDEMIOLOGIC RESEARCH REGARDING THE IMPACT OF RISK FACTORS ON HEALTH-RELEATED QUALITY OF LIFE IN CANCER PATIENTS

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EPIDEMIOLOGIC RESEARCH REGARDING THE IMPACT OF RISK FACTORS ON HEALTH-RELEATED QUALITY LIFE IN CANCER PATIENTS (Abstract): **Aim:** To assess the health-related quality of life in cancer patients and the relative and attributable risks for the degree of dissatisfaction related to intrinsic and extrinsic factors. **Material and methods**: Our research included 128 cancer patients treated at the Surgical Clinic II of the Iasi Regional Cancer Institute between December 2014 and June 2015. Thus, data were collected by using an inquiry sheet derived from the SF-36 questionnaire, which included closed and open questions about the quality of life, socio-demographic data and such risk factors as smoking, alcohol use, related diseases and risk behaviours. **Results:** The patient sample had a mean age of 60.85 years, 51.6% of them lived in urban areas, were high school graduates, and of low economic status. **Discussion:** As to the behavioural risk factors we found that over 80% of the patients were non-smokers, did not use alcohol, and were normal weighted. Pain was experienced by 70.7% of the cancer patients and depression affected 74% of the study cases. Patients were asked to self-assess their own health status on a scale of 0 (worst) to 100 (the best health status). **Conclusions:** Our study showed a poor health status (mean score 65) in the study cancer patients. The relative and attributable risks for the degree of dissatisfaction related to intrinsic and extrinsic factors were calculated and ranked factors in decreasing order: smoking, depression, pain, alcohol use, male gender, obesity, low income. We found that prolonged suffering affects the psyche and causes depression and that the patients of low financial status, most of them living in villages, have difficulty in accessing medical care. The obtained data about the quality of life in relation with risk factors are in agreement with the data in the literature. **Keywords:** QUALITY OF LIFE, DISSATISFACTION, QUESTIONNAIRE, ONCOLOGY.

The World Health Organization (WHO) defines quality of life as an individuals' perception of their position in life, in relation to their goals and value system, accepted from the perspective of the decisions they make. Quality of life in medicine is the physical, mental and social well-being, and also the ability of patients to perform their daily activities (1, 2).

By assessing symptom progression pa-

tient's quality of life cannot be adequately quantified because, besides measuring the results in terms of symptoms and functioning, patient's view on treatment and its way of administration is also very important (3, 4).

Besides the evaluation of quality of life by objective clinical criteria, an epidemiological approach became necessary as it analyses the efficiency of medical interventions in chronic and incurable diseases in which only a temporary relief can be obtained and treatment is aimed at prolonging patient's life and making it more comfortable. Epidemiological studies are focused on the impact of disease and its treatment on patient's physical and emotional state and lifestyle (5, 6). Health-related quality of life (HRQL) is a complex concept that includes positive and negative aspects of physical, mental and social health, subjective health status (patient's perspective of his health), the impact of this perception on his life and the influence of health and medical care on quality of life (7, 8, 9).

MATERIAL AND METHODS

Our researche included 128 cancer patients treated at the Surgical Clinic II of the Regional Oncology Institute Iaşi between December 2014 and June 2015. Data were obtained in cooperation with the medical personnel and patients. After obtaining the informed consent, all study subjects completed the questionnaire.

We used a self-administered questionnaire derived from SF-36 quality of life questionnaire, which included closed (precoded) questions (the respondent could choose an answer from a preset list of answer choices, quantified by using a scale) and open (postcoded) questions. The questionnaire had a general information module, including identifying and sociodemographic data and questions about way of life outside hospital and risk behaviour (smoking, alcohol use and related diseases). Control questions were used to check the constancy of the expressed opinion (9).

The impact of risk factors on patient satisfaction was evaluated and interpreted by calculating the relative risk, attributable risk, p value and chi – square.

RESULTS

Our epidemiological questionnaire was completed by 128 cancer patients treated at the Surgical Clinic II of the Regional Oncology Institute Iaşi (mean age 60.85, range 18-85 years). Of the 126 patients who answered the question about gender, 51.6% were male and 48.4% female; 51.2% of the patients lived in urban and 48.8% in rural areas.

A low percentage of our study patients were employed (25%), which correlates with a high level of cancer-related disability and a higher frequency of this disease in the elderly.

Most of the patients had a high school diploma (48.4%), 25.4% a secondary school diploma, 14.8% higher education, and 11.5% had only a primary school diploma. Most patients had a stable social status - 72.5% were married and over 70% had a low financial status (monthly personal or household income per person under 1000 lei).

Evaluating the behaviour risk factors, we had found that the vast majority of patients were non-smokers (106 - 82.8%), did not use alcohol (107 of the 125 patients who answered, 85.6%), ate a healthy diet (84 of 127 - 66%) and were normal weighted (83 – 64.8%).

Most of the patients (70.7 %) had experienced pain occasionally, 13% had constant

pain and only 16.3% had no pain (tab. I).

Because cancer is an invalidating chronic disease, depression had affected most of our patients (74% - 88 of the 119 patients who answered); only 26% of the cases were in a good mood (tab. II).

TABLE I

Pain frequency in our lot of patients

Pain	Frequency	Percent	Cum Percent		95% Conf Limits		
No pain	20	16.3%	16.3%		1	10.2%	24.0%
Sometimes	87	70.7%	87.0%		2	61.9%	78.6%
Permanently	16	13.0%	100.0%		3	7.6%	20.3%
Total	123	100.0%	100.0%				

TABLE II

Depression frequency in our patient sample

Depression	Frequency	Percent	Cum Percent		95% Conf Limits		
No depression	31	26%	26.1%		1	18.4%	34.9%
Sometimes	74	62.2%	88.2%		2	52.8%	70.9%
Very often	14	11.8%	100.0%		3	6.6%	19.0%
Total	119	100.0%	100.0%				

We asked the patients to self-assess their own health status on a scale from 0 (the worst imaginable health) to 100 (the best health state). A score of 80-100 indicates a good health status and the mean score obtained in our study patients (65 points) indicated a poor health state (tab. III).

TABLE III

Mean score of life satisfaction in our patient sample

Obs	Total	Mean	Variance	Std Dev
119	7747.0000	65.1008	415.6677	20.3879

Minimum	25%	Median	75%	Maximum	Mode
0.0000	50.0000	70.0000	80.0000	100.0000	50.0000

DISCUSSION

Epidemiological analysis of the impact of risk factors on the level of life satisfaction

Smoking was proved to be a risk factor associated with lower levels of satisfaction with relative risk (RR) 4.82 (2.69<RR< 8.6). Chi-square was 27.11. P value was 0.0001, a statistically significant result. The attributable risk (AR) was 50.42, meaning that the chance for smokers to have poor self-perceived health status is higher with 50.4 than for non-smokers.

Excessive alcohol use proved to con-

tribute to a decrease in the level of satisfaction with RR 1.19 (0.9<RR< 1.52). Chi-square was 1.36, P value = 0.24. This is not a statistically significant result. The attributable risk was 12.72, meaning that the chance for alcohol users to have a poor self-perceived health status is higher with 12.72 than for non-alcohol users.

Unhealthy diet contributes to a decrease in the level of satisfaction RR 1.16 (0.93<RR< 1.44), chi-square = 1.56, P value 0.21; this is not a statistically significant result. The attributable risk was 10.60, meaning that the chance for the people who eat unhealthy food to have a poor self-perceived health status is higher with 10.60 than for people who eat healthy food.

Obesity can affect the level of satisfaction with RR 1.15 (0.92<RR< 1.43); chi-square was 1.4; P value = 0.23, statistically insignificant result. The attributable risk was 9.92, meaning that the chance for the obese patients to have a poor self-perceived health status is higher with 9.92 than for normal weighted patients.

The male gender proved to be a risk factor for a decreased level of satisfaction with RR 1.19 (0.94<RR< 1.54), chi-square 2.27, and P value 0.13. This is a statistically insignificant result. The attributable risk was 12.18, meaning that the chance for men to have a poor self-perceived health status is higher with 12.18 than for women. Other authors point out that the age-related incidence and mortality are higher in males than in females (1, 9).

Low economic status can contribute to a decrease in the level of satisfaction with RR 1.1 (0.84<RR< 1.45), chi-square 0.49, P value 0.48, statistically insignificant result. The attributable risk of 6.32 means that the chance for people with low income to have a poor self-perceived health status is higher with 6.32 than for people with an income over 1000 lei/month.

TABLE IV

Risk factors which can contribute to health status assessment

Risk factors	Share	Score		
		< 80	> 80	*Total*
Smoking	Smokers	14	8	22
	Non smokers	14	92	106
	Total	28	100	128
Alcohol use	Present	17	4	21
	Absent	73	34	107
	Total	90	38	128
Nutrition	Unhealthy	34	10	44
	Healthy	56	28	84
	Total	90	38	128
Obesity	Present	36	11	47
	Absent	54	27	81
	Total	90	38	128
Gender	Male	51	16	67
	Female	39	22	61
	Total	90	38	128
Financial status (income per month)	< 1000 lei	67	26	93
	> 1000 lei	23	12	35
	Total	90	38	128
Pain	Present	80	28	108
	Absent	10	10	20
	Total	90	38	128
Depression	Present	13	1	14
	Absent	69	45	114
	Total	82	46	128

Pain lowers the level of dissatisfaction with RR 1.48 (0.92<RR< 2.33); chi-square was 4.69, P value = 0.03, statistically significant result. The attributable risk was 24.07, meaning that the chance for people who ex-

perience pain to have a poor self-perceived health status is higher with 24.07 than for people who do not experience pain, as also mentioned by other authors (2, 4, 5, 10).

TABLE V

Relative and attributable risks for the level of dissatisfaction related to intrinsic and extrinsic factors, in descending order

Factors	RR	AR
Smoking	4.48	50.42
Depression	1.53	32.33
Pain	1.48	24.07
Alcohol use	1.19	12.72
Male	1.19	12.18
Unhealthy diet	1.16	10.6
Obesity	1.15	9.92
Low income	1.1	6.32

Depression is an important risk factor for a lower level of satisfaction with RR 1.53 (1.25<RR< 1.89); chi-square was 5.66, P value = 0.001, statistically significant result. The attributable risk was 32.33, meaning that the chance for the patients who experience depression to have a poor self-perceived health status is higher with 32.33 than for patients without depression.

In tables IV and V we had analysed the importance of risk factors affecting the quality of life in cancer patients.

CONCLUSIONS

Our study showed a poor health status (mean score 65) for the cancer patients. We calculated the relative and attributable risks for the degree of dissatisfaction related to intrinsic and extrinsic factors and ranked these factors in decreasing order: smoking, depression, pain, alcohol use, male gender, obesity, low income. We found that prolonged suffering affects the psyche and results in depression, and that the patients of low financial status, most of them living in rural areas have difficulty in accessing medical care. The obtained data about the quality of life in relation with risk factors are in agreement with the data in the literature.

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