

ORIGINAL ARTICLE

Are male cancer patients more affected by losing their jobs than female patients? Gender as a moderator of the relationship between losing the job and well-being in a sample of Romanian cancer patients

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Summary

Purpose: Research indicates the heightened need of cancer patients to return to work, which would be beneficial for their emotional/mental health and well-being. The major aim of this study was to identify the overall effect of losing the job upon different dimensions of well-being, and possible gender differences related to this influence.

Methods: A sample of 800 Romanian cancer patients was screened in 2014 (461 female and 338 male).

Results: Our results indicate that losing one's job after being diagnosed with cancer affects male more than female patients on the physical, emotional, and functional dimensions of well-being. Furthermore, male patients perceive a

higher level of interference between illness/treatment and paid work than female patients, and perceive themselves less able to work than female cancer patients. Also the fulfillment derived from work perceived by male patients is lower than that of female cancer patients.

Conclusion: Counselors and therapists should focus on enlarging the patients' pool of alternative sources of meaning, thus enhancing their well-being and implicitly their clinical recovery.

Key words: employment, meaning of work, oncology, Romania, well-being, work

Introduction

Work plays a central role in most of modern life. People work not only for economic gains in order to meet basic needs (food, clothing, housing, etc.), but also to drive additional meanings for their existence [1]. The three most frequent meanings attributed to work are: *job* (work done to obtain usually external rewards), *career* (concerned with success, achievement and status as feedback about the self), and *calling* (when one feels particularly driven towards a specific kind of job [2]). Moreover, work also becomes a basis for identity and source of connection with others [3].

In the long run, work was found to significantly contribute to the person's psychological health and well-being [3].

The diagnosis and treatment of cancer has profound negative implications for most patients [4,5], resulting in heightened difficulties in several areas of existence: personal, social, professional, spiritual, etc. [6,7]. With the constant increase in the number of patients diagnosed with cancer [8-10], and the rapid advances in detection and treatment [11], the number of cancer patients who survive and have to remain or return to work during

or after treatment is also increasing [12,13]. The rate with which cancer patients return to work is considerably high (63.5%), according to Mehnert's 2011 systematic review; other studies indicate a rate of return up to 84% [14,15], despite of the occasional physical, psychological, social, etc. difficulties. Studies conducted in psycho-oncology yield the heightened need of cancer patients to return (or remain employed) to work, not only due to financial reasons but also for a sense of purpose, daily structure, social integration, and a more complex identity [16,17]. Furthermore, a growing body of research indicates that returning to work may have beneficial effects on cancer patients' emotional/mental health and well-being [18].

Consequently, the employment after cancer diagnosis becomes an extremely important issue not only from the point of view of the individual cancer patient, but also from that of the labor market employers, organizations in general. However, it would be essential to know for which category of cancer patients is employment more beneficial. Research has already indicated that post-cancer diagnosis (re)employment depends to a great extent on cancer patients' individual characteristics (e.g., age, education and income, cancer site, stage of disease, treatment type, symptoms, personal preferences) as well as job/work characteristics (e.g., work demands, work environment, discrimination due to illness) [19].

Even if there is considerable information regarding the role of socio-economic, illness-related, and work-related factors like age, education,

income, stage of illness, site of diagnosis, treatment type, etc. [20-24], there is shortage of data regarding the influence of cancer on work as a function of gender.

We consider crucial that patients, oncologists, psychotherapists, counselors, social workers involved in the return to work of cancer patients to know and take into account possible gender differences related to this issue.

The major aim of our study was to identify the overall effect of losing the job upon different dimensions of well-being (physical, social, emotional, and functional), and possible gender differences related to this influence. Also, we investigated gender differences in perceived interference with paid work, abilities to work, and work-related fulfillment.

Methods

APSCO - Assessment of Psycho-Social and Communication needs in Oncology - is the first extensive questionnaire-based study in Romania on psychosocial aspects of cancer [25,26]. Research was conducted in the four major oncological institutes in Romania (Bucharest, Cluj, Iasi, and Oradea) in 2014. We obtained a national sample of cancer patients, maintaining gender and ethnic rates. APSCO has a repeated cross-sectional design using proportionate quota sampling in order to be representative for all main cancer centers.

Participants

A sample of 800 cancer patients (461 female and 338 male) was screened in 2014. Their mean age was

Table 1. Frequency of localization of illness, status of illness, treatment type, time since diagnosis by gender groups, separate for male and female patients

	Localization (%)		Status of illness (%)		Treatment type		Time of diagnosis (%)	
M	Stomach	7.1	No available information	0.3	Radiotherapy (%)			
	Colorectal	14.8	stage I	3	No	Yes	1999-2005	2.1
	Lung	24.3	stage II	17.8	68.9	28.1	2006-2010	14.7
	Breast	0.9	stage III	33.4			2011-2014	83.2
	Prostate	7.1	stage IV	32.5	Chemotherapy (%)			
	Metastasis	0.6			No	Yes		
	Other	45.2			11.5	88.2		
F	Stomach	2.2	No available information	0.4	Radiotherapy (%)			
	Colorectal	8.4	I stage	5	No	Yes	1986-2005	5.4
	Lung	5.2	II stage	21	56.9	41.6	2006-2010	18.9
	Breast	39.2	III stage	30.5			2011-2014	75.7
	Cervical	24.4	IV stage	26.4	Chemotherapy (%)			
	Metastasis	0.2			No	Yes		
	Other	20.4			17.1	82.3		

M: males, F: females

56.38±10.82 years (min:18, max:82). Localization of cancer included lung, colo-rectal, breast, stomach, prostate, cervix, and other malignant tumors (Table 1). All patients were assessed by certified researchers after agreement to participate in the study.

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent was obtained from all individual participants included in the study.

Measures

Quality of life

Quality of life was measured with the Functional Assessment of Cancer Therapy: General (FACT-G) [27]. The FACT-G is a 27-item self-administered scale, assessing four categories of well-being: Physical Well-Being (PWB; 7-items), Social/Family Well-Being (SWB; 7-items), Emotional Well-Being (EWB; 6-items), and Functional Well-Being (FWB; 7-items). Well-being is assessed on a Five-point Likert scale (0=not at all to 4=very much), patients being asked to rate the different dimensions of their well-being from 0 to 4. Test-retest reliability was as follows: Physical 0.88, Functional 0.84, Social 0.82, Emotional 0.82, and Total 0.92. The internal consistency of the scale was: 0.82 for Physical well-being, 0.80 for Functional well-being, 0.69 for Social well-being, and 0.74 for Emotional well-being.

Work-related aspects

These were measured with three items [*How much does your illness and/or its treatment interfere with paid work* (1-7); *I am able to work (including work at home)* (0-4), and *My work (including work at home) is fulfilling* (0-4)] extracted from Devins' Illness Intrusiveness Rating Scale (IIRS) [28]. The IIRS is an instrument to map the impact of illness and related therapies on the following 13 fields of life: health, nutrition, active rest, passive rest, socioeconomic status, romantic relationships, sex life, family relationships, other social relationships, self-expression/self-development, religion, civic and community activities. This questionnaire evaluates, on a scale from 0-7 (not at all vs. totally) the extent to which the illness interferes and restricts the everyday life. Total scores can vary from 0 to maximum 91 points. The Internal Consistency of the scale for our sample was 0.84.

The status of working was assessed with a dichotomic Yes-No scale.

Statistics

All data was entered and analyzed using the Statistical Package for Social Sciences, version 20 (SPSS Inc, Ill, USA). Categorical and continuous variables that showed normal distribution were expressed as mean±SD. Moderator effects were analyzed with two-way ANOVA. Statistical significance was set at $p \leq 0.05$.

Results

In Table 2 presented are the central tendency and dispersion indicators of well-being as a function of gender.

Table 2. Central tendency and dispersion indicators of well-being as a function of gender

Dimensions of well-being	Gender			
	Female		Male	
	M	SD	M	SD
Physical	20.14	5.66	20.82	4.89
Social	15.84	5.51	16.94	5.34
Emotional	17.17	6.78	16.35	6.26
Functional	16.66	7.26	16.95	7.06

M: mean, SD: standard deviation

Gender as a moderator for the influence of losing the job upon well-being

The model used for this analysis was two-way ANOVA, with losing the job as independent factor, gender as a moderator, and well-being as a dependent variable. Consequently, we tested four models, one for each dimension of well-being. For each factor tested, including the interaction effect, we calculated also the effect size, in the form of both partial eta-square (η^2 , specific to ANOVA models) and Cohen's d (for offering a more intuitive measure for the effect sizes). Figure 1 presents the graphical representation for the evolution of mean values for the four dimensions of well-being.

Physical well-being

Concerning the level of physical well-being, the results showed a non-significant main effect of gender, $F(1, 772) = 0.79, p=0.373$, a significant main effect of losing the job, $F(1, 772) = 5.76, p<0.05$, with a small effect size, partial $\eta^2=0.007$ ($d=0.16$), and a non-significant interaction effect, $F(1, 772) = 3.28, p=0.070$ (but significant at $p=0.10$), with an also a small effect size, partial $\eta^2=0.004$ ($d=0.12$). In other words, losing the job had an overall effect in reducing the level of physical well-being and it seems that this effect was slightly more intense for men (Figure 1a).

Social well-being

In the case of the second outcome, social well-being, the results indicated a non-significant main effect of gender, $F(1,739)=0.50, p=0.477$, a non-

significant main effect of losing the job, $F(1,739)=0.01$, $p=0.917$, and also a non-significant interaction effect, $F(1,739)=0.32$, $p=0.567$. These results indicated that social well-being was not influenced by gender, losing the job, or by the interaction of those two (Figure 1b).

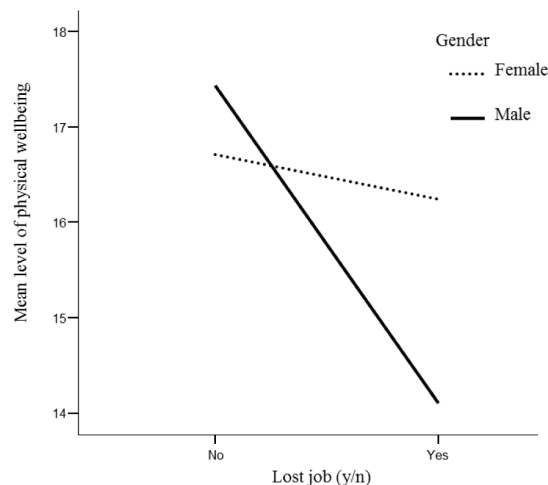
Emotional well-being

For the emotional well-being, the analysis revealed a non-significant main effect of gender, $F(1,770)=0.2$, $p=0.735$, a significant main effect of losing the job, $F(1,770)=5.85$, $p<0.05$, with a small effect size, partial $\eta^2=0.008$ ($d=0.17$), and a marginally significant interaction effect, $F(1,770)=3.78$, $p=0.052$, also with a small effect size, $\eta^2=0.005$ ($d=0.14$). These results suggest that even if emotional well-being did not vary as a function of

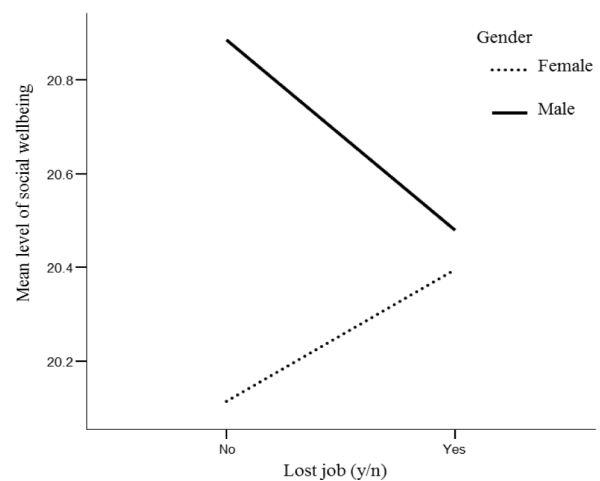
gender, losing the job had an overall effect on emotional well-being and this effect was slightly higher for men (Figure 1c).

Functional well-being

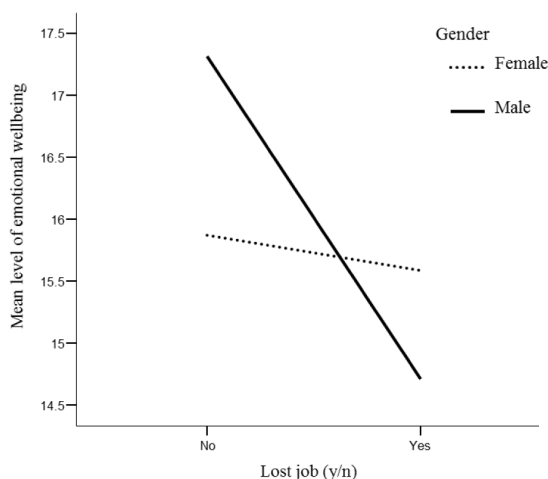
Finally, as far as functional well-being is concerned, the results showed a significant main effect of gender, $F(1,767)=6.17$, $p<0.05$, with a small effect size, partial $\eta^2=0.008$ ($d=0.17$), a non-significant main effect of losing the job, $F(1,767)=1.83$, $p=0.176$, and a marginally significant interaction effect, $F(1,767)=3.63$, $p=0.057$, with a small effect size, partial $\eta^2=0.005$ ($d=0.14$). These results suggested that overall, men had lower levels of functional well-being but also they tended to be more affected by losing their job compared to women (Figure 1d).



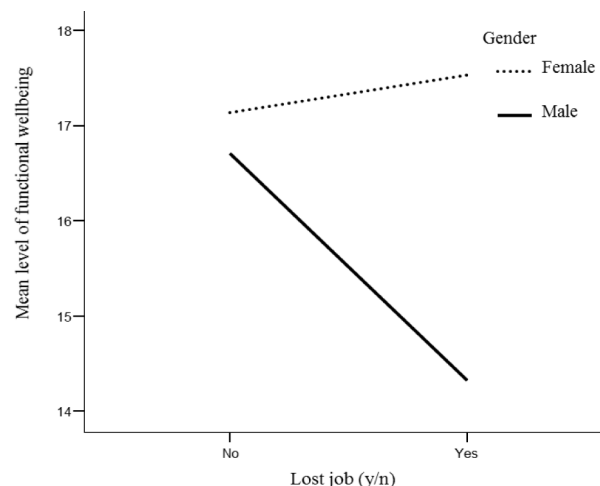
A. Physical well-being



B. Social well-being



C. Emotional well-being



D. Functional well-being

Figure 1. The role of losing the job for well-being as a function of gender.

(A) Losing the job had an overall effect in reducing the level of physical well-being, and this effect was slightly more intense for men. **(B)** Social well-being was not influenced by gender, losing the job, or by the interaction of those two variables. **(C)** Even if emotional well-being did not vary as a function of gender, losing the job had an overall effect on emotional well-being and this effect was slightly higher for men. **(D)** Men had lower levels of functional well-being but also they tended to be more affected by losing their job compared to women.

Table 3. Perceived influence of oncological diagnosis / treatment on work and satisfaction with work as a function of gender

<i>Perceived aspects related to work</i>	<i>Gender</i>	<i>N</i>	<i>M</i>	<i>SD</i>
How much does your illness and/or its treatment interfere with paid work (1-7)	Female	454	4.19	2.44
	Male	335	4.60	2.43
I am able to work (including work at home) (0-4)	Female	459	2.16	1.40
	Male	333	1.89	1.42
My work (including work at home) is fulfilling (0-4)	Female	456	2.55	1.42
	Male	334	2.30	1.49

N: number of patients, M: mean, SD: standard deviation

Perceived influence of oncological diagnosis/treatment on work and satisfaction with work as a function of gender

The perceived aspects related to work (illness/treatment interference, ability, and fulfillment) were measured using specific items from the Functional well-being sub-scale [27] as well as from the IIRS [28].

The independent samples *t* test was performed to identify whether there were differences of perceived influence of oncological diagnosis/treatment on work and satisfaction with work between gender groups. The statistical significance level analysis was followed by the analysis of the effect size of each difference (Cohen's *d*). Table 3 presents the central tendency and dispersion indicators of these perceptions as a function of gender.

The results of our analysis revealed that men perceived higher level of illness/treatment interference with their paid work ($M=4.60$, $SD=2.43$) than women ($M=4.19$, $SD=2.44$), and this difference was statistically significant, $t(787)=-2.33$, $p<0.05$ with a small effect size ($d=0.16$). Also, men tended to perceive themselves as less able to work ($M=1.89$, $SD=1.42$) compared to women ($M=2.16$, $SD=1.40$), with a statistically significant difference, $t(787)=2.73$, $p<0.01$ and a small effect size, ($d=0.19$). Finally, men perceived their work as less fulfilling ($M=2.30$, $SD=1.49$) than women did ($M=2.55$, $SD=1.42$), with a statistically significant difference, $t(787)=2.40$, $p<0.05$, and a small effect size ($d=0.17$).

Discussion

Work and meaningful work has a great importance in a person's efficient functioning, fulfilling not only a financial role, but also offering higher significance. This issue becomes even more acute in the case of patients who suffer from chronic, life-threatening illnesses. On the one hand they

need to work for assuring the financial means necessary for their treatment, as well as a source of meaning that could significantly enhance the different dimensions of their well-being.

Our results indicate that losing one's job after being diagnosed with cancer affects male more than female patients on the physical, emotional, and functional dimensions of well-being. These results may be attributable to the fact that for women work is one of the many sources from where they can extract meaning (e.g., motherhood, caretaker, friendship), while in the case of male patients, work continues to represent a large component of their social identity [29,30].

Our findings indicate that male patients perceive a higher level of interference between illness/treatment and paid work than female patients. Even if there is no proof that male patients would be more physically affected by cancer and its treatment than women, the differences identified are justifiable by the larger importance that men attribute in general to paid work, and the receipt of a salary solidifies their position in the family (main financial contributor) and in society [29,30]. Due to the same explanation, male cancer patients perceive themselves less able to work than female cancer patients. Similarly, the fulfillment derived from work perceived by male patients is also lower than the one perceived by female cancer patients.

The most important implications of our study concern counselors, therapists, social workers, as well as employers. More specifically, the consequences on the objective levels would be a higher implication of cancer-related specialists to mediate the relationship of the patient with employers and to highlight the work conditions that would benefit most both parts in the long run. On the subjective level, counselors and therapists should focus on enlarging the patients' pool of alternative sources of meaning, thus enhancing their well-being and implicitly their clinical recovery.

Evidently, we acknowledge and emphasize

the fact that the major priority in cancer treatment should be the control of disease progression. However, a plethora of research has documented that a large number of cancer patients are affected by illness-accompanying emotional discomfort. Consequently, we would like to underscore the importance of a multifaceted psychological and social support that would facilitate the patients' socio-emotional adaptation to the implications of malignant diseases.

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Conflict of interests

The authors declare no conflict of interests.

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