

# Experiencing professional strains of nurses, radiation engineers and physicians working at the Institute of oncology in Ljubljana

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**Background.** Since 1974 the term burnout is used in psychology. Burnout describes the end result of stress and has been described by Maslach comprising three basic components: emotional exhaustion, depersonalization and low personal accomplishment.

In this paper we would like to describe some aspects of burnout experiences of the employees of the Institute of Oncology in Ljubljana.

**Subjects and methods.** We used Questionnaire of professional stress, created by Žunter Nagy and Kocmur. In our research 137 health workers from four professional groups participated: physicians, graduated nurses, nurses and radiation engineers, representing 38% of all employees.

**Results.** We found out that in the experience the professional stress of all four professional groups is relatively equalized. The most prominent feelings are of fatigue, irritability and work overload. There were no signs of depersonalization - as described by Maslach - reported in our group. In nurses and in radiation engineers a distress is significantly more often displayed due to poorer personal income and poorer material status. Nurses reported significantly more often the intention to change work position (51%), institution (57%) or job (47%).

**Conclusions.** Workstress impacts on the experience and on the thought patterns in those participating in the study. We can describe those signs as burnout signs. However, there are more new questions opening in the future as well as the need to a longitudinal approach to the research of this more and more prominent field.

Key words: medical oncology; stress, psychological; burnout, professional

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## Introduction

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The term »burnout« was first used by Herbert Freudenberger in 1974 when he described problems in so the called »help professions«. He described problems appearing when one encounters situations that are above his ability, power and energy. A decade later

Christine Maslach defined »burnout« with the help of three basic dimensions - emotional exhaustion, depersonalisation (non compassionate way of treating the patients, increased emotional distance from the patients) and reduced personal accomplishment.<sup>1</sup>

The development of the burnout syndrome is influenced by the intertwined influence of many factors. Some personal types are more prone to the burnout development as others.<sup>2</sup> Maslach especially described the following personal factors: low level of hardiness, poor self-esteem, an external locus of control and avoidant coping style. She found out that females, younger employees and singles are more prone to the burnout development.

Beside the individual factors the burnout is also dependent upon the organization and nature of the job. Among those night work and work in shifts, lack of the personal and poor shift organisation stand out in the health system. The good team serves as an important source of emotional support and as such the safety factor; on the other hand conflicts at work are important risk factors for the burnout.

The problem of burnout is common in health care workers in every speciality. The research finding shows that the burnout prevalence among health care workers varies from 28% (Ramirez et al, 1996)<sup>3</sup> to 56% (Whippen and Canellos, 1991).<sup>4</sup> In the field of oncology the work with incurable patients was described as the most important risk factor. The therapy often has a limited impact; health care workers are confronted with the difference between real state of the affairs and expectations - theirs as well as patients' and patient's relatives. Due to a constant contact with dying and the constant loss of patients some thought that the burnout is more pronounced in workers in the field of oncology than in other medical fields; however, some researches discarded this hypothesis.<sup>5,6</sup> Research findings confirmed the Maslach findings that women, younger and single

health care workers are more prone to the burnout.<sup>4,7</sup>

The aim of this paper is to present findings considering health care workers at the Institute of Oncology in Ljubljana and shed light to how physicians-oncologists, nurses and radiation engineers are experiencing the burdens of professional and personal life.

## Subjects and methods

When carrying out this study, there was no standardized questionnaire for measuring burnout in Slovenia. Therefore, we decided to use Questionnaire of professional stress created by Žunter Nagy and Kocmur, which was fashioned for health care workers in the field of psychiatry.<sup>8</sup>

Participants ranged items on 5-degree scales, some questions were dichotomized. For a statistical analysis we used chi-squared test with Yates correction and in the interval type of results we used Student t-test.

All the physicians-oncologists, nurses, graduated nurses and radiation engineers working at the Institute of Oncology in Ljubljana (which is the only comprehensive cancer centre in Slovenia) received the questionnaire. We got 137 usefully filled questionnaires, representing 38% of those sent, which is comparable with the data from the literature.<sup>4</sup> Response rate was the greatest among the nurses (59.3 %), followed by physicians (21 %) and radiation engineers (19.3 %).

## Results

### *Demographics*

The average age of the participants was 32 years for radiation engineers and 40 years for physicians; the combined average age for all groups was 35 years. Like the age the average work time was the lowest for the group of radiation engineers (8.8 years, and for the other

Table1. Demographics of medical oncology staff

	Physicians (n=30)	nurses (n=57)	graduated nurses (n=26)	radiation engineers (n=25)
Age				
under 25 yr	0	36 %	24 %	29 %
26 - 35 yr	37 %	13 %	31 %	37 %
36 - 45 yr	27 %	33 %	20 %	13 %
46 and more yr	37 %	16 %	23 %	21 %
Average work time	14.1 yr	13.9 yr	13.6 yr	8.78 yr
Gender				
Male	27 %	11 %	7 %	31 %
Female	73 %	89 %	93 %	69 %
Marital status				
Single	23 %	32 %	19 %	60 %
Married	73 %	65 %	81 %	36 %
divorced/widowed	3 %	3 %	0	4 %
Children				
None	34 %	43 %	24 %	50 %
one or more	66 %	57 %	76 %	50 %
Direct work with patients	83 %	96 %	100 %	100%

three groups between 13 and 14 years, respectively). The majority of participants were females (83 %); the proportion of females was the greatest among nurses and graduated nurses (90 %). Three quarters of physicians and graduated nurses were married and had at least one child; in radiation engineer's two thirds were singles and half of all without children (Table 1). For the most of working time 83 % of the physicians and almost all participants from other professional groups were working directly with patients.

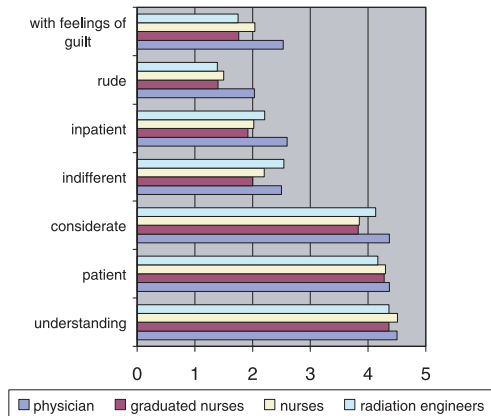
#### *Work and professional life*

Participants from all professional groups are in general satisfied with their profession and their relation to patients (average mark >4). They are less satisfied as regards the professional relations with their colleagues as well as their superiors; their position within the work organization, amount of responsibility they are trusted with; the possibilities of continuous education and possibilities of advancement. The results differ significantly according to groups in the item of satisfaction

with salary ( $F = 3.519$ ,  $p = 0.017$ ), where physicians and graduated nurses showing significantly higher mark in comparison to other two groups. What all have in common is the feeling of being overloaded and emotionally too involved in their work.

There were no statistically significant differences between groups in describing their relations toward patients. In their description there a positive, almost idealistic view is dominant. Participants are »almost all the time« understanding, patient, considerate and »almost never« impatient, indifferent, they are never rude (Figure 1). Although there are no statistically significant differences between groups, there is an interesting feeling of guilt in the group of physicians, which could be attributed to their responsibility for treatment, as well as to their adoption of the responsibility for disease outcome.

Participants estimated that their attitude towards patients did not change in the past years of professional work and remained »almost always« the same as their attitude towards patients at the beginning of their work.



**Figure 1.** The attitude towards patients of four professional groups.

Results are the same also when comparing their marks in relation to the work time of participants.

The failure of treatment was a prominent factor influencing the experience of work stress in all professional groups. Among organization factors there is a pre-eminent lack of labourers and as a consequence too crammed timetable (Figure 2). Differences between average item marks are small; following the described three items there are pre-tentiousness of work with the patients and close contact with dying.

We found statistically significant differences among professional groups in items concerning organization matters. Physicians and both groups of nurses estimate more often as radiation engineers that their distress is connected to the lack of personnel ( $F = 3.30$ ,  $p = 0.022$ ). Shift work is more burdensome to nurses as to radiation engineers ( $F = 5.149$ ,  $p = 0.002$ ); radiation engineers work in shifts, but they have a shorten work time; radiation engineers also most often estimate that there is enough personnel. The other two groups do not have a shift work but have instead of this 24 hours duty.

Physicians and graduate nurses are on duty on average 2-3 days per month. As a ra-

tionale for taking duty they are citing in the first place the needs of the institution, while physicians more often cite the material needs ( $F = 3.073$ ,  $p = 0.049$ ). Nevertheless, half of graduate nurses and one third of physicians do not want to be on duty less often, which is in both groups linked with bonus allowance.

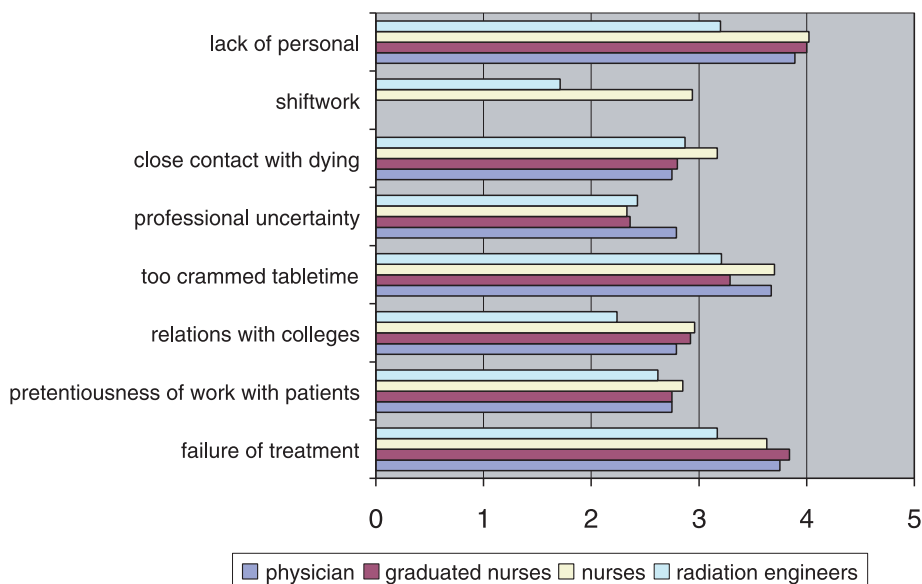
Among the ways of settling the problems in work place the discussion is pre-eminent in all professional groups, with colleagues, superiors and discussions at home. Recreation is important in the same measure. A statistically significant difference between professional groups is evident only in one item. When encountering problems in work place nurses are more likely to enter sick leave even for minor physical strains ( $F = 2.796$ ,  $p = 0.043$ ).

Statistically significant differences are showing in the item about thinking on work problems at home ( $F = 4.237$ ;  $p = 0.007$ ). Transfer of work situation in the home environment is most pronounced in physicians who could be linked to their responsibility for treatment. This transfer is the least pronounced in radiation engineers.

On the question about considering the change of profession, specialization or work field/work position within the institution there are statistically significant differences in all items ( $F = 2.67$ ,  $p = 0.050$ ;  $F = 3.71$ ,  $p = 0.012$ ;  $F = 6.11$ ,  $p = 0.001$ ). While physicians and radiation engineers are never or almost never considering this, there is a group of nurses with the marked deviation in the positive direction, while in the meantime their answers to questions on the contentment with profession and work place were no different from the others.

#### *Family life*

All professional groups estimated that a partner "almost always" understands the nature of their work (average mark 4.03). While they are satisfied with the emotional relationship they are having with a partner, the emotional



**Figure 2.** The estimated stress sources on work places of four professional groups.

satisfaction with children in all groups is estimated between "most of the time" and "always". The relationship with a partner is -like in the all complex of questions regarding personal life - presented in the very positive light - and we can assume idealized. The relation with a partner is almost always loving and comprehensive, items with a negative connotation such as impatient, indifferent, burdened with guilt are estimated as "almost never". A statistically significant difference between groups was found for the item indifferent ( $F = 3.245$ ,  $p = 0.025$ ), which is least expressed in the group of physicians.

In estimating which factors of the home environment are connected with stress in participants the estimations are in all groups centred "mostly" on "almost never", which means that they almost never connect their stress with factors at home. The highest rankings are material problems (between "almost never" and "sometimes") with statistically significant differences between groups ( $F = 5.425$ ,  $p = 0.002$ ); material problems are highest ranking

by nurses and lowest by physicians. The item comparison according to age failed to show statistically significant differences.

#### *Personal life*

In the last three years more than 90 % of nurses and radiation engineers and 73 % of physicians completed the physical exam. Ten percent of physicians and 15 % of nurses have a chronic disease, most often hypertension, spine problems (nurses), asthma and migraines. Among regular smokers there are mostly nurses (20 % of participants), and less physicians (6.7 %); but the differences in the frequency allocations are not statistically significant. According to gender among regular smokers there are 48 % males and 13% females. Of the psychoactive substances the participants do not use benzodiazepines, anti-depressants or anti-psychotics; they also almost never consummate alcohol. The differences between groups are not statistically significant. 2-3 % of participants sometimes think of suicide, and the same proportion

cites the attempt in the past; there are no differences between groups. Bad psychical condition is in all groups most often expressed as fatigue and irritability (median estimate 2.5-3) and less often as anxiety, weakness or loneliness (equal or lower than 2). Considering this there are no significant differences between groups. In all groups there is sometimes felling of overworking.

### Discussion

Burnout is a complex phenomena and is a result of mutual co-influence of work stress (related to type and nature of work combined with its organization) and underlying personality; with return negative implications for a person with worse attitude toward a patient and decreased efficiency of work as well as for patients one is in care of and organization.

Mutual co-influence of those factors requires a complex research, which had quite expanded in last few years; nevertheless there is a lack of longitudinal researches in research settings.<sup>2</sup> Despite findings that underlying personality could have greater influence on the burnout development than work stress, the research of personality characteristics is still a challenge for the further research.<sup>5</sup>

This study has not by-passed those faults (while there the possibility of longitudinal setting is still open). To investigate one - only institution is related with smaller number of participants, and the descriptive nature of approach enables the investigation of specific social and organizational aspects useful in planning future strategies for the prevention of burnout at the level of a particular organization.

The comparison of all four professional groups shows that in the experiencing the professional stress all four are relatively equalized. In all included professional groups, the most stressful are those situations

where the treatment was unsuccessful, which is related to encounter with mortality. The organizational factors are represented even more - poor labourers covering resulting in stuffed schedule. Professional and personal stress result thus above all in feelings of fatigue, irritability and work overload.

Beside this nurses and radiation engineers display distress due to poorer personal income and poorer material status. Shift work decreases their presence in family life and creates conflicts between their professional role and other life roles. Beside this many young nurses not only more frequently think about changing their profession but also to change their work place fairly quick.

Signs of depersonalization as defined by Maslach were not encountered - on the contrary, there is explicitly positive, even idealistic view on e.g. one's attitude towards patients. We can not therefore rule out a hypothesis that this can express phenomena of a denial and no criticism to the state of affairs.

There are two so called burnout protection factors pointed to by the results. The first one is the expressed satisfaction at work and the other social support experienced by the employees when the relationships within the team are satisfactory and in situations, when troubles occur and co-workers help to get out of them.<sup>9</sup>

Due to burnout negative consequences on health professionals, as well as patients and a health organization, it is important to recognize early signs of burnout and act preventively. The factors we can use for this are incorporation of appropriate contents in the educational process, communication skills training, appropriate work organization and unburdening of negative emotions and finally raising consciousness on burnout with appropriate recording.

This study of course is only a static picture of a current situation and warrants further longitudinal approach.

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