



Job stress and coping strategies in health care professionals working with cancer patients

Vedat Isikhan^{a,*}, Turhan Comez^b, M. Zafer Danis^a

^aHacettepe University School of Social Work, 06290 Kecioren-Ankara, Turkey

^bMinistry of Health, 06290 Kecioren-Ankara, Turkey

KEYWORDS

Cancer;
Job stress;
Physician and nurse;
Coping with stress

Summary The aim of this study was to determine the factors influencing stress in health care professionals working with cancer patients and the strategies used to cope with stress. The data was collected by self-report questionnaires, the Job Stress Inventory and Ways of Coping Inventory. Overall 109 health care professionals (physicians $n = 52$, nurses $n = 57$) employed in five Oncology Hospitals in Ankara, Turkey, between January 2001 and July 2001 were involved in the study. It was identified that the mean job stress score of health care professionals was 30.76 (physicians = 30.53, nurses = 31.00) (range = 0–50). This stress level indicated that there were signs of physical and psychological stress. It was determined that variables influencing stress scores were marital status, age, professional career, unfairness in promotion opportunities, imbalance between jobs and responsibilities, conflict with colleagues, lack of appreciation of efforts by superiors, responsibilities of role, long and tiring work hours, inadequacy of equipment, and problems experienced with patients and their relatives. It was also determined that health care professionals utilize similar strategies in order to cope with stress. The most common strategy used by physicians and nurses was a self-confident approach ($\bar{x} = 1.89$ and 1.82 respectively), and the strategy least used was a submissive approach (respectively, $\bar{x} = 1.03$ and 0.85). Programmes directed towards reducing job stress and enhancing motivation and job satisfaction were recently considered by health institutions. It is thought that the findings of the study could be taken into account in preparing programmes (coping with stress, training) for health care professionals working with cancer patients.

© 2004 Elsevier Ltd. All rights reserved.

Zusammenfassung Ziel dieser Studie war es, die Faktoren, die den Stress bei mit Krebspatienten tätigem Personal in Arzt- und Pflegeberufen beeinflussen, und dessen Strategien zur Stress-Bewältigung zu bestimmen. Die Daten wurden mit Fragebögen zur Selbsteinschätzung (*Self Report*) dem *Job Stress Inventory* (Bestandesaufnahme zum arbeitsbedingten Stress) und *Ways of Coping Inventory* (Bestandesaufnahme von Bewältigungsstrategien) gesammelt. Insgesamt nahmen 109 in Arzt- und Pflegeberufen tätige Personen (davon Ärzte $n = 52$ und Pflegepersonal $n = 57$) zwischen Januar und Juli 2001 in fünf Krebskrankenhäusern in Ankara, Türkei, an der Studie teil. Es wurde festgestellt, dass der Durchschnittswert für berufsbedingten Stress bei dem Personal in Arzt- und Pflegeberufen auf einer Skala von 0–50 bei 30.76 lag (Ärzte = 30.53, Pflegepersonal 31.00). Dieses Stress-Niveau bedeutet, dass Anzeichen von körperlichem und psychologischem Stress bestanden. Als Variablen, die diese Stress-Werte beeinflussen, wurden festgestellt: Alter, berufliche Laufbahn, Ungerechtigkeiten bei den Beförderungsmöglichkeiten, Missverhältnis zwischen Position

*Corresponding author. Tel.: +90-312-355-21-30x132; fax: +90-312-355-57-71.

E-mail address: visikhan@hacettepe.edu.tr (V. Isikhan).

und Zuständigkeiten, Konflikt mit Kollegen, mangelnde Würdigung der Leistung durch die Vorgesetzten, die Verantwortung der eigenen Rolle, lange und ermüdende Arbeitszeiten, Unzulänglichkeit der Arbeitsgeräte, und Probleme im Umgang mit Patienten und ihren Angehörigen. Es wurde auch festgestellt, dass das Personal in Arzt- und Pflegeberufen ähnliche Strategien zur Stress-Bewältigung anwenden. Die am meisten benutzte Strategie, die sowohl von Ärzten ($\bar{x} = 1.89$) als auch vom Pflegepersonal ($\bar{x} = 1.82$) benutzt wurde, war selbstsicheres Auftreten, die am wenigsten benutzte Strategie war unterwürfiges Auftreten ($\bar{x} = 1.03$ und 0.85). Maßnahmen zur Reduzierung von arbeitsbedingtem Stress und zur Erhöhung der Motivation und Zufriedenheit im Beruf wurden kürzlich von Einrichtungen im Gesundheitswesen erwogen. Es wird angenommen, dass die Ergebnisse dieser Studie bei der Vorbereitung solcher Maßnahmen (Stressbewältigung, Fortbildung) für das Personal in Arzt- und Pflegeberufen, die mit Krebspatienten arbeiten, berücksichtigt werden könnten.

© 2004 Elsevier Ltd. All rights reserved.

Introduction

Working in an oncology department requires enough energy to confront all problems and self-devotion (Lederberg, 1998). Offering care to cancer patients may give rise to stress, dissatisfaction, alienation from work and exhaustion in health professionals. According to investigations on this issue, factors causing stress in health professionals serving cancer patients are listed in Table 1.

It has been observed that there are few recent studies on the coping methods of health professionals with stress. This study therefore adds to the body of historical evidence by providing a recent study on health professionals working in oncology.

A major area of research has emerged from observations that patient and family dissatisfaction often arises from communication issues. Patients can tolerate negative outcomes with less anger at staff when the latter are experienced, humane and are available to patients for ongoing explanations and comfort (Suchman et al., 1993). Lack of person know-how is an important factor. Health care professionals have been found to respond to their inadequacy not only with tension, anxiety, and avoidance, but also with low self-esteem and decreased job satisfaction (Ullrich and Fitzgerald, 1990; Ford et al., 1994; Ramirez et al., 1995).

It is thought that stress in oncology clinics emanates from the imbalance between the coping ability of the individual and the demands of the work place, with the demands outweighing their ability to cope. Interactions with patients, and the need to cope with death have been found to be major stressors. Health care professionals will either cope with stressors arising from institutional variables or will not be able to do so and hence feel pain (Ullrich and Fitzgerald, 1990). The relationship between the caregiver and the patients may lead

health care professionals to experience considerable stress (i.e. when objective emotional distance between staff and patients is not maintained). It is important to define the emotional exhaustion towards the patient at this stage.

Factors related to job stress and work conditions need to be defined accurately. Various stressors have been found to be related to job stress among physicians (Lee, 1986; Scheiber, 1987; Butterfield, 1988; Richardsen and Burke, 1991). Among the factors causing job stress for physicians are demands of work, excessive work load, long duty hours, financial problems, conflict between professional and personal lives, problems with patients and those related to occurrence of death (Mawardi, 1979; Charles et al., 1987; Richardsen and Burke, 1991). Various job stressors have been found to cause mental health problems in physicians. It has also been found that there is a significant relationship between interactions with colleagues, inadequacy of perceived professional knowledge, diagnosis and treatment process, stress in dialogues with patients and the degree of psychological morbidity (Tattersall et al., 1999). It is thought that such data are of use in defining the stress experienced by health care professionals working with cancer patients.

The care given to patients and the interest displayed in them is the most important stressor for health care professionals followed by conflict between team members, lack of confidence and autonomy, work load and conflicts of authority. It has been reported that nurses have higher scores of stress than physicians (Heim, 1992). The stressors of nurses are worries caused by responsibility, being forced to decide under time pressure, increasing criticism and complaints of patients (Heim, 1992). Nurses working in oncology experience a number of job stressors owing to the disturbing effect of

Table 1 Factors causing stress in health care professionals working with cancer patients.

Stressors

Severity of the patients' conditions
 Increase in expectations of patients
 Offering unsatisfactory care
 Being unable to control the results of efforts
 Death of patients
 Problems related to the family of patients
 Lack of equipment and personnel
 Excessive job responsibility
 Problems of communication with team members
 Work load
 Problems with administrative mechanisms
 Work conditions
 Low salaries and inadequate social facilities
 Lack of in-service training
 The status of just starting work
 The end of career
 Lack of opportunities for promotion
 Decrease in the appreciation of patients and superiors

(Beemsterboer and Baum, 1984; Bram and Katz, 1989; Whippen and Canellos, 1991; Hershbach, 1992; Ramirez et al., 1995; Wilkinson, 1995; Isikhan et al., 1998; Fielden and Peckar, 1999; Tattersall et al., 1999).

cancer on patients and their families. As the stressors vary between oncology nurses, measures taken for one group may be ineffective, even inappropriate for another group. The duration of experience in oncology has been identified as a factor that assists nurses to cope with stress (Hinds et al., 1994).

Many studies have documented the high incidence of burnout and/or clinically significant anxiety or depression in oncology staff (Ullrich and Fitzgerald, 1990; Whippen and Canellos, 1991; Hershbach, 1992; Ramirez et al., 1995; Barni et al., 1996). Catalan et al. (1996) found 44% of cases in oncology and 40% in HIV staff. Whippen and Canellos (1991) reported a 56% incidence of burnout using a questionnaire with 1000 American oncologists. In this study the lowest score among academic personnel and the highest scores had a positive relationship to the amount of direct patient care. Bram and Katz (1989) compared nurses in hospital and hospice settings, and found that hospice nurses showed less burnout than nurses working in hospitals ($P < 0.05$). Beck-Friis et al. (1993) compared working conditions in hospital-based home care and in hospital care; while both were stressful, the home-based group fared better than the hospital group. Hospice staff, and staff on units where they feel more free to

express their views and have a sense of solid relationships, have been found to have lower scores on stress measures.

Stress does not always have negative effects. The effect of stress on health depends on the adequacy of coping behavior (Harris, 1989). The effectiveness of coping behaviors depends on the situation in which they are used. Some coping behaviors may work well for some situations but not for others (Lazarus and Folkman, 1984). The efficiency of a coping strategy is determined only by its effects in a given encounter and where exposure to stress is long term. The impact of stress and coping on health, includes physical, psychological, and social aspects.

As many stressful conditions encountered by physicians do not change in essence (such as constantly encountering dying patients), it is of great importance to lower this stress. It has been established that physicians utilize two coping strategies. Namely, a problem focused approach that involves coping with the source of stress and an emotionally focused approach that involves efforts for reducing the emotional consequences of stress irrespective of the cause (Tattersall et al., 1999). A number of more specific coping strategies are present in addition to these broad categories. For example, Vitaliano et al. (1985) established four consistent coping strategies for physicians; these were problem solving, seeking social support, accusing others and avoidance. The benefit of these strategies Vitaliano et al. (1985) argue rests upon the content and type of stress.

Although nursing is closely associated with stress, nurses have been found to be not so successful in coping with stress (Kivisto and Couture, 1997). Empirical studies suggest that nurses who report high levels of workload use more problem solving strategies, nurses who are subjected to stress due to patient demands and home/work conflicts used social support strategies, and avoidance is the most reliable symptom of stress and job dissatisfaction (Tyler and Cushway, 1992; Tyson and Pongruengphant, 1996). In order to cope with stress in both professions, it is very important to understand the nature, sources and consequences of stress.

In a study conducted to determine the frequency of burnout syndrome among 180 health care professionals (physician and nurses) working in seven different oncology centers, it was established that they had moderate scores of burnout (Isikhan et al., 1998). Although stress sources and the effect of stress on health care professionals working with cancer patients is well known and a matter of concern, job stress is among the issues rarely addressed in our country.

This study, aimed to determine the factors influencing stress experienced by health care professionals (physician and nurses) working with cancer patients in Turkey. The study specifically aimed to answer the following questions:

1. Is there a difference between job stress scores of physicians and nurses?
2. What are the important health problems arising due to stress?
3. What are the important variables causing differences between the stress scores of physicians and nurses?
4. Which strategies are used in order to cope with stress?

Method

Procedures/data collection

Data was collected from 109 (52 physicians, 57 nurses) health care professionals in 6 Oncology Hospitals (Gülhane Military Medicine Academy, Demetevler Oncology Hospital, Hacettepe University, Gazi University, Ankara University, Ybn-i Sina

Hospital) in Ankara between January and June 2001. Three different data collection instruments were used in the study.

The first instrument, a questionnaire, was used as the primary data collection tool and was developed by the investigators. This questionnaire had been developed following a literature review to determine which variables influenced job stress scores of physicians and nurses working with cancer patients (see Table 2 socio-demographic and working experience). In order to increase the validity of the questionnaire a pilot study was undertaken with 20 health care professionals (10 physicians, 10 nurses). As some questions were not understood easily and were left unanswered, some changes were made to the original questionnaire. Eleven questions were deleted, which left 21 remaining questions. This self-report questionnaire was distributed to health care professionals. They were instructed to complete the questionnaire and return it to the researchers.

The second instrument was the *Job Stress Inventory*, which aimed to determine the stress levels of health care professionals. This inventory had been used previously by Haynes (1994) with men and women working in the National Health

Table 2 Socio-demographic characteristics and job stress scores.

Socio-demographic characteristics	Physician (n)	Nurse (n)	n	%	Mean stress scores	SD	Statistics
Sex							$t = 0.04$
Female	37	57	94	86.2	30.76	5.50	
Male	15	—	15	13.8	30.81	6.09	
Profession							$t = -0.41$
Physician			52	47.7	30.53	6.02	
Nurse			57	52.3	31.00	5.77	
Marital status							$F = 4.04^*$
Married	34	37	71	65.1			
Single	18	17	35	32.1			
Divorced	—	3	3	2.8			
Education status							$F = 0.232$
Secondary high school	—	22	22	20.2			
Pre-graduate	17	22	39	35.8			
Graduate	33	2	35	32.1			
Post-graduate	2	11	13	11.9			
Age							$r = 2.44^*$ $t = 212^*$
21–36	33	48	81	74.3	31.59	5.50	
36–>	19	9	28	25.7	29.47	6.26	
Work experience							$r = 2.04^*$ $t = 4.33^*$
1–10	33	34	67	61.5	31.64	5.52	
11–>	19	23	42	38.5	27.36	6.08	

Note: * $P < 0.05$.

Statistics Center. This inventory was adapted and applied to our country by Aktaş (2001), who used it to compare the stress levels of administrative staff of a public institution.

The interpretation of the scores of this inventory are as follows: if the total score is less than 12, it shows that the individual can cope with stress and the pressure of their job, if the score is between 12 and 30, symptoms of physical and psychological stress are present in the individual, and if it is over 30, this would mean that job stress has reached dangerous dimensions. The higher the score in the inventory, the higher the job stress level (possible range = 0–50).

The final data collection instrument used in this investigation was the *Ways of Coping Inventory* (WCI) developed by Folkman and Lazarus and adapted in Turkish by Şahin and Durak (1995). This inventory has 66 Likert type scales. It is frequently used in investigations of coping with stress. It has been stated that this inventory has been used in many studies in spite of the inadequacy of its psychometric characteristics and that various investigators have added or deleted some questions according to their specific aim and population sample. This inventory has been adapted to and validated in our country and transformed into an instrument that has 30 questions and five subscales (Şahin and Durak, 1995). This inventory has two dimensions; efficient ways of coping directed towards a problem and inefficient ways of coping directed towards emotions. These two dimensions are subdivided into five factors, self-confident, optimistic, submissive, helpless approaches and seeking social support. The inventory overall includes 30 items and each item is scored between 0 and 3. Scores are calculated separately for each factor, and hence an overall score is not calculated (Şahin and Durak, 1995).

Data analysis

The data obtained in this study was entered into SPSS for Windows version 11.0. A *t*-test was used in order to evaluate the relationship between job stress scores, age and sex. Kruskal–Wallis Analysis, was used to determine the significance of the relationship between marital and educational status and job stress scores. Pearson Moment Correlation coefficients were calculated to determine the significance of the relationship between job stress scores, age and work experience.

The experience and ages of health care professionals were divided into two groups and statistical analyses carried out. Distribution of the minimum

and maximum age and experience were taken into account. As the minimum age was 21 and the maximum was 49, age distribution was divided into two groups, namely 21–36 and 37 and over. The same procedure was followed for work experience. As the minimum experience was 1 year and the maximum 28, they were classified into two groups, that is 1–10 years and 10 years and over.

Results

There were numerous variables that influenced the performance of health care professionals working with cancer patients (for example, individual, organizational and extra organizational stressors). The study was limited, however variables that were considered major were tried and tested (see Tables 2–4). In summary, when determining the job stress factors influencing the performance of health care professionals and the important health problems related to stress, findings from the studies in the literature have been used (see Table 1) (Beemsterboer and Baum, 1984; Bram and Katz, 1989; Harris, 1989; Ullrich and Fitzgerald, 1990; Ford et al., 1994; Isikhan et al., 1998; Ledergberg, 1998; Fielden and Peckar, 1999).

Integration of the data collected from the physicians and nurses was undertaken prior to analysis. However, some important differences have been presented separately. The socio-demographic characteristics of the health care professionals are illustrated in Table 2.

The findings of the investigation about job stress and coping methods of health care professionals working in Oncology are presented below under the headings of socio-demographic characteristics, causes of job stress, important health problems arising due to stress and methods of coping with stress.

The relationship of socio-demographic characteristics with Job Stress Scores

It has been determined that marital status, age and work experience have a significant relationship with the job stress scores ($P < 0.05$) (see Table 2).

The causes of job stress

Lack of appreciation by superiors, unfairness in opportunities for promotion, imbalance between job and authority, conflicts with colleagues, responsibilities of role, long and tiring working hours,

Table 3 Causes of job stress.

Causes of job stress	Physician (n)	Nurse (n)	n	%	Mean job stress scores	SD	t value
Job satisfaction ^a							$t = -0.97$
Yes	41	35	76	69.7	30.50	5.88	
No	8	20	28	25.7	31.75	5.66	
Attitude and behavior of the superiors							$t = 0.54$
Yes	30	51	81	74.3	33.50	5.50	
No	8	20	28	25.6	32.06	5.57	
Inadequate salary							$t = -1.10$
Yes	43	51	94	86.2	30.68	5.95	
No	8	4	12	11.0	32.66	5.12	
Lack of appreciation by the superiors ^a							$t = 2.62^*$
Yes	35	38	73	66.9	32.02	5.28	
No	16	11	27	24.7	28.66	6.68	
Unfair opportunities for promotion ^a							$t = 2.54^*$
Yes	33	42	75	68.8	31.84	5.32	
No	16	9	25	22.9	28.48	6.83	
Imbalance of duty and responsibilities ^a							$t = 3.17^*$
Yes	33	38	71	65.1	32.16	5.02	
No	18	12	30	27.5	28.30	6.79	
Conflict with colleagues ^a							$t = 1.97^*$
Yes	30	29	59	54.1	32.11	4.95	
No	20	19	39	35.8	29.79	6.72	
Role responsibilities ^a							$t = 3.03^*$
Yes	29	29	58	53.2	32.58	4.61	
No	19	18	37	33.9	29.00	6.91	
Long and tiring work hours ^a							$t = 2.11^*$
Yes	35	37	72	66.1	31.86	5.50	
No	14	15	26	23.9	29.07	6.47	
Lack of adequate equipment ^a							$t = 2.22^*$
Yes	34	33	67	61.5	31.98	4.64	
No	15	15	29	26.6	29.13	7.82	
Lack of time for the family and social life ^a							$t = 2.19^*$
Yes	34	33	67	61.5	31.95	5.21	
No	15	15	30	27.5	29.20	6.74	
Problems with patients and their relatives (lack of communication, cold relations) ^a							$t = 2.42^*$
Yes	25	26	51	46.8	32.41	4.81	
No	25	24	46	42.2	29.58	6.61	

* $P < 0.05$.^aThe reason why over all responses is less than 100 is that health care professionals left some questions unanswered.

lack of necessary equipment, not having enough time for family and social life, and problems experienced with patients and their relatives

caused a statistically significant increase in the job stress scores of health care professionals ($P < 0.05$) (see Table 3).

Table 4 Stress-related health problems of health care professionals.

Health problems	Physicians		Nurses	
	<i>n</i>	%	<i>n</i>	%
Headache	32	24.8	43	24.8
Excessive nervousness	31	24.4	33	19.0
Ulcer and gastritis	25	19.4	21	12.1
Sleep disorders	19	14.7	28	16.1
High blood pressure	5	3.9	8	4.7
Colitis	4	3.1	2	1.1
Breathlessness	3	2.3	4	2.3
Indigestion	2	1.5	6	3.5
Heart and vessel diseases	2	1.5	5	2.9
Nausea	2	1.5	8	4.7
Constipation	2	1.5	3	3.5
Tremor	1	0.7	2	1.1
Allergic reactions	1	0.7	7	4.1
Total score (There are more than one options)	129	100	173	100

Table 5 Coping strategies used by the participants.

Ways of coping with stress	Physicians		Nurses	
	Mean	SD	Mean	SD
Self-confident approaches	1.89	0.560	1.92	0.569
Optimistic approaches	1.72	0.536	1.69	0.572
Seeking social support	1.79	0.507	1.85	0.649
Helpless approaches	1.19	0.558	1.29	0.563
Submissive approaches	1.03	0.738	0.85	0.635

Stress-related health problems

In the study, health care professionals were asked about the impact of stress on their health. It was determined that headaches, excessive nervousness, ulcers and disorders such as gastritis and sleep disorders were leading health problems in both professional groups (see Table 4).

The strategies of coping with stress

The health care professionals working with cancer patients were asked about the strategies they used to cope with stress. It was determined that they used similar strategies. The strategy most frequently used by physicians and nurses was a self-confident approach ($\bar{x} = 1.89$ and 1.92, respectively), and the strategy used least frequently was a submissive approach ($\bar{x} = 1.03$ and 0.85, respectively). Higher scores indicate more frequent use of the coping strategy (see Table 5).

Discussion

Stress is considered to result from an imbalance between the demands of the workplace and an individual's ability to cope. Within the context of a cancer ward, such variables as work rota or presence of trainees may act as stressors and thus influence the amount of stress experienced. Interactions with patients, in particular the need to deal with death and dying, are also major stressors. Health care professionals will suffer through, or cope with stressors in a manner that relates both to their own background and personal qualities, as well as to institutional variables (Ulrich and Fitzgerald, 1990)

Health care professionals working with cancer patients can derive a sense of pride and security from their institution. Yet, they can feel alienated and captive due to a lack of job mobility. These conflicts can erode quality of life and affect the delivery of quality of care. This can be made worse by the fact that training rarely equips them for the

troubled patient and family interface they repeatedly negotiate. They may feel inappropriately devalued, as often they are the recipients of displaced anxieties and resentments. Self-esteem suffers and attempts to protect are often translated into anger towards patients and bitterness toward superiors, with further harm to their person and patients (Lederberg, 1998).

Caring for cancer patients is often described as a stressful job. Positive feedback from patients is usually satisfying for health care professionals. In addition, many factors such as tools and materials of the institution, the quality of auxiliary staff, relations between colleagues, positive feedback from patients and the feeling of being able to help patients may affect the quality of the care offered to patients. However, various factors (problems experienced by the patient related to the family of the patient, other patients and health care professionals), observing the plight of patients that become extremely vulnerable both physically and psychologically after radiotherapy and chemotherapy may lead health care professionals to experience stress. Encountering such patients throughout the day and the feeling of helplessness caused by being unable to help may increase the problems experienced by physicians and nurses.

The most important finding of this study was that stress scores of health care professionals were high enough to be considered serious ($\bar{x} = 30.76$) (physicians $\bar{x} = 30.53$, nurse $\bar{x} = 31.00$). There was no significant difference between nurses and physicians in terms of overall stress scores. Although health care professionals tried to put an objective distance between themselves and their patients, they experienced stress in the clinical environment. In addition, rapid increase of the population, the scarcity of health care professionals, inadequacy of equipment, or the high cost of drugs may influence the stress experienced by health care professionals in our country. As the nurses form closer relations with their patients, they become more sensitive towards the patients especially in the issues termed empathetic components. In contrast, physicians are obliged merely to decide on treatment and report the diagnosis. Our findings are comparable to those of Richardsen and Burke (1991) and Heim (1992).

What are the socio-demographic factors causing job stress scores to be different? It has been established that marital status, age and job status are variables that have a significant effect on job stress scores ($P < 0.05$). The majority of the study sample were married (65.1%). According to Duncan's Multiple Range Test, mean job stress scores were found to be 37.66 in married persons, 32.08 in

single and 29.84 in those who were divorced. Among the factors increasing job stress in married persons were problems stemming from the clinical environment (such as communication with the patient and problems related to it, nutrition, pain and depression problems of the patients, and the feeling of sadness related to being unable to do anything for patients who were terminal from home; the home environment (having inadequate time for the spouse and the children, house chores, care of children), and from the environment (lack of communication with close relatives and friends, being tired of the profession, fatigue, physical disturbances and being unable to participate in leisure activities) may have been influential.

Age was also a significant modifier of stress. The younger health care professionals were found to have greater difficulty in dealing with patients, experienced more workday stress, criticized their jobs more intensively; and were more stressed by death in the ward. Young nurses complained more of rejection by relatives and of stress in their private lives (Ullrich and Fitzgerald, 1990). Age was also established to be an important factor in the differences between job stress scores ($P < 0.05$). In order to highlight the age differences, staff were divided into two age categories, those between 21 and 36 years old and those who were 36 or older. Mean stress scores were found to be 31.59 ($SD = 5.508$) in those between 21–36 and 29.47 ($SD = 6.260$) in those who were 36 or older ($P < 0.05$). Findings demonstrated that stress scores decreased as health care professionals got older. These findings are congruent with those of Ullrich and Fitzgerald (1990), Richardsen and Burke (1991) and Heim (1992).

Work experience makes health care professionals more flexible in adjusting to work load and more capable in adapting to pressure (Fielden and Peckar, 1999). It has been determined that work experience is an important factor in mean job stress scores ($P < 0.05$). For statistical analysis, work experience has been divided into two groups: Those with a work experience of 1–10 years and those with an experience of 11 years or more. Mean job stress scores were 31.64 ($SD = 5.526$) in the 1–10 year experienced group and 27.36 ($SD = 6.083$) in the other group ($P < 0.001$). Findings indicated that stress decreased as work experience increased. Experienced physicians in the hospitals were able to cope with pressures such as increases in demand, and lack of sources. They have been reported to experience less stress related to problems in diagnosis and treatment and professional information requests (Tattersall et al., 1999). Our findings are in keeping with those of

Hinds et al. (1994), Tatterstall et al. (1999), Fielden and Peckar (1999).

Job stressors causing differences between job stress scores were determined to be the following: conflict with colleagues, responsibilities about the role to be played, long and tiring work process, lack of necessary equipment, and problems experienced with the patients and their relatives ($P < 0.05$) (see Table 3).

Co-operative relations with colleagues and working in a friendly environment were factors considered to develop a positive attitude towards their jobs. Conflict between colleagues was possible in each environment where multidisciplinary intervention was required. Yet, this must not make us overlook the aim of care, which is discharging the patient after having obtained maximum benefit from treatment. Conflict between colleagues had a significant effect on job stress scores. The majority had conflict with their colleagues (54.1%). Their mean stress scores were respectively 32.11 and 29.79, which was statistically a significant difference ($P < 0.05$). According to the findings of the study, this variable is an important stressor. Our findings are compatible with those of Richardsen and Burke (1991), Hinds et al. (1994) and Fielden and Peckar (1999), demonstrating that conflict with colleagues is a major job stress factor.

Another variable determining stress scores is role responsibilities. Each person in the oncology team has a role to fulfill, which is clear and understood by everyone. 53.2% of the study sample stated that role responsibilities was a stressor for them. Their mean job stress score was found to be 32.58, while the score of those who did not consider their roles a source of stress was 29, which was statistically significant ($P < 0.05$). Long working hours and tiring tempo was another variable expressed as a stressor. In persons who considered long working hours as a stress factor, mean job stress scores were found to be 31.86, and 29.07 among persons who did not do so ($P < 0.05$). The fact that health care professionals had to attend meetings and presentations during the day, problems between staff, treatment-related problems, examinations and investigations deplete all energy of the staff from 9.00 in the morning until 18.00 in the evening. In the study of Richardsen and Burke (1991), it was established that work hours, responsibility to be ready constantly and tiring work conditions were important stressors in Canadian physicians. Our findings are consistent with those of the above study.

Problems with the patients and their relatives is stated to be an important factor in job stress. 46.7% of health care professionals working with cancer patients report that problems with patients

caused job stress whilst 42.2% did not implicate this in job stress. Mean job stress scores in the former group were 32.41 and in the latter were 29.58 ($P < 0.05$). Findings reveal that this variable was an important stressor. One of the most important sources of stress cited by physicians was being able to help patients. This finding was consistent with the findings of Richardsen and Burke (1991) that 'the most satisfying dimension of medical practice is relations with patients and curing the patient'.

Another important finding of this study is that stress had an important impact on the health of health care professional. In both professionals' groups, leading health problems were headache, excessive nervousness, disorders such as ulcer and gastritis and sleep disorders. The identification of health care professionals with the patients is a variable influencing fatigue resulting from stress. Physicians under stress feel tired. While the complaints of nurses focus on stress in interpersonal relations, this was not so for physicians (Ulrich and Fitzgerald, 1990). These data indicate that the majority of physicians and nurses experienced considerable degree of stress-related health problems. The effect of stress can be reduced by decreasing work hours.

It has been found that there was not much difference between strategies used by health care professionals for coping with stress. The most commonly used strategy by physicians and nurses was a self-confident approach ($\bar{x} = 1.89$ and 1.92, respectively). It can be said that health care professionals did not resort to avoidance. Personnel who were under higher levels of stress may have been using avoiding behavior more than the others.

As stated in the method, the inventory for coping has five subscales. People who used a self-confident approach were those who evaluated the event and tried to solve the problem irrespective of the conditions, and struggled and defended their rights. People who used a submissive approach were those who adopted a fatalist approach, who did not struggle for anything, and believed that they could not do anything to solve their problems (Şahin ve Durak, 1995, p. 60). It was also observed that the approach used the least by health care professionals in coping with stress was a submissive approach. This finding was in keeping with those of Fielden and Peckar (1999).

In this study, health care professionals were also asked about the factors that decreased their stress. Among the factors cited by physicians were positive relations with colleagues, loving one's job, participating in socio-cultural activities together with other clinic members, further laboratory

investigations, the presence of auxiliary health staff, earning money by starting private practice, gaining the admiration of superiors, patients and their relatives, good dialogue with the patients and communication with other staff, improvement of financial status, attending dinners, going to movies and theater, having less relations with superiors, time spent with the family, successful time management, scientific publications, and participating in meetings and conferences to develop oneself.

The factors mentioned by nurses were increased social activities, music, tea breaks, improvement in financial status, sharing problems with other team members and colleagues, response of the patient to treatment, harmonious team work, the feeling of being productive, financial incentives and encouragement, evaluation of the staff by the superiors according to their performance, the feeling of being productive and useful, observing the results of the job for which they spend effort, staff being clear about the job they are expected to do, meeting with colleagues the outside professional environment, spending pastime with positive activities (for example reading, playing bridge or backgammon, listening to music, occasionally giving long lunch breaks in order to relieve the stress of work environment).

Conclusions

The most important finding obtained by this study was that the mean job stress scores of health care professionals working in oncology were at a level that could be considered serious. Staff who work as nurses, who were married, between 21 and 36, had work experience of 1–10 years, experienced conflict with colleagues, and who evaluated the fulfilment of job responsibilities, long and tiring work hours, lack of adequate material and tools and the problems experienced with patients and their relatives as stressful were found to have high job stress scores. In the present study, the effect of stress on health problems was also assessed. In both professions, leading health problems were headaches, excessive nervousness, disturbances such as ulcer and gastritis and sleep disorders. It has also been established that in coping with stress which is in the nature of oncology clinics, physicians and nurses use a confident approach most frequently and a submissive approach the least frequently. In brief, the findings obtained in this study, would also help to identify groups of staff who are most affected by caring for a patient with cancer. Such information would be invaluable in planning and

developing support programmes to meet the needs of at-risk groups of staff.

Mediating relationships between stressors experienced in the workplace and psychological morbidity are the coping resources used in any attempt to moderate stress. As many stressful situations faced by health care professionals working with cancer patients (e.g. coping with dying patients) cannot be altered fundamentally, an understanding of these processes should be of greater importance when considering how stress among staff may be reduced.

The response to stressors and their consequence may be modified by determining the kind of support (support measurement) needed by health care professionals, stressors, response and consequences may be understood better. As in all other stress investigations, these measurements would give us clues about the stress experienced by health care professionals. This is very important data for the investment in welfare and happiness of staff offering health services. Further, more comprehensive studies are necessary in order to define the stress experienced by physicians and nurses working with cancer patients more accurately. In addition, comprehensive studies examining how all staff (physicians, nurses, medical secretaries, social worker, psychologists, etc.) working in oncology cope with stress would be beneficial.

References

- Aktaş, A., 2001. Bir kamu kuruluşunun üst düzey yöneticilerinin iş stresi ve kişilik özellikleri (Job stress and personality characteristics of the senior executives in a public institution, University of Ankara SBF Journal). *Ankara Üniversitesi SBF Dergisi* 56 (4), 26–42.
- Barni, S., Mondin, R., Nazzani, R., Archili, C., 1996. Oncostress: evaluation of burnout in Lombardy. *Tumori* 82, 85–92.
- Beck-Friis, B., Strang, P., Sjoden, P.O., 1993. Caring for severely ill cancer patients: a comparison of working conditions in hospital-based home care and in hospital. *Supportive Care in Cancer* 1 (3), 145–151.
- Beemsterboer, J., Baum, H.B., 1984. Burnout definition and health care management. *Social Work in Health Care* 10, 97–107.
- Bram, P.J., Katz, L.F., 1989. A study of burnout in nurses working in hospice and hospital oncology settings. *Oncology Nursing Forum* 16 (4), 555–560.
- Butterfield, P.S., 1988. The stress of residency: a review of literature. *Archives of Internal Medicine* 148, 1428–1433.
- Catalan, J., Burgess, A., Pergami, A., et al., 1996. The psychological impact on staff of caring for people with serious diseases: the case of HIV infection and oncology. *Journal of Psychosomatic Research* 40 (4), 425–435.
- Charles, S.C., Warnecke, R.B., Wilbert, J.R., et al., 1987. Sued and non-sued physicians: satisfaction, dissatisfaction, and sources of stress. *Psychosomatics* 28, 462–468.

- Fielden, S.L., Peckar, J., 1999. Work stress and hospital doctors: a comparative study. *Stress Medicine* 15, 137–141.
- Ford, S., Fallowfield, L.J., Lewis, S., 1994. Can oncologists detect distress in their out-patients and how satisfied are they with their performance during bad news consultations? *British Journal of Cancer* 70, 767–770.
- Harris, R.B., 1989. Reviewing nursing stress according to a proposed coping adaptation framework. *Science* 11 (12), 12–28.
- Haynes, S.G., 1994. In: Michele Haney C., Boenisch, E.W., Jr. (Eds.), *Stressmap: Finding Your Pressure Points*. Impact Publisher, New York, USA.
- Heim, E., 1992. Stressors in health occupations: do females have a greater health risk. *Zeitschrift für Psychosomatische Medizin und Psychoanalyse* 38 (3), 207–226.
- Hershbach, P., 1992. Work-related stress specific to physicians and nurses working with cancer patients. *Journal of Psychosocial Oncology* 10 (2), 79–99.
- Hinds, P.S., Quargnenti, A.G., Hickey, S.S., Mangum, G.U., 1994. A comparison of the stress response sequence in new and experienced pediatric nurses. *Cancer Nursing* 17 (1), 61–71.
- Isikhan, V., et al., 1998. Kanser hastalarıyla çalışan sağlık personelinin tükenmişlik durumları (Burnout states of health personnel working with cancer patients, *Turkish Journal of Hematology-Oncology*). *Türk Hematoloji-Onkoloji Dergisi* 8 (3), 146–152.
- Kivisto, J., Couture, R.T., 1997. Stress management for nurses: controlling the whirlwind. *Nursing Forum* 32 (1), 25–33.
- Lazarus, R.S., Folkman, S., 1984. *Stress Appraisal and Coping* 1st Edition.. Springer, New York.
- Lederberg, M.S., 1998. Oncology staff stress and related interventions. In: Holland, J.C. (Ed.), *Psycho-Oncology*. Oxford University Press, New York, pp. 1035–1048.
- Lee, C., 1986. Professionals in medical settings: the research evidence in the 1980s. *Journal of Organizational Behavior Management* 8, 195–213.
- Mawardi, B.H., 1979. Satisfactions, dissatisfactions, and causes of stress in medical practice. *Journal of the American Medical Association* 241, 1483–1486.
- Ramirez, A.J., Graham, J., Richards, M.A., et al., 1995. Burnout and psychiatric disorder among cancer clinicians. *British Journal Cancer* 71, 1263–1269.
- Richardson, M.A., Burke, J.R., 1991. Occupational stress and job satisfaction among Canadian physicians. *Work and Stress* 5 (4), 301–313.
- Şahin, H.N., Durak, A., 1995. Stresle başa çıkma tarzları ölçeği: Üniversite öğrencileri için uyarlanması (A brief of coping styles inventory for university students, *Turkish Journal of Psychology*). *Türk Psikoloji Dergisi* 10 (34), 56–73.
- Scheiber, S.C., 1987. Stress in physicians. In: Payne, R., Firth-Cozen, J. (Eds.), *Stress in the Health Professions*. Wiley, New York, pp. 23–44.
- Suchman, A.L., Roter, D.L., Green, M., Lipkin, M., 1993. Physician satisfaction with primary care office visits. *Medical Care* 31, 1083–1092.
- Tattersall, J.A., Paul, B., Stirling, P., 1999. Stress and coping in hospital doctors. *Stress Medicine* 15, 109–113.
- Tyler, P., Cushway, D., 1992. Stress, coping and mental well-being in hospital nurses. *Stress Medicine* 8, 91–98.
- Tyson, P.D., Pongruengphant, R., 1996. Avoidance as a coping strategy for nurses in Thailand. *Psychological Reports* 79, 592–594.
- Ulrich, A., Fitzgerald, P., 1990. Stress experienced by physicians and nurses in the cancer ward. *Social Science & Medicine* 31 (9), 1013–1022.
- Vitaliano, P.P., Russo, J., Carr, J.E., Maiuro, R.D., Becker, J., 1985. The ways of coping checklist: revision and psychometric qualities. *Multivariate Behavioral Research* 20, 3–26.
- Whippen, D.A., Canellos, G.P., 1991. Burnout syndrome in the practice of oncology: results of a random survey of 1,000 oncologists. *Journal of Clinical Oncology* 9 (10), 1916–1920.
- Wilkinson, S.M., 1995. The changing pressures for cancer nurses. *European Journal of Cancer Care* 4, 69–74.

Available online at www.sciencedirect.com

