ORIGINAL ARTICLE

The effect of stress on communication of staff of the University Clinical Center Tuzla according to length of service

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ABSTRACT

Aim To investigate the characteristics and distribution of stress as a factor that affects communication in healthcare, as well as the significance of length of professional experience in driving the attitude toward the importance of stress on communication.

Methods The study included 56 participants employed at the University Clinical Center Tuzla, Bosnia and Herzegovina, who were officiated heads of medical nurses/technicians and/or leading nurses/technicians. Professional experience of all participants was categorized in four groups according to length of professional experience: up to 10 years, 11 – 20, 21 – 30 and more than 30 years. The method of theoretical analysis was used for processing of collected data and the data interpretation.

Results The scale on the presence of stress as a factor in attitude toward communication in healthcare among participants indicated the highest rank of the item 1 "It is difficult for me to think about the problems at work during the time after work and during the weekend off from work time", while the item 14 ''I rarely communicate with my colleagues" had the lowest rank. The study results indicate that the length of employment was not a statistically significant factor in driving the differences of the impact of stress on communication in healthcare (F-score of 1.019).

Conclusion A length of employment or equivalent professional experience (divided according to the total employment duration) did not show statistically significant correlation with the observed differences in attitude toward communications in healthcare.

Key words: health, emotions, health professions.

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Original submission:
09 July 2013;
Revised submission:
04 August 2013;
Accepted:
22 September 2013.

SEEHSJ 2013; 3(2):128-134

INTRODUCTION

Stress is a concept that describes a condition of the human body in which an individual perceives a threat to its personal integrity. In 1936 Hans Selye, a Canadian pharmacist, introduced a concept of stressor for stimulus that leads to stress, designating as a stressor any physical, psychological or social stimulus that causes stress in an individual (1,2). Stressors can be divided to physical (exposure to loud noise, high heat or cold, intense pain, sensory deprivation, natural disasters, etc.), psychological (exposure to various interpersonal conflicts, e.g. in family or at work; exposure to lack of success, psychological conflicts and frustrations), social (exposure to significant social changes, economic crises, wars, sudden changes in social norms and conditions, etc.) (3).

A long term exposure to stressful situations typically results in an increased production of corticosteroids, increased production of hormones by the adrenal gland, as well as atrophy of thymus and other lymph structures. Stressful events can lead to a number of different diseases. Some are a direct consequence of the weakening function of the immune system (4). The actual reaction to stress is a complex result of the interfering influence of a person's sensitivity, environmental conditions and stressors itself. Person's sensitivity is derived from personal character, age and lifestyle (5). Environmental influence consists of general and work environment, family, friends, as well as the work and the work style conditions. The diseases potentially resulting from exposure to overwhelming stress can be stimulated by all of these factors (6).

Behavioral reactions to stress are typically reflected in increased self-isolation at work and at home, increase in incidence of accidents, use of cigarettes, alcohol and coffee, irritability, aggressiveness, sexual dysfunction, low motivation level. (7). Stress mobilizes the whole body manifesting through a number of physical and physiological responses (8).

All physiological and physical changes, as well as the behavioral changes, resulting from exposure to stressful stimulus are considered to be reactions to stress (9).Three groups of such reactions can be identified as physiological, psychological and behavioral changes (10).

Stress at workplace is a specific type of stress whose source is in the work environment itself. In the 70s of the last century, stress at workplace became a topic of research interest (11).

Worldwide, stress is recognized as one of the largest challenges for health conditions of employees today (12). Work related stress is a product of a natural response to the job duties and challenges that go beyond one's knowledge, abilities and/or what one is comfortable doing (13). Stress is present in a wide range of job activities. It is more likely to be present or to worsen when an employee does not feel to have support of his/her supervisor/manager and his/her colleagues (14). When an employee has very weak or no control over his/her work or the approach in resolving his work challenges and requirements, the stress is likely to be present. The same is true for other types of work pressure (15).

In everyday life emotions are critically important for interpersonal communications and give an indication about individual's state of mind (i.e. if ready to face or avoid) and reaction to stress (16).

The aim this study was to investigate the characteristics and distribution of a frequency of stress as a factor in affecting attitude toward communication in healthcare and as a function of professional experience.

EXAMINEES AND METHODS

The survey was conducted from June 2011 to July 2012. The study included 56 participants employed at the University Clinical Center in Tuzla, Bosnia and Herzegovina, who were officiated heads of medical nurses/technicians and/or lead nurses/technicians. Professional experience of all participants was categorized in four groups according to length of professional experience: up to 10 years, 11 – 20, 21 – 30 and more than 30 years.

Participation in the survey was voluntary and anonymous with a written consent for the work provided by the directors of healthcare facilities of the University Clinical Center Tuzla.

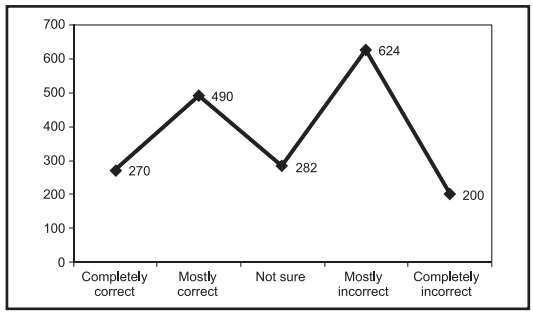

Figure 1. Frequency of answers for the study participants from the University Clinical Center Tuzla

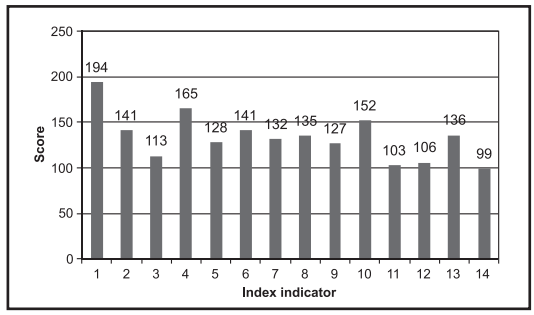

Figure 2. Total score per each stress indicator for the study participants from the University Clinical Center Tuzla

The survey method including the descriptive modality was used. The required data was collected using appropriate instruments and techniques, and the data were processed with the standard statistical processing techniques. Here we consider communication as the most essential prerequisite for normally operating team work.

Self-assessment was used to identify stress levels in the participants. The participants were asked to mark one of the offered answers: completely correct – A, mostly correct – B, not sure – C, mostly incorrect - D, or completely incorrect - E. The participants' categorical data type answers in the data processing step were converted to the following numerical values: A=5 points, B=4 points, C=3 points, D=2, E=1 point. The above defined categorical scale (A to E) of the presence of stress was applied to 14 indicators listed in Table 2.

All responses were assigned numerical values according to the indicated mapping transformation. No response was scored on a reverse scale. The maximum total score for this survey and the scale can be 70 and the minimum 40. A high/low total was a reciprocal indicator and it indicates low/high presence of stress.

RESULTS

The scale on the presence of stress as a factor in attitude toward communication in healthcare among participating employees of the University Clinical Center Tuzla, indicated that the highest rank belonged to the item number one "It is difficult for me to think about the problems at work during the time after work

Table 1. Results given on the scale for the presence of stress as a factor in attitude toward communication in healthcare

Indicator index	Indicator	Presence of stress as a factor in attitude toward communication in healthcare*												
		A		B		C		D		E		∑f	Total score	Rank
		f	fx5	f	fx4	f	fx3	f	fx2	f	fx1			
1	**1**	10	50	25	100	6	18	11	22	4	4	56	194	1
2	**2**	6	30	9	36	5	15	24	48	12	12	56	141	4
3	**3**	1	5	4	16	7	21	27	54	17	17	56	113	11
4	**4**	10	50	12	48	7	21	19	38	8	8	56	165	2
5	**5**	1	5	7	28	13	39	21	42	14	14	56	128	9
6	**6**	6	30	11	44	3	9	22	44	14	14	56	141	4
7	**7**	4	20	6	24	11	33	20	40	15	15	56	132	8
8	**8**	4	20	12	48	8	24	11	22	21	21	56	135	7
9	**9**	1	5	8	32	10	30	23	46	14	14	56	127	10
10	**10**	6	30	12	48	11	33	14	28	13	13	56	152	3
11	**11**	0	0	4	16	3	9	29	58	20	20	56	103	13
12	**12**	0	0	3	12	3	9	35	70	15	15	56	106	12
13	**13**	4	20	9	36	7	21	23	46	13	13	56	136	6
14	**14**	1	5	2	8	0	0	33	66	20	20	56	99	14
∑		**54**	**270**	**124**	**496**	**94**	**282**	**312**	**624**	**200**	**200**	**784**	**1872**	

* response: A, "completely correct" - 5 points; B, "mostly correct" - 4 points; C, "not sure" - 3 points; D, "mostly incorrect" - 2 points; E, "completely incorrect" - 1 point

Table 2. Stress indicators

Indicator index	Statement/Indicator	Level of agreement				
		Completely accurate	Mostly accurate	I'm not certain	Mostly inaccurate	Completely inaccurate
1	I have difficulties not to think about work related problems during time off from work and during weekends	5	4	3	2	1
2	I have difficulties to fall asleep and I often wake up during the night	5	4	3	2	1
3	I have difficulties to focus and sometimes I loose line of my thoughts during conversation	5	4	3	2	1
4	I have more pressure than previously and feel that there is a lot hanging over my head	5	4	3	2	1
5	When things do not go according to plan and expectations I get easily irritated and aggressive	5	4	3	2	1
6	I get gastrointestinal problems, headaches and pounding heart more often than before	5	4	3	2	1
7	More often I have feeling of being a victim rahter than in charge of situation	5	4	3	2	1
8	I get irritated by small things such as loud patients, ringing of phones, TV news, etc. more often than previously	5	4	3	2	1
9	I am getting more distant from the circle of friends, and I have started to avoid social interactions	5	4	3	2	1
10	I feel exhausted and I feel that there is a lot on my shoulders	5	4	3	2	1
11	I often catch myself having aggressive thoughts that are directed towards others	5	4	3	2	1
12	I often have a feeling that I could lose control over myself and my behavior	5	4	3	2	1
13	Even after good night sleep I feel tired during daytime	5	4	3	2	1
14	I rarely communicate with my colleagues	5	4	3	2	1

and during the weekend off from work time", while the item 14 ''I rarely communicate with my colleagues" had the lowest score value of 99 and accordingly the lowest rank. The responses on the indicator six "Suffering from gastrointestinal problems, headache and pounding heartbeat more often" and the indicator number ten "I feel exhausted and as having a very heavy burden to carry on my shoulders" both received very high score, 141, and 152 respectively (Table 1).

Of the total of 56 study participants, the question on the presence of stress and its effect on communication among healthcare workers was answered as ''completely correct" 12 times (20.76% of time), 5 times (8.95% of time) the answer was "mostly correct", 7 (11.54%) answers were 'I am not sure" and 11 (19.12 %) answers were ''mostly incorrect". The highest frequency of 16 (28%) belonged to the answers ''completely incorrect" (Figure 1).

Investigating the frequency and numerical values across different categories of answers for the survey participants the most dominant response was 'mostly incorrect', and the second most frequent response was ''mostly correct" (Figure 1, 2).

The length of employment, as a potentially

Table 3 Arithmetic average of responses ± standard deviation, statistical significance relative to the years of employment

Years of employment	No =56	Arithmetic average	Standard deviation	F	p
Up to 10 years	4	3,184	0.792		
11-20 years	20	3,257	0.766		
21-30 years	19	3,198	0.748	1.019	0.485
More than 30 years	13	3,294	0.861		

influencing factor on the effect of stress on communication in healthcare was not statistically significant (F=1.019) (Table 3).

DISCUSSION

Of the total number of 56 the study participants, the study has shown that the majority, 33%, considered that stress did not affect communication among the employees, 21% responders considered that stress had an important effect, and the equal number of responders was undecided (not certain).

Stress at workplace is a specific type of stress that has for a number of years attracted research interest, particularly stress among healthcare workers (17). Grath defines stress at workplace to originate from divergence between the tasks requirements and employee's ability to perform the tasks. Stress occurs when inability to perform the required tasks can have significant consequences on the employee (18). Healthcare workers, due to the nature of their jobs (long work schedule, night shifts, work with sick and disabled), are daily exposed to stressful situations and any cause of stress can affect communication among employees as indicated by research of many experts. (19).

The aim of this study was to determine an influence of length of employment of healthcare workers and stress they were exposed to on daily basis on communication level within healthcare teams. The data from the research studies about influence of stress on healthcare workers have often indicated that there is no significant correlation between impact of stress on health workers and the length of their employment. However, the data also show that those employed for a longer period of time tend to seek new employers with some indication that new responsibilities are at positions that expose employees to less stress (20). The results of our study indicated that the length of employment did not have a statistically significant effect on the level of communication in healthcare in relation to stressful environment, similarly to the results obtained in other studies (21). Previous investigations showed that the most frequent stressors are inadequate space, financial condition of the institution where one is employed (22,23). Length of employment has not been previously indicated as a factor contributing to stress that specifically affects teamwork, collaboration and communication among healthcare workers.

This study implies that the participants with the longest professional life consider stress to have more impact on communication in healthcare teams than the participants with less professional experience. Considering the importance of communication for normal functioning of healthcare teams, this result points out that exposure to stress should be minimized in order to avoid the risk of creating a rift between the two groups within a team.

Based on the results of the presence of stress as a factor affecting attitude toward professional communication in healthcare, it can be concluded that the length of employment (or equivalently professional experience) does not have effect on the differences among the survey participants (grouped according to the length of employment).

FUNDING

No specific funding was received for this study.

TRANSPARENCY DECLARATION

Competing interests: None to declare.

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Utjecaj stresa na komunikaciju zaposlenika Univerzitetskog kliničkog centra Tuzla s obzirom na dužinu radnog staža

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SAŽETAK

Cilj: Ispitati karakteristike, distribucije frekvencija stresa kao faktora stava o komunikaciji u zdravstvenim ustanovama, u zavisnosti od dužine radnog staža ispitanika.

Metode: Obuhvaćen je uzorak od 56 ispitanika zaposlenih u Univerzitetskom kliničkom centru Tuzla, Bosna i Hercegovina, na radnom mjestu glavne medicinske sestre/tehničara i/ili odgovorne medicinske sestre/tehničara. S obzirom na dužinu radnog staža, podijeljeni su u četiri grupe: do 10 godina, od 11 – 20 godina, od 21 – 30 godina i preko 30 godina radnog staža. Korištena je metoda teorijske analize.

Rezultati: Rezultati na Skali prisustva stresa, kao faktor stava o komunikacijama u zdravstvu, kod ispitanika su pokazali da je najveću vrijednost imala stavka 1 ''Teško mi je da nakon posla i u toku vikenda izbjegnem razmišljanja o problemima na poslu", dok je stavka 14 ''Rijetko komuniciram sa kolegama" imala najnižu skalnu vrijednost (99). Među 56 ispitanika dobiveni

F-indeks (F=1, 019), s obzirom na dužinu radnog staža, nije pokazao statistički značajne razlike pri izloženosti stresu.

Zaključak: Na osnovu izvršene statističke analize rezultata dobivenih na Skali prisustva stresa kao faktor stava o komunikacijama u zdravstvu, može se zaključiti da dužina radnog staža nije utjecala na razlike među ispitanicima (podijeljenim po dužini radnog staža).

Ključne riječi: zdravlje, emocije, zdravstvena profesija.