

Perception of Daily Stressors in Ambulance Personnel of Saint-Petersburg and Archangelsk

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Abstract— The present research considers the structure of everyday stressors in Ambulance personnel of St. Petersburg and Archangelsk. The purpose of the study was to analyze severity of daily stressors in Ambulance personnel living in different regions. The sample included 192 first medical aid employees: 121 persons from St. Petersburg and 71 persons from Archangelsk. The following research methods were used: **Inventory of Daily Stressors and Scale of Perceived Stress-10**. The research results have revealed high prevalence of hassles in all spheres of life. The stressors in the "health" and "work/duties" spheres have been identified as dominant ones. The specific prevalence of stressors in Ambulance personnel has been described for the regions under review. The specific perception of daily stress in the Ambulance personnel from the presented regions has been explored.

Keywords— *Ambulance personnel, daily stress, perception of daily stress, overstrain, professional stressors*

I. INTRODUCTION

The specific activity of the first medical aid employees involves provision of emergency assistance at the pre-hospital phase. The researchers exploring psychology of occupational health pay more attention to chronic stresses directly related to their activity as such: shift work, asocial population group, handling serious and dying patients, uncertainty of what the doctors are in for at the visit, etc. In addition to the main job, ambulance personnel are involved in emergency response for medical aid, which increases the risk of post-traumatic stress disorder. The research in this area is carried out mainly by foreign researchers [1,2]. The issue of daily stressors in representatives of extreme professions remains insufficiently studied. The importance of exploring this problem is accounted for by the fact that the professional stressors, as well as the stressors from other vital activity spheres, when accumulated, have a negative impact on both mental and physical health.

The *purpose* of this research was to analyze severity of daily stressors in ambulance personnel living in St. Petersburg and Archangelsk. We have assumed that the representatives of highly professional occupations living in Russian regions with different numerical strength of population will suffer differing extent of stressors, which is accounted for by differing pace of life, population density

and risk of emergence of spontaneous events. We also believe that specific perception of daily stress in first medical aid employees from the presented regions will be identical.

Methodology of the research. Conducting the research, we relied on R. Lazarus's psychological stress model according to which stress is understood as "special relations between a person and the environment that are viewed by a person as exceeding his/her resources and threatening his/her well-being" [3]. We have considered a number of stressors from different life spheres which can have a negative impact on the professional's health. The cumulative effects of daily stressors may lead to overstrain and chronic stress and stressors as such can act as negative health predictors [4].

II. MATERIALS AND METHODS

A. Methods

To explore the everyday stressors, we used the Daily stressors enquirer [5] encompassing the events from different spheres occurring in a person's daily life. The events are arranged as 8 scales: "work/duties", "family", "interpersonal relations", "health", "domestic problems", "finance", "plans interruption", "personal problems". The assessment of overstrain level, of perceived stress and resistance to stress was made using the method of "Scale of Perceived Stress-10" [6]. The statistical data processing was carried out using the SPSS-20 and AMOS packages.

B. Sample

192 persons took part in the research, all of them - ambulance personnel: 121 physicians from St. Petersburg and 71 from Archangelsk.

III. FINDINGS AND DISCUSSION

The study revealed high prevalence of daily stressors in all spheres, with the number varying from 68.7% to 53.1% in the first aid employees of St. Petersburg; from 54.1% to 27% in the ambulance personnel from Archangelsk (table 1). The average number of stressors per physician from St. Petersburg - 33; for Archangelsk residents - 21.

As a general tendency, one can note the leading position of daily stressors pertaining to "health" factor in the studied groups (in terms of quantitative representativity). The

differences are observed in the stress factors hierarchy. For St. Petersburg medics, the general cenesthesia-specific discomfort (the "health" factor) as a background is accompanied by the problems connected with interpersonal communication, followed by work-specific stressors, domestic problems, financial problems, plans interruption; followed by personal emotional experience and family problems. The Archangelsk medics' hierarchy opened with the stressors connected with general physical state, financial problems, followed by work stressors, further – by family problems, relations with other people, domestic problems, personal emotional experience and finally – the problems connected with plans interruption. Taking the "health" factor, the dominating stressor in the first medical aid employees of St. Petersburg involves disrupted sleep and rest conditions. The prevalent stressor in Archangelsk doctors involves discomfort caused by weather conditions.

TABLE I. DESCRIPTIVE STATISTIC OF STUDY VARIABLES ON THE DAILY STRESSORS (%) IN THE GROUPS

Daily Stressors (Life spheres)	St. Petersburg	Archangelsk
1. Work - business	53.1	42.3
2. Family problems	53.3	40.6
3. Relations with others	61.8	35.8
4. Health	68.7	54.1
5. Domestic problems	60.7	34.1
6. Finance	59.2	43.0
7. Plans interruption	56.5	27.0
8. Personal problems	55.4	31.9
9. Total	59.5	38.0

In the first case (St. Petersburg group), the "health" factor is complemented by the stressors identified in the context of conflicting relationships and events related to performance of professional activity, namely, obstacles during the work. Possibly, the revealed tendency manifests itself in the specifics of relations, both in the professional environment and with the population. Previously, we have investigated the daily stressors in the professional activity of first medical aid employees in St. Petersburg. This research revealed high severity of emotional stress in terms of communication with the population [7].

In the second group (Archangelsk), the stressors connected with financial problems rank second. This fact possibly reflects the situation of more expressed instability in the economic sphere, as compared with St. Petersburg physicians. The stressors connected with unforeseen expenses and material difficulties, entailing a search for extra earnings, are often mentioned. Possibly, it is this fact that can explain more frequent mentioning of the professional stressor connected with high workload exceeding one's resources.

In addition to the quantitative assessment of daily stressors, the survey participants outlined the extent of their emotional perception, scoring from 1 to 10 points. We set three ranges of emotional intensity: low – 1 to 4 points; average – 5 to 7 points and high – 9 to 10 points inclusive. The data showing extent of emotional perception of the stressors are presented in table 2.

One can see from the table 2 that the health workers from St. Petersburg are expressly more apt for stressors of low and medium intensity, while the health

workers from Archangelsk suffer high intensity emotions more frequently. It can be assumed that the first medical aid staff of St. Petersburg pay more attention to everyday hardships, while the first medical aid workers from Archangelsk assess everyday life events in a more differentiated manner, attributing them to stressful factors. The differences in severity of everyday stressors between the professionals of the two regions were identified in two spheres - "domestic problems" (p = 0.02) and "disruption of plans" (p = 0.001) - more pronouncedly in the first medical aid employees of St. Petersburg.

TABLE II. DESCRIPTIVE STATISTIC OF STUDY VARIABLES ON THE DAILY STRESSORS IN THE GROUPS

Intensity	St. Petersburg	Archangelsk
1	12.8	3.5
2	6.0	3.1
3	6.9	3.3
4	7.0	3.0
5	8.7	5.1
6	5.4	3.7
7	3.8	4.5
8	3.1	4.5
9	1.8	2.4
10	3.9	4.9

The research of daily stress has revealed that the Archangelsk medical personnel showed, against the background of high stress resistance, a higher level of perceived stress and overstrain. St. Petersburg medics, despite the lower stress resistance, showed less overstrain and experienced stress.

TABLE III. DESCRIPTIVE STATISTIC OF STUDY VARIABLES ON THE DAILY STRESSORS IN THE GROUPS

Scales	St. Petersburg	Archangelsk	p
	M(SD)	M(SD)	
Overstrain	14.0 (5.6)	15.6 (6.9)	0.045
Counteraction to stress	10.7 (4.3)	9.4 (3.1)	0.023
Perceived stress general scale	27.4 (6.6)	30.2 (5.4)	0.002

The research of interrelation between the daily stressors and the subjective assessment of their experience has made it possible to outline direct linkage of "overstrain" and "perceived stress scale" with the stressors from other areas. This fact suggests that daily hardships (stressors) contribute to increased subjective assessment of tension of the life situation. Using the regression analysis, some specific features of interrelation between the everyday stressors and the perceived stress level in the studied groups have been identified.

The group: ambulance personnel from St. Petersburg. The stressors connected with performance of professional activity, as well as family problems, contribute to the increased level of perceived stress. This particularly involves worries regarding excessive work, disturbance factors during the work duties, the need to respect deadlines, overtime work; tough situations that may concern relatives, children, grandchildren; apprehensions concerning family members' health; quarrels with spouses. Personal emotional experience, which includes the feeling of loneliness,

discontent about one's appearance; disappointment in respect of a TV show, a read book; bad news, discomfort caused by misunderstanding, anxiety about the future, no joy from leisure activities, external interference (disturbance during the rest) – all this leads to overstrain. No connection with the "counteraction to stress" parameter has been identified in the group.

The group: ambulance personnel from Archangelsk. The stressors connected with personal experience increase the subjective assessment of tension in a life situation (Perceived stress general scale). The interpersonal relations problems lead to increased overstrain and lower stress resistance. Otherwise stated, the conflicting context of relations with other people (criticism, disregard, quarrels and conflicts, fear of conflicts) leads to increased efforts applied to overcome this situation and the level of perceived stress.

The consideration of interrelation between the perceived stress parameters has revealed the same structure in both groups. The "overstrain" subscale correlates positively with the Perceived stress general scale ($r = .763$; $p = .000$), which confirms that the increased tension of a situation increases the level of perceived stress. In turn, a negative interrelation between the "Perceived stress scale" and the "counteraction to stress" subscale has been identified ($r = -.545$; $p = .000$). It should be noted that low values in the subscale "stress management" point at the ability to withstand everyday stress without applying any special effort, i.e. at stress resistance. The high values evidence that one needs to apply efforts to overcome a stressful situation. Thus, the identified tendency means that the active efforts aimed at overcoming everyday stress contribute to increased general level of perceived stress. In other words, the active efforts applied to overcome everyday stress increase subjective assessment of life situation gravity. The perception of daily stress becomes more clearly realized.

The presented research has explored the peculiarities of subjective emotional perception of everyday stress in first medical aid employees of St. Petersburg and Archangelsk. The study has made it possible to reveal the presence of everyday stressors in all spheres of vital space of the first medical aid specialists of the regions under review. A common distinguishing feature is most stressful emotions in the "health" and "work/duties" areas. The identified tendency agrees with the foreign researchers' conclusions. The study of occupational stress in Norwegian first aid employees has showed the severity of "overtime" stressor [8]. The study of stress load of the first medical aid staff in the Netherlands has revealed a great number of stressors affecting health [9]. The analysis of data describing the specificity of emergency services has enabled the scientists to demonstrate the negative effect of shift work on health [10]. The identified relationship between the stressors peculiar to the context of conflicting interaction and the level of overstrain and perceived stress may reflect the specifics of professional communication with the population. This fact has been also confirmed by a research made in respect of first medical aid staff in Kırkkale (Turkey) [11]. The study of specific perception of daily stress by ambulance personnel has shown the fact of conscious experience of daily stress by the representatives

of extreme professions. Earlier, we have revealed a similar situation for rescue firefighters of the Ministry for Emergency Situations [12]. The study of daily stressors in specialists of extreme professions should be carried out in connection with consideration of professional stressors as well as health characteristics of first medical aid employees in other regions of Russia. The projected area will make it possible to clarify the stressful impact mechanisms and outline the ways to optimize psychological support to ambulance personnel.

IV. CONCLUSION

The research of severity of daily stressors in the ambulance personnel of St. Petersburg and Archangelsk has revealed high representativity of daily worries in all spheres of life. The spheres "health" and "work/duties" have been emphasized as most pronounced.

St. Petersburg medics have shown high quantitative representativity of stressors. The study of intensity of stressful experience has demonstrated that St. Petersburg health workers are more prone to stressors of low and medium intensity, while Archangelsk medics – to high-level stressors.

It has been revealed that the perception of daily stress in the first medical aid employees of the studied regions is more conscious. It has been shown, with the help of the regression analysis, that the stressors "work/duties" contribute to increased level of perceived stress in the first medical aid employees of St. Petersburg; while the same is caused by the stressors group "personal emotional experience" in Archangelsk medics.

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