The anxiety levels in Polish hospital nurses experiencing various emotional disturbances

Żuralska R.[1*], Anand JS.[2], Mziray M.[3], Schetz D.[2]

1. Medical University of Gdansk, Gdansk, Poland
2. Department of Clinical Toxicology, Medical University of Gdansk, Gdansk, Poland
3. Institute of Health Sciences in Słupsk, Słupsk, Poland

ABSTRACT

Introduction: Nurses experiencing a high level of anxiety have an impaired capability of coping with dangerous situations which require long-term effort.
Purpose: The objective of the present study was to determine the relationship between the level of anxiety, satisfaction with life, style coping with stress, and personal and environmental factors, such as: age, material status, education and place of residence of participants.
Materials and methods: The study included 113 women working as nurses, employed by the hospital of Medical University of Gdansk. The methods used to gather the data were: Trait Anxiety Inventory (STAI) by Wrześniewski et al., Scale of Satisfaction with Life by Juczyński, and The Miller Behavioural Style Scale by Miller.
Results: In the group of nurses experiencing various emotional disturbances, the level of anxiety as a state exceeded the normal limits.

The place of residence of study participants determined the anxiety level as a state. The general increase of the anxiety level confirmed that the perceived satisfaction with professional life decreased.
Conclusions: The study showed that in case of Polish hospital nurses, personal and environmental factors such as: age, material status, education level and place of residence, have influence on response to stress factors and the choice of style coping with stress. In order to reduce professional-related stress there is the need to implement organizational changes. The nurses should receive psychological and social support in the form of care given by the co-workers, attend courses preparing them to cope with work-related stress and their own negative emotions, learn the principles of assertiveness and styles of coping with difficult situations.
Key words: Anxiety, life satisfaction, cope with stress, nurses

*Corresponding author:
Regina Żuralska
Gdański Uniwersytet Medyczny
ul. Dębinki 7, 80-211 Gdańsk, Poland
e-mail: zuralska@gumed.edu.pl

INTRODUCTION

The positive emotional state of the nurses is one of the key factors influencing their health, satisfaction with life and work, capability of efficient work in situations requiring long-term effort, and the quality of their work [1-7]. Studies conducted thus far have indicated that many nurses have experienced various emotional disturbances, characterised by high anxiety level [8-11]. State anxiety has been defined by Spielberger as subjective feeling of tension, apprehension, nervousness and worry, associated with an arousal of the autonomic nervous system, and characterised by high variability [12]. On the other hand, trait anxiety is the motive or acquired behavioural disposition that predisposes an individual to perceive a wide range of objectively non-dangerous circumstances as threatening and to respond to these with state anxiety levels disproportionate in intensity and magnitude to the objective treat [12]. High anxiety level did not favour the nurses' sense of competence and thus the effect of tasks performed by them. It has been suggested that wellbeing is an important element of life, composed by the level of satisfaction, presence of positive feelings and absence of negative ones.

Shin and Johnson (1978) define life satisfaction as "a global assessment of a person's quality of life according to his chosen criteria", negatively associated with neuroticism and emotionality [13].

The style of coping with stress is a relatively permanent trait of the human character, determining one's behaviour in stress situations. Miller had distinguished two behavioural coping styles: *monitoring* – seeking outside information or focus on information from the inside; facing the stressful situation directly (gathering, processing and use of information on the stressor; confrontational approach), and *blunting* – omitting, denial, repression of information on stressful event and unpleasant states, or deliberate focus on substitute activities, diverting attention from the stressful event or ignoring information, or diminishing it by appropriate interpretation (avoiding information; evasive approach).

Numerous studies have confirmed that people characterised by high vigilance cope better when they receive more information on their professional situation, while people characterised by more evasive approach cope better when they receive less information. Both styles are aimed at reducing negative emotions [14-16].

In the other hand, in the best of our knowledge, there is a gape in the literature and there is a need to investigate whether there are any relationship between such factors as: anxiety state, anxiety feature, the satisfaction with life, styles coping with stress, and personal and environmental factors of the nurse such as: age, material status, education level, place of residence.

The objective of the present study was to determine the relationship between the level of anxiety, satisfaction with life, style coping with stress, and age, material status, education and place of residence of participants.

MATERIALS AND METHODS

The study included 113 nurses, i.e. 10% of all nurses employed in the Hospital of Medical University of Gdansk, who had reported various emotional disturbances. The sample was randomly selected using a list of employees.

The study was carried out in the psychological counselling centre in Gdansk in 2014.

The anxiety level was estimated with the use of C.D. Spielberger's State-Trait Anxiety Inventory (STAI), adapted for Poland by K. Wrześniewski, T. Sosnowski, A. Jaworowska and D. Fecenec and intended for assessment of anxiety as state (Cronbach's alpha of 0.83 to 0.92) and trait (Cronbach's alpha of 0,86 to 0,92) [12].

The satisfaction with life was assessed using The Satisfaction with Life Scale by E. Diener, R.A. Emmons, R. J. Larsen and Sh. Griffin (1985), adapted for Poland by Z. Juczyński (Cronbach's alpha 0.81) [13].

To assess the increase of anxiety and satisfaction with life in the study group, raw results were converted into stem scores.

It was assumed that the stem score of satisfaction with life and anxiety level ≥ 7 indicates a high level of anxiety [4].

To assess the two coping styles, The Miller Behavioural Style Scale /MBSS/(Miller, 1987) was used. Miller proposed "that there are two major modalities for coping with threatening information: monitoring attending to and seeking out information about threatening stressor (s), blunting avoiding or distracting oneself from threatening information". In the interpretation, the average results were compared. It was assumed that the higher the result in the given sub-scale, the more intense the given style in stressful situations [14-16].

Since the distributions of all variables did differ considerably from normal (Kolmogorov-Smirnov test). The statistical analysis of the study results was performed with the use of ANOVA on ranks test by Kruskal-Wallis and Spearman test, using SPSS 20 (Statistical Package for the Social Sciences). The significance level was determined at $p < 0.05$.

All nurses who participated in the study were fully informed and made aware of the purpose of the project. Written consent to participate in the study from all nurses were taken.

RESULTS

Analysis of individual psychological interviews with women working as nurses has shown that they experience a number of emotional problems.

The study participants declared, i.e.: overworking and the associated nervous tension, anxiety and insomnia, frequent anger attacks, frustrations arising from unsolved work-related problems (e.g. conflicts, rivalry, poor organisation of work, etc.), and reduced motivation for work. The collected material served as the foundation for the test scenario.

The statistical analysis included the results of tests of 113 nurses, aged 23 to 58 (average: 34.6), of which 65.5% were women aged 21 to 40 (N=74),

26.5% - aged 41 to 50 (N=30), and 8.0% aged 51 to 60 (N=9).

As many of 55.7% women were single (N=63), 38.1% were married (N=43) and 6.2% lived in conjugal relationships (N=7).

Of all study participants, 34.5% had secondary education (N=39), 54% had B.A. degrees (N=61) and 11.5% had M.A. degrees (N=13). 19.5% of participants lived in the countryside (N=22), 14.2% in cities < 100 thousand citizens (N=16), and 66.4% in cities > 100 thousand citizens (N=75).

Table 1 illustrates the correlation between the intensity of state anxiety, trait anxiety, and satisfaction with life and stress-coping styles, age, marital status, education and place of residence of the participants.

Table 1. Relationships between the level of anxiety, satisfaction with life, style coping with stress, and age, marital status, education, and place of residence of respondents

Variables		Anxiety – state		Anxiety - feature		The Satisfaction with life		Scale style coping with stress			
								Monitoring		Blunting	
		χ	SD	χ	SD	χ	SD	χ	SD	χ	SD
Age	21-40 N=74	6.24	1.97	5.15	2.14	4.77	1.88	4.20	2.26	1.86	1.35
	41-50 N=30	5.67	1.65	4.63	1.59	5.03	1.56	3.33	1.70	1.83	1.14
	51-60 N=9	5.33	0.87	4.67	1.87	4.67	1.50	2.33	1.58	1.44	1.01
p		0,125		0.409		0.716		0.015*		0.623	
Marital status	Single N=63	6.22	1.86	5.35	1.93	4.68	1.78	4.24	2,37	1,82	1.29
	Married N=43	5.91	1.79	4.60	1.92	4.95	1.69	3.44	1.64	1.74	1.27
	Non-marital partnerships N=7	4.86	1.68	3.86	2.34	5.43	2.07	2.43	2.07	2.28	1.11
p		0.121		0.045*		0.492		0.043*		0.437	
Education	Average/Diploma N=39	5.90	1.87	4.95	1.79	4.82	1.62	3.08	1.74	1.71	1.23
	Bachelor degree N=61	6.16	1.91	4.98	2.25	4.77	1.86	4.41	2.33	1.87	1.33
	Master degree N=13	5.70	1.44	5.00	1.08	5.15	1.77	3.31	1.60	1.92	1.11
p		0.601		0.905		0.849		0.013*		0.829	
Place of residence	Village N=22	6.14	1.78	5.22	1.34	4.83	1.62	4.09	2.56	2.04	1.25
	City< 100 thousand N=16	6.94	1.57	5.44	1.15	4.77	1.86	3.37	1.89	1.81	1.04
	City> 100 thousand N=75	5.79	1.87	4.80	2.25	5.15	1.77	3.84	2.08	1.76	1.32
p		0.047*		0.268		0.050*		0.713		0.570	

χ – *average;* SD – *standard deviation;* N – numbers of respondents. *p<0.05 – *differ statistically significantly* (ANOVA rank Kruskal-Wallis)

It was found that the intensity of state and trait anxiety, satisfaction with life and evasive approach did not differentiate the participants in terms of age since the average results of those variables were similar.

Nurses aged from 21 to 40 would more frequently respond with confrontational approach to stressful situations than other age groups (table 1).

A correlation was found between the marital status of the study participants and the trait anxiety level and confrontational approach to stressful situations.

The average level of trait anxiety (5.4) and more frequent response to stressful situations by confrontation (4.2) was found in single women, and it was significantly higher (p<0.05) than the level found in nurses who were married or lived in relationships.

In the group of nurses with B.A. degree, the vigilant approach was found significantly more frequently (p<0.05) than in women with M.A. degrees and secondary education. It turned out that the participants with B.A. degrees responded more frequently to stressful situations by confrontation than the nurses with M.A. degrees and secondary education (Table 1).

No significant correlation was found between the state and trait anxiety, the satisfaction of life and evasive approach, and the education of the participants.

Furthermore, a correlation was found between the place of residence and the intensity of state anxiety and satisfaction with life. The highest average anxiety level (6.9) was found in the group of women living in cities with less than 100 thousand citizens – it was significantly higher (p <0.05) than the anxiety level found in women living in the countryside (6.3) and large cities >100 thousand citizens (5,8).

On the other hand, nurses living in large cities (5.1) declared higher satisfaction with life than those living in the countryside (4.8) and small cities (4.7).

No significant correlation was found between the trait anxiety level, styles of coping with stress and the place of residence of the nurses participating in the study. The highest level of satisfaction with life was found in those participants, whose state and trait anxiety levels were low an average level of satisfaction was found in those nurses, whose state and trait anxiety levels were moderate and the lowest satisfaction with life was observed in the nurses, whose state and trait anxiety levels were high.

No correlation was found between state anxiety level and the evasive (r=0.13; p>0.05) and confrontational (r=0.03; p>0.05) approach of the studied nurses.

DISCUSSION

The study showed that professional-related stress was the source of anxiety in the study participants. To confirm this thesis it is worth to point out that, the nurses declared overworking, frustrations arising from unsolved work-related problems and reduced motivation for work. Many previous studies showed that regardless the workplace and culture nurses are confronted with variety of stressors (of which most frequently mentioned were: dying issues and workload) and they should know how identify and effectively cope with them [17]. There is no single method that is effective for every situation and should be preferred. Moreover depending on the country there are variations in coping methods. For Chinese nurses the most commonly used coping strategies were: positive reappraisal, self-control, and planful problem-solving [18], for whereas for New Zealand nurses: self-control, planful problem-solving and seeking social support [19]. Our study showed that in case of Polish hospital nurses, personal and environmental factors such as: age, material status, education level and place of residence, have influence on response to stress factors and the choice of style coping with stress. In our opinion identification of risk factors is crucial because it enables conduct preventive action on target population in higher risk group. Our study showed that state and trait anxiety in the studies group did not reach pathological levels. However, the state anxiety level seem to be somewhat higher in the youngest participants, with the least professional experience. Similar outcome was achieved by Kliszcz et el. [8]. In our opinion it is very probable that younger nurses have limited confidence in their knowledge, experience and skills.

In the study by Borge et al. [11], the comparison of anxiety levels in a group of Norwegian nurses and women working on other positions, who have had breast cancer, indicated that the healthcare professionals would more frequently experience higher anxiety levels than the women who had undergone cancer, regardless of age. In further part of the presented research it was also shown that the correlation between the intensity of state and trait anxiety and the satisfaction with life did not differentiate the participants in terms of age, since the average results of those variables were similar.

Our results were confirmed by the studies on nurses' work satisfaction, conducted by Sand [20], who suggested that experiencing negative emotions affects the satisfaction with life and work, notwithstanding the professional experience.

It should be pointed out that the factor inciting undoubtedly negative emotions and affecting the level of satisfaction with life has been and the low remuneration. In the study by Czekirda

et al. [21], the nurses indicated dissatisfaction with their monthly pay, signalled deterioration of their financial situation and expressed lack of satisfaction with life.

Low pay as the source of stress and anxiety for the nurses has also been confirmed by studies by Klimak et al. [22] and by Zajkowska and Marcinowicz [23], conducted among nurses employed in primary healthcare in Poland and the United States, as well as studies by Zielińska-Więczkowska and Buśko [24]. Dissatisfaction with low remuneration and lack of satisfaction with life was confirmed by the strike of 6 November 2014, Organised by the Committee for Defence of Nurses and Midwifes of the Pomeranian Voivodeship.

The main demands of the nurses included i.e. raising the pay and increasing the number of nurses and midwifes on shift in hospital wards [25].

As per the theoretical premises, the occurrence of negative emotions should trigger the nurses' defensive mechanisms and push them to counteract deliberately. Such deliberate actions are methods of coping with stress. A key to the usefulness of monitoring blunting is the hypothesis that individuals tend to cope better in threatening situations when they are able to utilise their preferred coping modality. That "monitors" tend to cope better when provided with lots of information about a stressful situation, while "blurters" tend to cope better when able to avoid or distract themselves from threatening information [26]. In the conducted studies, the younger nurses (aged from 21 to 40) would more often look for information than others on solving the problem by cognitive transformation or attempt to change the situation.

The second research problem referred to the correlation between the marital status of the participants and the anxiety level, satisfaction with life and styles of coping with stressful situations. The average level of trait anxiety and more frequent response to stressful situations by confrontation was found in single women, and it was significantly higher than the level found in nurses who were married or lived in relationships.

The lower anxiety level in married women and those living in relationships might have been related to the support they received from their partners.

Having a support network gives a sense of safety and intimacy, and makes it possible to ask for advice or solve a problem together, as well as to express emotions. Therefore, it can be an anxiety-reducing factor [27].

Analysing the results obtained for the styles of coping with stressful situations depending on the marital status, it turned out that single nurses saw themselves as persons willing to act to solve a problematic situation by confronting it, while married women and those living in relationships

would less frequently confront a problem, focusing instead on substitute activities.

Similar results were obtained by Tabała et al. [28], who examined styles of coping with stress among medical caregivers.

The third research problem referred to the correlation between the intensity of anxiety, level of satisfaction with life and styles of coping with stress, and education. Analysis of data indicated that education was correlated to confrontational approach in stressful situations. Comparing the obtained data, it can be determined that the study participants with B.A. degrees more frequently declared confrontational approach to difficult situations than nurses with M.A. degrees or secondary education. Somewhat different results were obtained by Żuralska et al. [29], who examined styles of coping with stress in nurses working in a hospice. Nurses with B.A. and M.A. degrees would more frequently cope with difficult situations by evasion.

The fourth research problem referred to the correlation between the intensity of anxiety, level of satisfaction with life and styles of coping with stress, and the place of residence. On the basis of obtained results, it was determined that the place of residence is correlated to the intensity of state anxiety and the level of satisfaction with life. Verifying the data, it can be stated that study participants living in cities with less than 100 thousand citizens were characterised by an above-average anxiety level. On the other hand, nurses living in smaller cities declared higher satisfaction with life than those living in small cities and the countryside.

CONCLUSIONS

The source of anxiety in case nurses who participated in the study was professional-related stress. In order to reduce this unfavourable phenomenon there is the need to implement organizational changes to reduce stress-induced anxiety. Our study showed that in case of Polish hospital nurses, personal and environmental factors such as: age, material status, education level and place of residence, have influence on response to stress factors and the choice of style coping with stress.

To efficiently perform their work duties, the nurses should receive psychological and social support in the form of care given by the co-workers, attend courses preparing them to cope with work-related stress and their own negative emotions, learn the principles of assertiveness and styles of coping with difficult situations. Thus, they will be less prone to anxiety reactions, mental and physical disturbances, which will undoubtedly improve their health, satisfaction with work and personal life, and will keep them motivated to continue working in their profession. The nurses' identification with

higher anxiety level would enable early initiation of appropriate preventive psychological treatment, which would improve the quality of their professional lives.

The main limitation of the study was a small number of personal and environmental factors which were analysed.

Conflicts of interest

The author have declared no conflicts of interest in this work.

REFERENCES

1. Shmit ME, Hart G. Nurses responses to patient anger: from disconnecting to connecting. J Adv Nurs. 1994 Oct;20(4):643-51.
2. Padus E. The complete guide to your emotions and your health .Revised edition. Rodale Press, Pennsylvania 1992.
3. Bennett P, Lowe R, Matthews V, Dourali M, Tattersall A. Stress in nurses: coping, managerial support and work demand. Stress Health. 2001 Jan;17(1):55-63.
4. Jason LA, Wagner L, Rosenthal S, Goodlatte J, Lipkin D, Papernik M. Estimating the prevalence of chronic fatigue syndrome among nurses. Am J Med. 1998 Sep;105(3A):91-3.
5. Leung SK, Spurgeon PC. Job Satisfaction and Stress among Ward – based and Community-based Psychiatric Nurses. Hong Kong J. Psychiatry 2007;17:45-54.
6. Gniazdowska A. Promocja zdrowia w miejscu pracy. Instytut Medycyny Pracy, Łódź 1998. (Polish)
7. Michałek E, Kosińska M. Stresopochodne zaburzenia emocjonalne występujące u pielęgniarek. Ann Acad Silesien. 2001;50-1:48-9. (Polish)
8. Kliszcz J, Nowicka – Sauer K, Trzeciak B, Sadowska A. Poziom leku, depresji i agresji u pielęgniarek, a ich satysfakcja z życia i z pracy zawodowej. Med Pr. 2004;55(6):461-8. (Polish)
9. Wzorek A. Porównanie przyczyn stresu wśród pielęgniarek pracujących na różnych oddziałach. Stud Med. 2008;11:33-7.(Polish)
10. Cegła B, Dowbór Dzwonka A, Filanowicz M, Szynkiewicz E, Kędziora- Kornatowska K, Bartuzi Z. Sytuacja materialna rodzin pielęgniarek a poziom wypalenia zawodowego. Probl Pieleg. 2010;18(4):393-8. (Polish)
11. Borge L, Martinsen EW, Hoffart RA, Larsen S. Quality of life and mental health among nurses attending courses of the prevention of professional burnout. Tidsskr Nor Lageforen. 2003 Jun;123(13-14):1847-8.
12. Wrześniewski K, Sosnowski T, Jaworowska A, Fecenec D. Inwentarz Stanu i Cechy Lęku. Pracownia Testów Psychologicznych. Warszawa 2011. (Polish)
13. Juczyński Z. Narzędzia pomiaru w promocji i psychologii zdrowia. Pracownia Testów Psychologicznych. Warszawa 2009. (Polish)
14. Miller SM. Monitoring and blunting: validation of a questionnaire to assess styles of information-seeking under threat. J PersSoc Psychol. 1987 Feb;52(2):345-53.
15. Miller SM. Monitoring and blunting in the face of threat: implications for adaptation and health. In: Montada L, Filipp SH, Lerner MJ, editors. Life crises and experiences of loss in adulthood. Englewood Cliffs, New York: Erlbaum; 1991, p 255–73.
16. Miller SM, Brody DS, Summerton J. Styling of coping with threat: implication for health. J. Personal Soc Psychol.1987 Jan; 54(12):142-8.
17. Lambert VA, Lambert CE. Nurses' workplace stressors and coping strategies. IJPC 2008 14; 1:38-44.
18. Lambert V, Lambert C, Petrini M, Li X, Zhang Y. Workplace and personal factors associated with physical and mental health in hospital nurses in China. Nurs Health Sci 2007 Jun;9(2):120-6.
19. Chang EM, Bidewell JW, Huntington AD, Daly J, Johnson A, Wilson H, Lambert VA, Lambert CE. A survey of role stress, coping and health in Australian and New Zealand hospital nurses. Int J Nurs Stud. 2007 Nov;44(8):1354-62.
20. Sand A. Nurses personalities, nursing-related qualities and work satisfactions:10-year perspective. J Clin Nurs. 2003 Mar;12(2):177-87.
21. Czekirda M, Pabiś M, Jarosz MJ. Poczucie satysfakcji z pracy pielęgniarek województwa lubelskiego. Pieleg XXI w 2008;2-3(23-24):10-5. (Polish)
22. Klimak K, Klimak K, Skorek. Stres w środowisku pracy zawodowej pielęgniarek. Zdr Publ. 2000;110(12):427-31. (Polish)
23. Zajkowska E, Marcinowicz L. Elementy satysfakcji zawodowej pielęgniarek podstawowej opieki zdrowotnej w Polsce i Stanach Zjednoczonych. Zdr Publ. 2005; 115 (3):274-8. (Polish)
24. Zielińska-Więczkowska H, Buśka A. Satysfakcja zawodowa pielęgniarek na tle wybranych czynników środowiska prac. Pieleg XXI w. 2010;3-4(32-33):5-8. (Polish)
25. Dziennik Bałtycki. Gdańsk:Protest pielęgniarek i położnych przed Urzędem Marszałkowskim. Available at http://www.dziennikbaltycki/ artykul/33634884/ gdansk-protest-pielęgniarek-i-polo-żnych-przed-urzędem-marszalko-wskim-wideo-zdjecia,id [cited 2014 Dec 6]. (Polish)
26. Lazarus RS. Psychological stress and the coping process. Mc Graw – Hill, New York 1966.
27. Poprawa R. Zasoby osobiste w radzeniu sobie ze stresem. W: Dolińska- Zygmunt G. (red.).

Podstawy psychologii zdrowia. Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego: 2001;103-41. (Polish)

28. Tabała K, Stecz P, Kocur J. Profil osobowości, style radzenia sobie ze stresem a wypalenie zawodowe wśród szkolących się opiekunów medycznych. Med Ogólna i Nauki o Zdr. 2014; 20(3):270-325. (Polish)

29. Żuralska R, Mziray M, Postrożny D, Domagała P. Poczucie własnej skuteczności a style radzenia sobie z sytuacja trudną u pielęgniarek pracujących z chorym umierającym. Przeds Zarz. 2014; XV(12):131-41. (Polish)