

ANXIETY LEVEL AND CARDIOVASCULAR RISK IN THE SPHERE OF TOURISM

Dimitrova T.¹, M. Atanasova², E. Karaslavova³

¹Department of Medico-biological sciences, MU-Varna, ²Regional inspection for public health protecting and control, ³Department of Social Medicine, MU-Plovdiv

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ABSTRACT

Objective: to do research on the influence of the work environment on the situational and personal anxiety with people working in the sphere of tourism and their effect on the cardiovascular risk through physiological, laboratory and behavioural changes in the style of life. The cardiovascular risk has been studied through a questionnaire in relation to sex, age, family diseases and type of task with 173 people of average age 41.25 ±0.9 years old, who work in the sphere of tourism (84 (48.6%) of them: women and 89 (51.4%) men). A standardized methodology has been applied for evaluating anxiety according to the situational scale of Spielberger: 134 people, personality scale -173 people. Laboratory results also establish different correlations on the level of personality anxiety. High situational anxiety is established 2.345 (95%CI 1.160-4.737) times more frequently with people who work in an environment with a lot of noise. The physical activity and sports reliably improve anxiety indications and increase the abilities for positive perception of stress in the work environment. OP for a moderate and high situational anxiety is 2.306 (95%CI 1.143-4.653) for those who do not go in for sports. The high levels of personal anxiety are connected with the higher incidence of hypertension and hypertriglyceridemia in men. Reliable correlational dependencies of anxiety have been found out in relation to laboratory indications for overall cholesterol and blood sugar.

Key words: anxiety level, cardiovascular risk

The spread of socially significant diseases related to stress and their effect on the working population necessitates research to be done in the sphere of psychosocial cardiovascular epidemiology. The work-related psychological investigations are aimed at the individual differences in people's vulnerability to stress. Alongside the concepts that have already been formulated such as "Type A behaviour" and lack of social support, scientists report a potentially cardiotoxic effect and emotional reactions such as anxiety, anger and depression. Factors such as control of the work process and the negative affect at the work place and their relation to components of the overall psychological and physical health (psychosomatic diseases such as arterial hypertension, hypercholesterolemia and obesity) as influenced by the unfavourable factors of the professional environment have not yet been made sufficiently popular in the practice of the medicine of the work place.

These factors have high priority when assessing the risk for the health of the people who are engaged in the service sector because of their constant contact with their clients.

Objective: to do research on the influence of the conditions of labour on the situational and personal anxiety with people working in the sphere of tourism and their effect on the cardiovascular risk through physiological, laboratory and behavioural changes in the style of life.

MATERIALS AND METHODS

The cardiovascular risk has been studied through a questionnaire in relation to sex, age, family diseases and type of task with 173 people of average age 41.25 ±0.9 years old, who work in the sphere of tourism. 84 (48.6%) of them: women and 89 (51.4%) men. Arterial pressure and ECG have been registered after 10 min rest while they were lying in bed. Laboratory examinations have been carried out of the biochemical indicators in serum for overall cholesterol, triglycerides, and blood sugar. A standardized methodology has been applied for evaluating anxiety according to the situational scale of Spielberger: 134 people, personality scale -173 people. The statistical analysis for assessment and prediction of risk a standardized methodology has been used by logistic regression, as well as correlational and nonparametric analysis.

Address for correspondence:

T. Dimitrova, Dept. of Medico-biological sciences; Medical University Varna; Varna, 9002, Marin Drinov Str., 55
e-mail: tvd@mnet.bg

RESULTS

Besides the psychosocial factors of the work environment and the task as well as the lack of control, negative emotions because of immediate contact with clients, work in a situation when people are pressed for time, the rest of the factors related to the environment: of physical, chemical, biological, etc. nature also have influences on the psychological health. Subjectively perceived as a threat these factors also increase the level of anxiety as an indicator of impossibility to cope with the given situation.

From those exposed to noise comparatively bigger is the group of people with high situational anxiety 39.1% related to those who showed low or moderate anxiety - 21.5% ($p < 0.05$). The stressogenic character of the noise at work has been confirmed by our results and has been demonstrated by Finnish and Norwegian workers as well (2).

The people who work in conditions with psycho-emotional pressure show a significantly higher level of instant stress 40.10 ± 0.92 in relation to 35.97 ± 0.9 ($p < 0.05$). The relative share of those who have demonstrated moderate or high anxiety has been reliably higher 53.9% in comparison to those who worked in a stressful environment, in relation to their colleagues working in the same conditions who demonstrate low anxiety - 30.6% ($p < 0.01$). Stress at the work place and the imbalance between work and family (personal) life is part of the aetiology of anxiety related illnesses among workers (13).

Based on the subjective assessment of the people who did the questionnaire on the level of stress at the workplace according to the scale from 1 to 10, our results show evidence of positive correlative dependence on the instant anxiety with a coefficient of Spierman 0.315 ($p < 0.01$). Overwork and lack of sufficient time at work prove to be the major sources of stress during work according to the people who did the questionnaire. Hyperstress has been established ($p < 0.001$) with 28 (53.8%) of the people who pointed it out and 35 (27.3%) of those who did not mention insufficient time at work. This characteristic of the work task has been quoted as a risk factor for general anxieties and disturbances according to scientific resources with ratio of chances (RRs) 1.90 [95% confidence interval (CI) 1.22-2.98] with women, and 2.00 (95% CI 1.13-3.56) for men (7).

The work in shifts and during the night although available in 61.3% and respectively 45.7% of the people investigated, does not lead to a change in the subjective assessment of stress at the workplace. 46 (41.4%) of the workers experience the so called eustress and (29) 40% of the ones who do not work in shifts ($p > 0.05$), as well as 39 (42.4%) from the nightshift workers and 36 (40.0%) from the non nightshift workers that have been researched ($p > 0.05$). And what is more, the relative share of the workers who work regular hours 33 (46.5%) is higher than the relative share of those who work in shifts 30 (27.0%) in a state of hyperstress ($p < 0.05$). This is the state of 33 (55.0%) of the workers who have a direct contact with their clients com-

pared with 30 (24.8%) from those who are not exposed to direct contact or conflict with their clients ($p < 0.001$).

The level of the situational anxiety is demonstrated in a correlational dependence on the personality 0.723 $p < 0.001$. Both scales of anxiety correlate directly with age (0.234 respectively for the situational and 0.254 for the personality anxiety at $p < 0.001$) and those with special work experience (0.273 for the situational and 0.266 for the personality anxiety respectively at $p < 0.001$). In the hospitality industry as part of the sphere of social services with the increase of professional experience, the work does not become less stressogenic as our previous studies show, for example in transport (1). The existing studies predict about 50% increase of risk of ischemic heart disease among workers in conditions of stress (6).

Anxiety is a psychological condition which warns of the danger and so increases the probability for it to be avoided. The inadequate level of anxiety in relation to the danger of the given situation and/or the chronic high anxiety, despite the relatively safe situation, however, can seriously hinder the ability for work, interpersonal relations, sleep and health. Problems with anxiety are self-supportive mainly due to cognitive distortions and overuse of flight strategies. The mean value of the personality anxiety among the men who did the questionnaire from 37.33 ± 0.9 is statistically reliably lower than the one of women 41.6 ± 0.9 at $p < 0.001$. The relative share of the women who have demonstrated high levels of personality anxiety 34.5% (29 women) is reliably higher than the one of men with risk values of anxiety 20% (18 men) at $p < 0.05$. Sex differences in the symptoms of anxiety with people working in the same conditions have been found out by other authors (13,14).

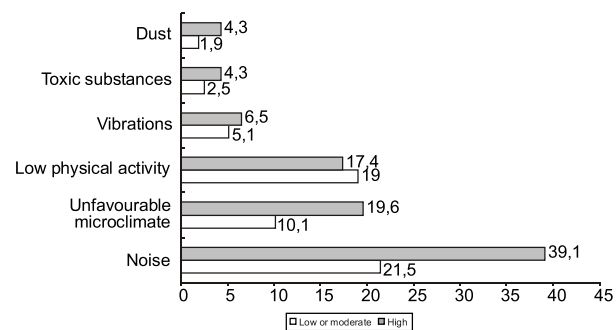


Figure 1. Incidence of the people exposed to professional physicochemical

Situations in the work environment related to overestimating the critical situations and underestimating the capabilities to exercise control over it, which happen to be quite frequent, quite strong and/or quite continuous they localize more clearly the place of the personality anxiety. Anxiety as a personal characteristic feature reflects a relatively stable disposition to experiencing a state of anxiety. The individual differences in this personality disposition are reflected namely in the cognitive mechanisms for assessment,

as well as in the spontaneous choice of the form and dynamics of the defence mechanisms involved.

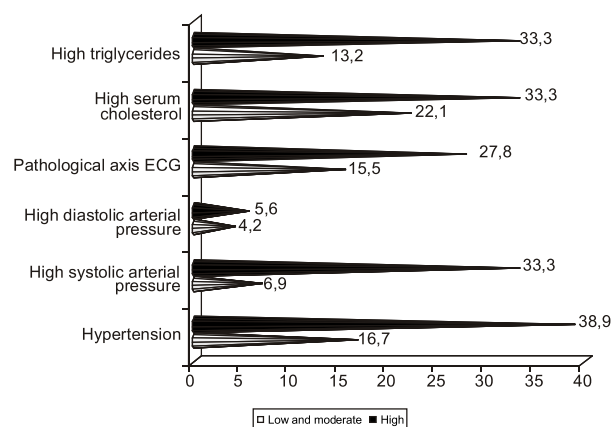


Figure 2. Incidence of physical-laboratory deviations among men %

The personality anxiety influences the spread of deviations in the cardiological status. It highlights the individual reactions of the working people and indirectly leads to the cardiovascular effect in the given working conditions. It emphasizes the individual reaction of the workers and indirectly influences the cardiovascular effect of the conditions at the work place. Hypertension in men is diagnosed in 38.9% of those with high level of anxiety as compared to people with low or moderate level of anxiety ($p < 0.05$). 33.3% of the people with high and 6.9% of those with low and moderate personality anxiety ($p < 0.05$) show excessive indications of systolic arterial pressure. Investigations of the French population demonstrate similar results (8).

Laboratory results also establish different correlations on the level of personality anxiety. Reliable correlative dependence has been established with men on the level of personality anxiety with the laboratory indications of overall cholesterol (0.236 $p < 0.05$) and blood sugar (0.245, $p < 0.05$), and there exist scientific data on these interrelations (3.9-11.15).

Excessive indications of triglycerides have been registered with 9.9% of the people with low and moderate anxiety and 25.0% with those of high ($p < 0.05$). The risk for such a laboratory deviation among those who demonstrated high level of anxiety has been calculated as 3.028 (1.224-7.493) and increases to 3.585 (1.280-10.037) after becoming equal in age, general and specific experience.

The personal anxiety is related to changes in the **style of life**. 12.7% of people with low and moderate level of anxiety complain of insomnia 38.3% of those with high level of anxiety ($p < 0.001$).

Our results show a preventive influence of the regular physical activity in the free time in relation to anxiety although few people answered this question (203 people, 13 of which go in for sports on a daily basis). The people who go in for sports every week demonstrate statistically lower indications of situational anxiety 35.27 ± 1.24 in relation to those who are actively engaged in sports 38.75 ± 0.7

($p < 0.05$). 36.0% of those who showed low situational anxiety do some sport at least twice a week and barely 19.6% of those with moderate and high level of anxiety ($p < 0.05$). The facts have been confirmed by other authors who have found out that physical activity of the kind of 30 minutes moderately intensive activities almost every day decreases the number of symptoms of anxiety and depression (4,5,12).

96.6% of the women with high level of anxiety do not do any sport and 80.0% of the women with low and moderate level of personality anxiety ($p < 0.05$).

CONCLUSION

The factors of the working environment that unlock a high level of situational anxiety in people who are engaged in the hotelier business are excessive noise and psycho-emotional stress.

High situational anxiety is established 2.345 (95%CI 1.160-4.737) times more frequently with people who work in an environment with a lot of noise.

The physical activity and sports reliably improve anxiety indications and increase the abilities for positive perception of stress in the work environment. OP for a moderate and high situational anxiety is 2.306 (95%CI 1.143-4.653) for those who do not go in for sports.

The high levels of personality anxiety are connected with the higher incidence of hypertension and hypertriglyceridemia in men. Reliable correlational dependencies of anxiety have been found out in relation to laboratory indications for overall cholesterol and blood sugar.

The investigation of the level of anxiety among work teams is a reliable method for establishing the risk groups among those exposed to excessive noise and neuro-psychological stress. The self-evaluation test for establishing the level of anxiety is appropriate for identifying target groups for health promotion at the workplace.

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