

**STRATEGIES TOWARDS HEALTH PROTECTION IN  
MARITIME WORK ENVIRONMENT INVOLVING  
THE ROLE OF HEALTH PROMOTION – INVITATION  
TO JOIN IN DISCUSSION**

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The aim of the paper is to present problems, limitations and advantages of strategies adopted for health protection at sea, with particular regard to health promotion.

The invitation is extended to IMH readers to join in discussion and to present suggestions how to improve the present practice of health services for seafarers.

Keywords: health promotion, psychosocial hazards, seafarer sector

**INTRODUCTION**

Health promotion is commonly regarded as one of priorities in public health and social health policy in European countries. The directives of the Maastricht Treaty (1992) for the member states emphasized that apart from prevention of diseases,

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particular weight should be attached to health promotion [1]. This issue may contribute to social and economic development of the European Community, which found expression in the Lisbon Strategy (2000) [2].

In the face of changing hazards at the workplace, ageing societies, risk of unemployment, transformations in the employment structure, classical forms of health care of the working population have become insufficient. Therefore, in the Luxembourg Declaration (1992) emphasis has been put on the necessity of the combined efforts of employers, employees and social institutions to improve the health and well-being of people at work. This can be achieved through improving the work organization and environment, promoting active participation, taking on the responsibility for own health and encouraging personal development [3].

This process, called health promotion, is transferring the major importance of activities focused on reducing work-related hazards and occupational diseases towards the so-called positive aspects of health, i.e. good physical and mental state, fitness, resistance, and taking them into account as criteria in modern management of enterprises. The strategy of the European Network of Workplace Health Promotion aims at developing and promoting good standards in health enhancement in the workforce, which should result in better health care and continuous social and economic development in Europe [4].

According to Breslow [5], general health promotion both in theory and practice embraces:

Activities or exerting an influence to initiate behaviour most favorable for health.

All efforts, including medical procedures, to prevent diseases.

Active process of strengthening and improving health, which goes beyond the prevention of diseases.

All kinds of social undertakings aimed at health protection and enhancement.

The attitude towards health promotion has been changing significantly throughout decades. Different approaches and priorities have since long time been observed in principal fields of occupational medicine and psychology. Health of the employees is no longer an exclusive domain of specialized services such as occupational safety or occupational medicine. It has become a common problem. Integrated workplace health management means combined efforts of employers, employees and society, attempting to improve health and well-being of people at work.

This can be achieved through:

- improvement of workplace environment organization
- popularization of active participation of employees in health-promoting activities
- encouraging personal development [6,7]

## WORKPLACE HEALTH IN MARITIME ENVIRONMENT – PSYCHOLOGICAL AND SOMATIC ASPECTS

Three approaches may be distinguished as regards issues related with workplace health, with particular concern to maritime workplace specificity.

### **Healthy workers**

In the fifties of the past century, apart from requirements set on somatic health, psychological aspects of work became an object of interest. Initially, attention was focused on obstacles to the adaptation of workers to occupational environment. Potentially harmful and oppressive work-related factors raised less interest. The worker was a passive subject in the selection of appropriate people for different types of work. Main emphasis was placed on work organization, personnel selection and management to achieve defined goals: high productivity and motivation to work. In maritime medicine, medical and psychological examinations were performed having primarily in mind mental and somatic conditions as absolute contraindications for the work at sea [8,9]. These examinations took on the nature of a negative selection, restricting the access to the work at sea. Such a model existed throughout years, and its elements have lasted out in registers of medical contraindications for the work at sea.

### **Healthy environment**

Occupational medicine dealt mainly with the impact of various physical, chemical and biological factors on the worker's health. The share of psychosocial aspects attracted less attention. A detailed definition of the sources of hazard on sea-going ships was formulated: physical (noise, vibration – local and general, ionizing and electromagnetic radiation, microclimate), chemical (toxic materials of the ship' construction elements, toxic cargo) and biological (viral and bacterial infections) [10,11]. „Human material” was treated as a kind of a static element in the environment-man system, although the strain caused by psychoemotional and organizational factors related with the work at sea was also noticed [10].

Systematic improvement in the maritime work environment has been taking place for years. Modern sea-going ships provide increasing comfort of life and work. Harmful physical, chemical and biological factors have successively being reduced to a minimum: noise and vibration are moderated, air-condition installed, living space increased (single cabins). On the other hand, one should bear in mind tremendous differences in standards between national fleets. This applies in particular to flag of convenience fleets [12]. Maritime workplace environment has become more human-friendly.

When occupational psychology emerged in nineteen fifties, the main interest in harmful and oppressive work-related factors shifted from technical to environmental aspects affecting the health of workers. The whole of the maritime work environment factors, potentially harmful or oppressive, was defined [10,13,14].

Some researchers questioned the impact of physical hazards on stress and state of health. In their opinion, only extreme working conditions are related with the effect of stress on health. Under moderate oppressive conditions the workers are able to adapt without much effort [14].

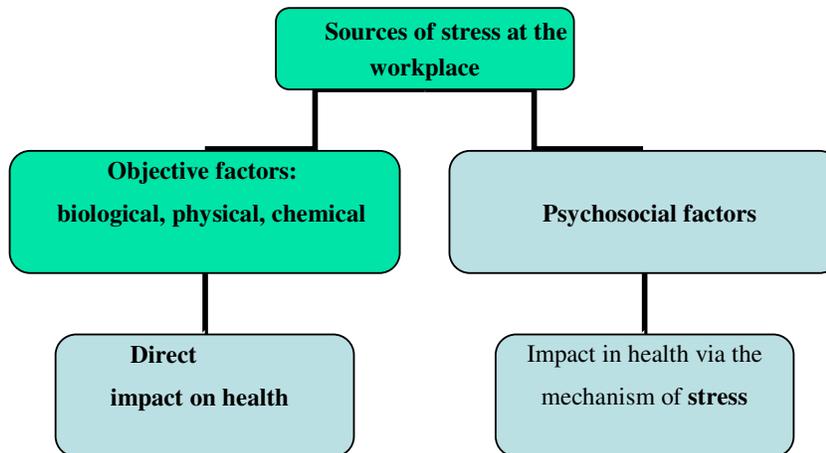
Most authors state that physical hazards may interact with psychosocial risks, thus inducing stress. Compared to workers on the land, the cummulation of all factors being potential risk sources is greater in the case of seafarers, who all the time, either at work or leisure, spend in the same ship's environment. The model preferring work environment and relevant hazards requires technical solutions mainly, the influence of medicine on which is limited [15].

#### **Stress at the workplace**

In the considerations on the work in the maritime environment a particularly important role is played by the concept of psychical stress, as well as the share and role of psychosocial factors as its source. These harmful factors are defined as those aspects of work organization and management, including their social and environmental context, which are potential psychical, social or physical hazards [14]. Exposure to harmful physical and psychosocial factors may negatively affect mental and physical health of workers.

Exposure to physical factors and exposure to psychosocial factors occur simultaneously. In this approach, at least two processes are dealt with: a direct somatic mechanism and a psychological mechanism of stress. These two mechanisms are not alternative explanations of the interaction between the state of health and harmful factors: they constitute a unity acting differently within different areas.

Fig. 1. Effect of work-related stressogenic factors on health



Psychosocial factors which are the work-related source of stress at sea are the following: job content (lack of variety or short work cycles, fragmented or meaningless work), workload and work pace (high level of time pressure), work schedule (inflexible), control (low level of participation in decision making), environment and equipment (poor environmental conditions), organizational culture and functioning (poor communication), interpersonal relationships at work (psychical or social isolation, conflicts), role in organization (responsibility for people), career development (under or over promotion, career stagnation), home-work interrelation (conflicting demands of work at home) [13,16,17,18,19].

Stress brings about undesired effects through provoking disadaptation reactions. Negative emotional experiences, obviously related with stress, contribute to the worsening of general quality of life, physical and mental state, and fitness for work. Stress always depresses the well-being, although not necessarily causes physical or mental disorders. Eustress and distress are differentiated, that latter evoking negative pathological processes [20].

The mechanism of a vicious circle is of importance: bad health state may at the same time act as a significant stressogenic factor and sensitize to other stress sources, thus lowering the capacity to manage the stress. Stress may change the way of sensing,

thinking and behaviour of individuals; it can also evoke physiological effects. Many of them are slight reversible dysfunctions, lowering the comfort of life only, but some result in worse labour productivity, other psychosocial problems and deterioration of health. The strength of the relationship between stress and its precursors on the one hand, and the state of health on the other is constant, although moderate [14].

The degree of the awareness of stress changes with its development. The relationships between the objective working environment and its perception by the worker, between this perception, stress experiencing and behavioural, physiological and health changes are a kind of a variable interaction. Coping with stress is an essential element of this process. However, its understanding is insufficient and requires conscious training and education.

A model proposed by Cooper and Marshall [14] is focused on the nature of stress and its elements related with the interaction between work and an individual, as well as on the effects of stress on an individual and organization.

There is a broad knowledge of the mechanisms underlying such an interaction. Some diseases are traditionally linked with stress, e.g. coronary heart disease or rheumatoid arthritis, but some may be related to lowered immunity: susceptibility to infections, weakened defence against neoplasms [14,20].

Examinations carried out in the EU countries have revealed that over 50% of workers experience stress at the workplace. The evaluated relevant costs of higher morbidity, absence from work and work-related accidents amount to about 20 billion Euro annually [4,25].

#### **Health promotion at the workplace**

At present, the model based on education, training and motivation to health promoting behaviour of workers has gained advantage owing to universal cultural tendencies very strongly emphasizing the significance of health [2,4,6,21]. The modern approach to the problem of health at the workplace involves such concepts as primary and secondary prevention, health promotion or health psychology. The keynote for such an approach is the active participation of the worker in the process of taking care of own physical and psychical state. Emphasis has been transferred from the role of the welfare state and health care institutions to taking own responsibility for health. Two aspects are important in this field: the regard for psychosocial factors affecting the health of employees, and active prohealth behaviour of workers. Prohealth behaviour, to be sufficient, should not be forced by orders and bans, but should arise from conscious and free attitudes and activities of workers in regard of their care for own health [7,21,22]. The new subdiscipline, health psychology at the workplace, links occupational psychology and broadly meant clinical psychology. It embraces the issues of health, individual differences and social psychology, defining theoretical premises for

intervention, in order to optimize psychosocial working conditions, and shaping prohealth attitudes of workers [23,24,25].

From the psychological point of view, the problem of workers' health care also evolved from the concern for psychical health to the interest in its dependence from and relationship with physical health. In this area, the most widely known works of Swedish researchers, M. Frankenhaeuser and L. Levi, deal with the connection between the socio-organizational sphere of the work environment and the physical aspects of health, such as cardiovascular diseases, muscoskeletal and respiratory disorders, and many other [26]. Every year, psychoneuroimmunology provides more and more empirical data on physiological grounds for the causal relationship between psychosocial aspect of work and physical and mental health [19,20,23].

Poland participates in the programme of the European Network of Workplace Health Promotion, in which the share of maritime medicine should be broader than it has been so far, the more so that the health promotion is an economically attractive strategy of reducing health and life hazards at sea.

The key problems in health promotion in contemporary maritime medicine are:

1. **Medical perspective:** activities to reduce the number of accidents, circulatory diseases, cases of acute food poisoning, alcohol and drug addiction, despite withdrawal of physicians from ships and interventions limited to the first paramedical aid [10].
2. **Psychological and social perspective:** alleviation of discomfort caused by fatigue and isolation at sea, elimination of acute and chronic diseases related with stress and occupational burnout [16,17,18].
3. **Creation of a modern and efficient system of prophylaxis** as regards:
  - a. **Legal aspects:**
    - working out legal standards and regulations (concerning prophylactic periodical examinations, their frequency, scope, as well as health state monitoring on sea-going ships)
    - implementation of maritime conventions and control mechanisms in collaboration with the ILO and IMO
  - b. **technical aspects:**
    1. collaboration with employers and trade unions in regard of technical and organizational aspect of safety
    2. collaboration with local and foreign authorities in the field of health protection

**Questions arising in relation to health promotion at sea:**

1. Bearing in mind the specificity of the work at sea, can we afford to liberalize health requirements in both preliminary and periodical examinations ?

2. Which states of somatic and psychical disorders in candidates and seafarers should disqualify from the work at sea?
3. Is it justified to introduce obligatory psychological examinations for candidates for maritime academies, which has already been postulated after examinations of the students of the Maritime Academy in Gdynia [27,28]?
4. Would it be justified to establish interdisciplinary occupational consultation (consultant maritime worker, physician, psychologist) before and after first experiences at sea?

These important questions may be answered after a long discussion between medical officers who take care for the health of seafarers in various countries.

The authors invite the IMH readers to take part in such a discussion.

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