

# Stress and fatigue at sea versus quality of life

Gdansk, 11 June 2012

II International Congress on Maritime, Tropical, and Hyperbaric Medicine

Venue: on board “Scandinavia” ferry, Gdansk–Nynashamn–Gdansk

With supporting funding from the ITF Seafarers’ Trust

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## REPORT OF THE WORKING GROUP

WORKSHOP ON STRESS AND FATIGUE AT SEA VERSUS QUALITY OF LIFE

<b>1 Workshop title</b>	Stress and fatigue at sea versus quality of life					
<b>2 Purpose</b>	<b>Reach consensus and make report</b>	<b>Education</b>	<b>Enable wide exchange of views</b>	<b>Other</b>		
	X		X			
<b>3 Objective</b>	Introducing and discussing the problem					
<b>4 Goals</b>	Identification of the effects of stress at sea Mapping how to identify ways to reduce fatigue Identify how to improve the quality of life of people working at sea Protection of the mental health of seafarers Agreeing on ways of fostering the seafarers’ family life Preparing the crew on how to cope with a piracy attack Identification of the psychosocial aspects To obtain and review of available research on the topic Assessment of the psychological certifications – current legislation Resolution about issuing a common publication – guidebook Identification of other necessary topics for future discussion					
<b>5 Policy Relevance</b>	Final aim of the workshop should be outlining the areas of research for future collaboration and issuing scientific publications, practical guidance					
<b>6 Reference to policy concerns and best practice</b>	The international and national regulations connected with psychological examinations for the seafarers are not clear and are insufficient					
<b>7 Key persons</b>	<b>Name</b>	<b>Title</b>	<b>Affiliation Institution</b>	<b>Postal address E-mail address</b>	<b>Fax</b>	<b>Tel.</b>
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8	Name of presenter	Name	Title	Affiliation Institution	E-mail address	Topic	
	Jeżewska	Maria	Dr	Institute of Maritime and Tropical Medicine, Gdynia, Poland	mariajez@gumed.edu.pl	Stress impact on quality of life	
	Moen	Bente	Prof.	University of Bergen, Norway	bente.moen@isf.uib.no	Shift work in the maritime industry	
	Denisenko	Ilona	Dr	IMHA	dr_denisenko@yahoo.com	Patients' ailments complaints – practical recommendations	
	Idnani	Corinne	Dr	Dr Idnani's Clinic, Mumbai, India	dridnani@hotmail.com	Post-traumatic stress disorder in seafarers	
	Nikolić	Nebojša	Prof.	Medical Centre for Occupational Health Rijeka	travel-medicina@ri.htnet.hr	Piracy on board	
	Rozanov	Vsevolod A.	Prof.	Odessa National Mechnikov University, Odessa, Ukraine	rozanov@te.net.ua	Suicides at sea	
	Ulven	Arne Johan	Dr	Norwegian Centre for Maritime, Haukeland University, Bergen, Norway	ajul@helse-bergen.no	Family life of seafarers	
	Lucero-Prisno III	Don Eliseo	Dr	Cardiff University, UK	lucero-prisnoE@cf.ac.uk	Concepts of shore leave in the context of stress	
	Navarro	Elrey	MD		elrey_md@yahoo.com	Risk prevention	
	Pracz	Edward	Priest	Apostleship of the Sea, Stella Maris, Gdynia Poland	stellam@am.gdynia.pl	Spirituality and quality of life at sea	
	Iversen	Robert		Rotary Club of Melbourne South, Brighton, Australia	info@seafarersmentalhealth.org	Mental health	
9	Attendance	Open to all		By invitation			
				Non-invited cannot join	Non-invited can join as silent observers	Non-invited can join discussions	
		X				X	
10	Workshop paper	Rapporteur's report for the Scientific Committee of the II Congress on Maritime, Tropical, and Hyperbaric Medicine. Shorter rapporteur's report intended for the ITF.					
11	Journals for intended publishing	International Maritime Health: Jeżewska, M., Iversen, R.T. B. (In press). The Mental Health of Seafarers. Vol. 2. And other journals					
12	Time period for workshop	5 minutes of introduction 11 short (5-minute) selected presentations of chosen topics: – 30 minutes of free discussion, "brain storming" on improvement of seafarer's quality of life – 5 minutes for summary and proposal for common establishments					
13	Estimated time for completed manuscript for publishing	None at the moment, planed in 2013					
14	Place, date, signature of proposer	II International Congress Maritime, Tropical, and Hyperbaric Medicine in Poland; on board "Scandinavia" ferry, Gdańsk-Nynashamn , 11 June 2012					

## 15. OPENING REMARKS

### Prof. Bogdan Jaremin

Institute of Maritime and Tropical Medicine, Gdynia, Poland

Prof. Jaremin welcomed the workshop's presenters and other Congress delegates (there were about 25 in all) and asked them to address the goals of the workshop, present the results of their research, and offer suggestions and action on improving the quality of life of seafarers. He said that practical methods of reducing stress and fatigue, how to cope with the dangers of piracy, improving seafarers' social and family life, improving their mental health, and identifying new avenues of research are needed. He stated that having a guidebook on the mental health of seafarers has been suggested and that he may, after consulting with others, seek the formation of a working group to evaluate this option.

## 16. INTRODUCTION

Stress and fatigue are a fact of life for men and women working at sea. The typical symptoms of stress are insomnia, loss of mental concentration, anxiety, substance abuse, extreme anger and frustration, family conflict, and physical illnesses such as heart disease, migraine headaches, stomach problems, and back problems (ICSW 2009). Risk factors causing stress on board are demands of the job; the level of control seafarers have over their work; the support received from management and colleagues; relationships at work; the seafarers' role in the organization, and change and how it is managed. Safety at sea is endangered if crews suffer from fatigue, are not fully alert, or take shortcuts. The clearest proof to date that the safety of today's ships is being threatened by the effects of employing and exhausted seafarers has been delivered by a high-level team of academics, and the warnings are stark: your seafarers are falling asleep on watch and their performance is being affected. And the consequences are almost too dramatic to contemplate (SMI 2012). Smith et al. (2007) say that fatigue is strongly linked to mental health problems, which are clearly risk factors for more chronic disease and an early death (e.g. suicide). The link between fatigue and chronic health problems is well established in shore populations, and fatigue at sea may increase the risk of chronic disease. The report in the journal *Ship Management International*, cited above, should help address the concern of Allen et al. (2008), who, in a review of the recent literature on fatigue, say that fatigue in the mari-

time sector has been noticeably under-researched compared to other transport sectors.

## 17. PRESENTATIONS

### Maria Jeżewska

#### Stress Impact on the quality of life of Polish seafarers

Institute of Maritime and Tropical Medicine, Gdynia, Poland

It is known that the occupational activity of Polish workers in general accounts for about 25% of stress in adult life. In the maritime industry this is related to 1) specific physical and psychological conditions of work at sea; 2) high requirements of skill and psychological factors, and 3) negative attitudes and behaviour of seafarers. The negative consequences of stress result in the worsening of the general quality of life (QOL) of seafarers, the seafarers' wellbeing, their overall health, and the quality of their work. A pilot study was based on responses from 164 seafarers ranging in age from 21-63 years with an average of 19.3 years spent at sea. The evaluation of their QOL was based on the factors of their physical/ climatic, chemical, biological, and psychosocial makeup. Their QOL was evaluated by examining subjectively their experienced word-related stress. The aim was to find out whether selected personality traits, their temperament, and the way they coped with difficult situations were related to occupational stress in a maritime environment. Five different questionnaires were used: NEO-FFI, PTS Temperament, Coping Inventory for Stressful Situations, Subjective Evaluation of Work Stress, and a questionnaire for people working at sea. A total of 31 different items were measured. The results showed that seafarers have an average level of neuroticism, above average extraversion, proper openness to new experiences, above average conscientiousness, a tendency to compromise, proper nervous processes, and a preference for task-oriented coping with emotions slightly affected. Their most stressful factors were unpleasant work conditions, feelings of threat, and difficult work-related tasks. Also highly stressful were lack of support and sense of control. Among work-related moods friendliness and vigour were predominant. It was also shown that: 1) personality and temperament traits are weakly connected with work related stress; 2) there is a connection between emotion-oriented coping and the psychological work load; 3) neuroticism is connected with depression, tension, and anxiety;

4) extraversion is connected positively with friendliness, vigour, and good physical and mental state, and 4) nervous processes are strongly connected with work related moods.

**Conclusions:** 1) Polish seafarers are well adapted for life and work at sea; 2) stress and QOL and work at sea are affected by age, education, and work experience; 3) there is a weak relation between selected personality and temperament traits and stress; 4) a relation occurred between coping styles in difficult work situations; and 5) external factors highly influence work-related stress and affect the QOL of seafarers working at sea.

### Bente Moen

#### Shift work in the maritime industry

University of Bergen, Norway

Approximately 57% of the employees in the Norwegian offshore sector for oil and gas production regularly or sometimes work nights. This figure is correspondingly higher than that for the general workforce in Norway (16%). This is also the situation for several other countries with this type of offshore industry. Shift work, particularly night work, might be disadvantageous to health and cause several symptoms of distress as well as somatic diseases. Night work is also a significant factor for work-related accidents. My review was performed to find current knowledge in this area in order to promote interest in implementing correct preventive measures. A search of studies on shift work and health in databases such as PubMed resulted in seventeen papers on shift work and related topics. Seven concerned sleep and sleep rhythm. The other ten studied different aspects of mental health, psychosomatic symptoms, and stress. Some of the studies also discussed other work factors and lifestyle in the United Kingdom, USSR, and Norway. It is concluded that relatively few studies on the topic of shift work and health have been published. The studies show different sleep disturbances, changes in sleep patterns, and adverse health effect due to different shift schedules.

### Iлона Denisenko

#### Patients' Ailments and Complaints

International Maritime Health Association (IMHA)

Being a practicing physician and often conducting pre-sea and regular examinations for seafarers, at the beginning of an examination I always ask if the seafarer has any complaints, and only about 5%

have any. When asked if they have any complaints the usual answer is.... No. **This is the first type.** Nothing is bothering me. Any chronic diseases... No. Any operations... No. Are you taking any medications... No. But during an examination quite a lot of interesting details can be revealed: large scars, metabolic syndromes, hypertonia, varicosis, and hepatitis B and C. I could go on and on listing such findings. For most seafarers they are afraid to complain because they do not see you as a doctor who wants to take care of them. It is hard for them to understand that everything you are trying to dig from their past is because that information will prevent medical problems – and early diagnosis is far better than late diagnosis. Seafarers often think of the doctor as a monster in a white robe, who is trying to prevent them from going to sea in order to get new contracts and send money to their families. It is really hard for them to get the right picture. Sometimes you should be like an inquisitor from medieval times, who tries to get the truth from poor prisoners. It is quite hard to break the ice. It can really take some time when a doctor tries to explain that finding limitations is not the main aim for an examining physician; the seafarers' health is. **The second type is the easiest one to examine.** The seafarer just tells you the truth. They will tell you what is really bothering them. They give the doctor their real complaints and their real health status. They are ready to cooperate, to follow your advice and report regularly. **The third type is the most difficult.** They think that they know much more than the doctor. Usually before coming for consultation they read medical pages on the Internet and some of them even have Harrison's famous Principles of Internal Medicine as a night reading book. These patients try to use complicated phrases with lots of medical terminology, which, even for a practicing physician, is difficult to understand. For example they will cite blood pressure as 190/100 as if they know everything about blood pressure. And after 10 or 15 minutes, when you are able to add a single word to the conversation you kindly ask these patients to please use "human words". In conclusion, I would like to say that questionnaires, personal declarations, and surveys are very good and informative, but we still have to remember not to look only at the forms that are filled out by patients, and it may be even better to fill out this part ourselves, asking seafarers questions and looking at their reaction. A lot of hidden complaints can be discovered this way. It is hard to ask questions that will tell the doctor what is wrong with the seafarer.

## Corinne Idnani

### Post-traumatic stress disorders in seafarers

Dr Idnani's Clinic, Mumbai, India

Think of seafarers working at sea and stress, and your mind may well conjure up an image of a piracy attack on a ship some nautical miles off the coast of Somalia. However, seafarers also face other stressors that may lead into Post Traumatic Stress Disorders (PTSD), such as illness, death, fire, accidents, drowning, sinking – the list is endless, and it is not uncommon for one to know a seafarer who has been the victim or survivor of one or the other of these happenings. PTSD is an abnormal response in normal people to any overwhelming situation that threatens their existence. Stress is an everyday phenomenon in the lives of seafarers, but protection from PTSD is determined by the seafarer's ability to cope with the trauma. Hence, it is necessary to develop the seafarer's ability to cope. The prevalence of developing PTSD after a traumatic event is 8% to 13% in men compared with an annual prevalence of 1.5% to 3% in the general population. This report aims to understand the neuro-endocrinology of PTSD and to propose the development of coping skills in seafarers exposed the risk of developing PTSD. Preparedness programmes are to be developed and taught to seafarers through their companies, agencies, and institutes. Protecting the seafarer has many aspects: preparation for the voyage, preparation of necessary procedures in case of piracy attacks; in case of captivity, preparedness to act quickly to secure the safe release of the captives during the trauma, etc. Most importantly is to address the trauma and stress reactions that the crew have suffered during the event. To do this effectively the seafarers need to be evaluated on a one-to-one basis before the debriefing takes place. The seafarer is helped to come to terms with the stressful incident and to integrate emotions with recall. When the crew is returned to duty it is important that they are cleared medically and then monitored throughout the first voyage after captivity. The support of family and colleagues on board can be very helpful. All considered, there are several challenges in addressing PTSD: alternative supportive therapies like relaxation techniques, breathing, and lifestyle adaptations should be integrated with formal medical counselling and therapy. The age-old adage still holds – **An Ounce of Prevention is Worth More than a Pound of Cure**. Thus training the seafarer with skills in dealing and coping with stress on board needs to be integrated into maritime courses. A positive outcome would be the reduction in PTSD to seafarers.

## Nebojsa Nikolic

### Piracy on board

Medical Centre for Occupational Health Rijeka

Piracy represents a significant health risk for seafarers and is present on the seas all over the world. The problem is largely confined to the coast of Somalia, West Africa, South America, and Southeast Asia. These are serious and violent attacks carried out by organized crime groups. The targets are merchant ships, passenger ships, and cruising yachts. Such attacks can result in short-term and long-term health problems and are further complicated by the hostage situation on shore. A survey of data by the International Maritime Bureau over 16 years has documented the number of pirate attacks and has identified trends. The number of pirate attacks against ships has risen every year for the last four years. The number of deaths and injuries has also been on the rise. On its 89<sup>th</sup> session the Maritime Safety Committee of the IMO adopted two legal instruments that allow presence of armed security personnel on board ships with the aim to protect crews from piracy attacks. Although the presence of armed guards resulted in a decline in the number of hostages taken in 2011 it did not have a deterring effect on the number of attacks, with pirates changing their tactics and using higher levels of violence to achieve their goals. Piracy threatens the security of passengers and creates relevant occupational health risks for crews all over the world, influencing not only their health but also the health of their families. It is necessary for all shipping nations to organize stand-by crisis teams that could intervene in the case of serious health consequences caused by different serious incidents in shipping. Crisis situations on board not only demand the resolution of serious financial, security, legal, diplomatic, and logistical problems aimed at the survival of the victims, but also demand comprehensive care for victims' health. It is well documented that such attacks and hostage situations are causing serious psycho-trauma with short- and long-term consequences for seafarers and their families. Some may develop post-traumatic psychological reactions requiring treatment, including Post Traumatic Stress Disorder, depression, and anxiety disorders or substance misuse problems requiring professional assessment and treatment from a psychologist, psychiatrist, or other mental health professional. For example, 69% of seafarers who were victims of piracy have been shown to have psychological problems after their release, so access to additional competent support may be necessary. It is important

to create a healing social environment immediately after their arrival, suitable for debriefing. A private, secure, and comfortable setting in which families could join them and from which united family groups might be escorted home afterwards, must be secured. Such an environment encourages strong cohesiveness within the victim group and isolates the victims from external groups. It also promotes abstraction and provides an opportunity for rest and replenishment.

The provision of a humanitarian response to seafarers is also needed to support the families throughout the duration of the incident and in the aftermath. The provision of accurate information on where further support can be accessed if required should be made available to the seafarer and to family members where appropriate. Personnel involved in all aspects of providing support to seafarers should have an awareness of possible stress reactions that may be experienced by those involved. This can be a guide as to what actions need to be taken to minimize the risk of further distress being experienced. The provision of trained responders, who can assist in the early humanitarian aspects of the support provided, can help to diminish the risk of the longer-term negative impact of such incidents. Coordinated planning in advance is needed to deal optimally with these physical, psychological, and social problems to help prevent or at least rapidly identify the problem and to offer appropriate help in future incidents.

### **Vsevolod Rozanov**

#### **Suicides at sea**

Odessa National Mechnikov University, Odessa, Ukraine

Suicide is a global public health problem. By 2020 an estimated 1.5 million people will die each year by suicide, and between 15 and 30 million people will make the attempt (Bertolete & Flieschmann 2002). Suicide rates are historically stable in different countries and national groups, sometimes with acute fluctuations in periods of social-economic instability or transitions. These trends may differentially influence various occupational groups, especially if the economic situation is getting worse in a certain sector. From the perspective of public health, suicide is also considered an important indicator of mental health – a concept covering most non-clinical measures such as wellbeing, emotional stability, life satisfaction, involvement, and optimism. Suicide may thus be analysed on the population (epidemiological) level, and in this sense certain risk factors may be discussed (gender, age, stressful life events, occupation, work

stress, etc.) as well as on the individual level. Here, underlying psychopathologies (depression, Post Traumatic Stress Disorder, drug abuse), some personality traits (impulsivity, neuroticism, hopelessness, cognitive style or existential aspects (crises), relations, sense of living) should be taken into consideration. All these factors, as well as the underlying neurobiological mechanisms and genetic makeup of the individual, can be integrated in the “stress vulnerability model”, which is based on a bio-psycho-social paradigm (Wasserman 2001). Extensive analysis of links between certain occupations and suicides (derived from the US national mortality register) revealed a slightly elevated risk in several technical occupations that may be referred close to modern marine specialties (Stack 2001). On the other hand, if speaking about seafarers as an occupational group, existing data (which are scarce) show relatively low rates of confirmed suicides in this contingent (1.3–2.2 per 100,000) (Roberts 2006). However, in the context of accidents the rate which is higher among seafarers, compared with corresponding technical specialties ashore and taking into consideration that a serious proportion of suicides may be underestimated or unconfirmed (“open verdicts”), the problem of suicides on board should definitely be given more attention (Roberts & Marlow 2005, Iversen, In press). The topic remains a strong taboo in many cultures, and with modern globalization trends (multinational crews, high work loads, short ship-turn-around times, work stress, job insecurity, etc.) there is a background for actual suicide levels to be substantially higher. It is also important to look at suicide in the context of risky behaviour, which has a lot in common with understanding the human factor, and accident analysis (Koester 2001). People’s life styles and the conditions in which they live and work strongly influence their health, both physical and mental. On the other hand people’s behaviour and unconscious gestures or motives can be important factors leading to minor incidents and major accidents and deaths. Some genetic factors may predispose to risky behaviours while genes-environments co variations may help some individuals to self-select themselves into risky environments. Thus, one of the questions that arises is whether some individuals carry their risks with them on board and how life stress, both in early periods of life and later in working conditions, can exacerbate these risks, promoting suicidal behaviour. Many interdisciplinary studies are needed to better understand stress-vulnerability and resilience and to develop more predictive tests to pre-

vent those at risk from entering the occupation and to prevent suicide among seafarers. Considering modern trends in public health it is particularly important to draw more attention to mental health promotion and suicide prevention on board. It is not only direct psychological aid that is needed, but also wider issues like collaboration and mutual goals toward understanding between the International Transport Workers Federation, crewing companies, medical services, marine educational systems, and families. Two main strategies may be suggested: 1) wider measures that improve general wellbeing and psychological context, and better identification of those at risk, together with better education of crew members regarding mental health problems. 2) One of the successful examples is a depression awareness project that utilizes educational and “resources distribution” strategy (Iversen, In press). Some suicides in seafarers can be prevented if the general level of knowledge, awareness, and attitude towards mental disorders is changed.

### Arne Johan Ulven

#### Family life of seafarers

Norwegian Centre for Maritime, Haukeland University, Bergen, Norway

Seafaring implies periods when the seafarer is not at home. This has an impact on both the seafarer and his/her family. The impact varies in severity depending on various parameters: **Spouse at home?** Are they strong, practical, and independent? Working? What are the limitations on the spouse's career? **Suitable couple/family?** What are the concerns about unfaithfulness? **Any children?** Number and age, healthy or sick, activities, lack of role model, drugs and alcohol? **Parents alive?** Healthy or sick? Possible need of care? **Size of family network,** small or big family? Capacity for support when needed? **Quality and support.** From family network. **Social network and neighbours?** Quality and support from them. Someone to talk to or get help from when needed. **Influence on social life? Family economy.** Good or poor? Alternatives or depending on seafaring? **Contact with family while at sea.** Phone, mail, email, videoconferencing. Free of charge or expensive? **Practical challenges?** House, car, boat, transport, kindergarten, school? **Job security for the seafarer? Working conditions.** Safety, type of ship, and region of sailing. **Schedule.** At home and at sea. There are a lot of factors affecting the psychological impact on the family of a seafarer. There is a need for research to establish evidence as a basis for compensatory measures.

### Don Eliseo Lucero-Prisno III

#### Concepts of shore leave in the context of stress

Cardiff University, UK

Shore leave is the break from onboard work, encompassing all the activities that seafarers enact from the time they leave the ship to the time they go back onboard. This has been a part of the routine of seafarers that has not seen much attention from industry and academic researchers. This study explored the various aspects and issues revolving around shore leave. One of the goals of the paper is to analyse the performance of shore leave and address the different issues surrounding it for translation into policy and practice for better working conditions. Data gathered was based on seafarer participant participation on an international cargo ship, participant observation in a port in Brazil for six months, and in-depth interviews in seafarers' centres. Results show that the performance of shore leave is intertwined with their experiences onboard the ship and their lives back home. The paper presents the various meanings seafarers give to shore leave and the different activities performed during shore leave. It discusses why these activities are performed and how these activities relate to their lives on board and their lives back home. Also discussed are various issues such as health, stress, cyclicity, exploring the port, alcohol use, connecting to home, performance of being fathers, patronising red light districts, transnationalism and liminality, etc. Results show that shore leave is an important health and human element of the working lives of seafarers, which warrants much attention. Understanding its performance provides ways and means to address the general issues of health, stress of working on board and away from their families. Recommendations encompass various inputs in the areas of technology, communication, work relations, and social and family relations. These inputs are deemed to translate into better working conditions for global seafarers.

### Elrey Navarro

#### Risk prevention

There has been increasing interest in the use of stress and fatigue management programmes in the workplace, particularly in the shipping industry. However, it is widely recognized that difficulties have been met with current practices – theoretical, methodological, or practical approaches. There could also be lack of adequate frameworks for good practice in addressing stress- and fatigue-related problems among seafarers. The responsibility for the health of

seafarers is set within a framework of national and international laws, which is itself supported by a set of concepts and assumptions about practical actions. Risk is the 'effect of uncertainty on objectives' (ISO 3100 [2009] & ISO Guide 73:2002). Uncertainties include events (which may or may not happen) caused by ambiguity or a lack of information. Risk includes both negative and positive impacts on objectives. It is also the product of the probability of a hazard resulting in an adverse event multiplied by the severity of the event. Studies have demonstrated that seafarers' fatigue is common and widespread. There are clearly serious risks and consequences inherent in allowing vessels to be manned by fatigued seafarers (SMI 2012). These can be summarized as follows: potential for more maritime disasters; economic costs due to penalties for accidents, losses and increased insurance premiums; and serious health and safety implications for seafarers. A comparative approach to seafarers' fatigue (Smith et al. 2007) has provided an evidence base for the development of fatigue recommendations and guidance. These general recommendations for addressing seafarers' fatigue were summarized as follows: review how working hours are recorded; fatigue management training and information campaigns; establishment of an industry standard measure of fatigue; and development of a multi-factor auditing **tool**. A starting point must be to take a more robust approach to regulations. Manning levels need to be addressed in a realistic way that prevents economic advantage accruing to those who operate with bare minimums (see Couper et al. 1999). Such an approach must consider more than the minimum levels necessary to operate a vessel; rather it must address the need for maintenance, recovery time, redundancy, and the additional burden of the paper work and drills associated with security and environmental issues. The measures that were considered most necessary in reducing fatigue were found to be: proper implementation of the ISM Code; optimizing the organization of work on board ships; lengthening the rest period; and reducing administrative tasks on board vessels. Potential measures to manage fatigue can be classified as (IMO, 2001 a.b.): organizational factors, voyage and scheduling factors; ship-specific factors; environmental factors; and procedures and guidelines. According to the IMO ([www.imo.org/home.asp](http://www.imo.org/home.asp)), an organization with a safety culture is one that gives appropriate study to safety and realizes that safety must be managed like other areas of business. The IMO says the key to achieving a safety culture are: recognition that

accidents are preventable by following correct procedures and practices; constantly thinking about safety; and seeking continuous improvement. A comprehensive approach to managing fatigue is given in Appendix 1 (Control and the Management of Stress).

### Edward Pracz

#### Spirituality and quality of life at sea

Apostleship of the Sea, Stella Maris, Gdynia, Poland

The motto should be **A Sound Mind in a Sound Body**. Medicine is the art of healing the human body, and although it generally concentrates on the physical side, it also refers to psychological and ethical aspects of the human condition. In its attitude towards human beings the Church goes decidedly further and refers to human **spirituality** that enables a person to discover the essence of his or her being, a quality of being dedicated to God as the ultimate reality. The Church also outlines further prospects of the human condition; it answers the question on what is the beginning and the sense of human living. Our discussions may be even deeper if stress, fatigue, and quality of life are also seen within the context of human spirituality and the ultimate sense of human life. This is the very context within which the Apostleship of the Sea takes care of seafarers of all religious, cultural, or national backgrounds when they are welcomed in our Centres or during our visits on board offering hospitality and spiritual comfort. Separation of seafarers from their families is a serious impairment on their quality of life. However, a focus on spirituality makes man start living with the fruits of the Holy Spirit, and this leads to building up a sound community on board the ship. The Church believes that a child is born not only by the will of man. Allow me to remind you that seamen, like all of us, are also children of God, and thanks to their spirituality they, like all of us, are full of grace, beauty, and charm. The maritime mission of the Apostleship of the Sea has always been in solidarity with the People of the Sea, witnesses of hope through the Word of God, Liturgy, and Service. Finally, the Apostleship of the Sea responds to the seafarers' distress call **"SOS"** that many believe is short for **Save Our Souls**. Love, joy, patience, kindness, goodness, trustfulness, gentleness, and self-control are needed on board.

### Robert Iversen

#### The mental health of seafarers

Rotary Club of Melbourne South, Brighton, Australia

The mental health of seafarers in many cases is not very good. Suicide is a serious problem among



seafarers. It is often due to depression caused by such things as loneliness, separation from spouses and families, stress, fatigue, lack of shore leave, short ship-turnaround times, job security, crew cultural problems, criminalization, and piracy. In a study of seafarers' deaths from 1960-2009 I found there were 17,521 deaths from all reasons. Of these, 1,022 resulted from suicide (5.8%). When deaths by suicide (4,487) were compared to deaths due to illness (590) the percentage rose to 13.1%. Many seafarers have disappeared at sea, and if 50% of their deaths were attributed to suicide, as suggested by many social science researchers, the percentages would be even higher (Roberts & Marlow. 2005). The data on suicides proves that the mental health of seafarers in many cases continues to be very poor and often fatal. With deaths aboard merchant ships resulting from depression leading to suicide being widely reported, the damage to the seafarers, their families, and ship owners cannot be ignored. It strongly demonstrates the need for everybody connected with the international maritime shipping industry to do something about it. The mental health of seafarers and the economic health of the shipping industry will be improved as a result. A recommendation is made for industry and others involved with the international shipping industry to undertake a project to place new information on the mental health of seafarers on all of the world's merchant ships\* (see Appendix 2).

## SUMMARY

That stress and fatigue affect the quality of life of seafarers is obvious. The results of the research by the workshop presenters show that the causes of stress and fatigue are well known, that there has been much research on reducing stress and fatigue, and that many practical suggestions to reduce stress and fatigue, to cope with piracy post-traumatic stress disorders, to improve shore leave, to improve their mental health, and to allow for sufficient rest at sea have been made. While the main causes of stress and fatigue may have been well researched, what might be needed now are more specific initiatives to make sure the results of this workshop and related research reaches ship owners and operators and others in the industry, whose input is critical to the health and welfare of seafarers – such as those who prepare watch standing and shift schedules that allow sufficient sleep for seafarers, those who counsel seafarers on handling the stresses that come from pirate attacks, and the crewing agencies and medical personnel who make sure both physically and

mentally fit seafarers go on board ships. One aspect of seafarers lives that must not be overlooked is the spiritual side of their nature when counselling is needed to meet personal problems. With modern communications, help to address personal and mental health problems is within the reach of all ships.

## FINAL CONCLUSIONS

As a result of the Workshop meeting and previous confrontation of knowledge from scientists in different countries, it is clear that there is a necessity of establishing a working group on the subject of Mental Health.

The main aim of The Group would be the thorough research and elaboration of such important problems of people working at sea, such as: stress, fatigue, suicides and fatalities, PTSD, risk prevention, family life, etc. All of these aspects have a significant impact on seafarers' quality of life.

As an effect of collaboration of The Group, we should develop strategies and techniques for life and work at sea improvement.

Combining the knowledge and experience from different sources gives the opportunity for successful coping with problems.

The work of such a team should result not only in scientific publications but more importantly bear fruit in issuing an international guide book, also in an electronic version.

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**Appendix 1.** Control cycle and the management of stress (from Navarro, No. 9)

- Acceptance that employees are experiencing problems or stress at work
- Analysis of the possibly stressful situation, with the identification of the psychosocial and other hazards involved the nature of the harm that they might cause and the possible mechanisms by which the hazards and the experience of stress are related
- Assessment of the risk to health associated with those hazards and the experience of stress
- Design of reasonable and practical control strategies
- Planned implementation of those strategies
- Monitoring and evaluation of the effects of those strategies feeding back into a reappraisal of the whole process

**Appendix 2.** Recommendation for further action (from Iversen, in press)

The following is offered towards reaching a goal of all ships worldwide receiving information specifically on the mental health of seafarers. It is suggested that leading international organizations that are concerned with the welfare of seafarers, such as the International Maritime Health Association, the International Transport Workers Federation, the International Committee on Seafarers' Welfare, the Baltic and International Maritime Council, the International Chamber of Shipping, and the Asian Shipowners Forum – working with organizations like the philanthropic TK Foundation (whose website says it has a “Great affection for Seafarers and a Passion for Ships and the Sea”) – produce booklets and leaflets modelled on those produced by the Rotary Club of Melbourne South and the International Committee on Seafarers' Welfare, in languages used by most seafarers for distribution on board all ships.

\*According to the Baltic and International Maritime Council (BIMCO) there are 68,000 large merchant ships world-wide (information from Capt. Nicholas Mahoney, Chief of BIMCO's Front Office (liaison with owners/operators of ships represented by BIMCO)