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IMPACT OF LIFESTYLE ON HEALTH AND SAFETY AMONG MARINERS

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ABSTRACT

A way of life is a practice followed by individuals, communities, and countries, and it is shaped by factors such as location, economy, politics, culture, and religion. The term "lifestyle" is used to describe the norms and practices of a certain population during a given epoch. It comprises the typical actions and routines that people engage in on a daily basis, such as work, play, and nutrition. Researchers have been more interested in lifestyle in recent decades due to its potential impact on health. The World Health Organization (WHO) claims that one's way of life accounts for sixty percent of the correlation between health and quality of life (1). Unhealthy habits are widely adopted by millions of individuals. As a result, they face the realities of sickness, incapacity, and even death. An unhealthy lifestyle may lead to a number of issues, including metabolic disorders, joint and bone difficulties, cardiovascular diseases, hypertension, obesity, excess body fat, violence, and more. It's important to give plenty of thought to the link between how you live and how you feel. All people's lives have seen major shifts recently. An unhealthy lifestyle is exemplified by widespread prevalence of risk factors such as malnutrition, poor diet, smoking, excessive alcohol use, drug addiction, drug abuse, stress, and so on. Also, residents must adapt to new difficulties in their daily life. One such global danger to people's physical and mental health is posed by the proliferation of new information and communication technologies like the internet and virtual communication networks. Problems arise when people abuse and exploit the technology.

INTRODUCTION

Since they spend so much time at sea, sailors are a unique group of individuals. They feel distant from loved ones and society at large as they spend six to nine months at sea (Salyga, 2004) My study will focus on how environmental risk factors influence their day-to-day lives. Most sailors are exposed to very hazardous environments at work and at home. Vibration, noise, electromagnetic field, long-term stress, time and climatic zone shifts, irregular sexual intercourse, etc. are all elements that might have an effect. Their health and quality of life are severely impacted (Salyga, 2004). Societal health issues are, to a large extent, attributable to individual choices and actions. The condition and appraisal of a subject's health depends on more than just their biological status; social and psychological factors are equally crucial. Assessing one's health and way of life, two crucial contributors to one's happiness and longevity, is crucial. No prior research or studies have been conducted on the topic of quality of life (QOL) among Lithuanian mariners. Some research has been done on their cardiovascular health (Norkiene, 2004). The results of this research should shed light on the most significant contributors to

sailors' QOL. Discussions prompted by the findings, we hope, will aid in improving the efforts of organizations responsible for the health of sailors.

The quality of life of Lithuanian seafarers (and seamen from other nations) seems to be an emerging area of study. Little research have been conducted on the topic of cardiovascular dysfunction among sailors, deep sea fishermen, and port workers, and the few that have shown conflicting results were from countries including Spain, the Netherlands, Poland, Croatia, and Finland (Waskiewicz, 1993, Balanza Galindo, Mestre Molto, 1995). Despite the prevalence of cardiovascular illness among sailors, no large-scale research focusing on QOL were identified. The necessity for a centralized authority responsible for coordinating and directing efforts to promote the health of a particular occupational group, in this case sailors, was inevitable. On June 22, 1997, during the Fourth International Symposium on Maritime Health in Oslo, a group with the goal of improving maritime health was established; nowadays, this group is known as the International Maritime Health Association (Norway). The mission of the non-profit International Maritime Health Association is to promote scientific advancement, enhance the health of marine workers everywhere, and reduce health care costs (seafarers, fishermen, offshore oil industry installation workers, divers etc.). The goal of the International Maritime Health Association (IMHA) is to provide a platform for the free and open exchange of information related to marine health among professionals and interested parties from across the world. To that end, the Association will keep in close communication with the World Health Organization (WHO), the International Maritime Organization (IMO), and the International Labor Organization (ILO), amongst others. Its goal is to become a go-to resource on marine health for governments, ship owners, labor groups, and others.

Quality of life varies depending on location, however there are three main criteria that should be utilized to evaluate it. Life expectancy is the first consideration. Factors such as the availability and affordability of medical services and infrastructure are included into estimates of human lifespan. The environmental and sociological conditions of a region may be inferred from its average life expectancy. Second, one should think about schooling. Literacy rates and access to education for all residents are key indicators of a region's educational climate. The quality of a region's educational system is indicative of that region's level of growth, advancement, and prosperity. Standard of life, the third component, includes space, crime, violence, equality, freedom, per capita income, and environmental and sociological circumstances. The contentment of a community depends on its standard of life (Skrobonja, Kontosic, 1998).

The phrase "quality of life" (QOL) is often used interchangeably with "health" (Haug&Folmar, 1986). It's worth debating if quality of life and well-being are interchangeable phrases, and if not, which one is more accurate. Well-being, like quality of life, has been evaluated using a variety of methods and scales. "good health and wellbeing need a clean and harmonious environment in which physical, psychological, social, and aesthetic components are all accorded their due priority," reads the WHO's European Chapter on Environment and Health (Power, 2003).

LITERATURE REVIEW

M. Jeżewska (2016) Those who make a living at sea face unique stresses due to the nature of their employment, the weight of their responsibilities on the job, and other psychosocial and environmental issues. Students and officers at the Maritime Academy were given the opportunity to assess their own

levels of stress caused by their time spent at sea. Students in the Mechanical Faculty of the Maritime Academy (MA) in Gdynia (mean age: 22.7) and working seafarers (deck officers and ship's engineers) (mean age: 47.2) with at least 15 years of experience at sea were compared in this research. The "Work-Related Stress—Subjective Work Assessment Questionnaire" was used to measure stress in the workplace. Stress at work was more likely to affect students than experienced officers for four reasons: interpersonal relationships, physical demands, a lack of say over one's environment, and an absence of social support. As a preventative measure, it was advised to implement a program of psychological training to bolster individual capability.

Malcolm MacLachlan (2012) The field of international marine health has grown out of the intersection of occupational medicine and global health issues. To determine the breadth of marine health research and the range of topics covered by International Maritime Health, we combed through its published articles from 2000–2010. Healthcare access, delivery, and integration; telehealth; NCDs and other physical health problems; infectious illnesses; mental health and social functioning; and safety-related difficulties are the six broad areas we've uncovered. We report on the publishing prevalence of these topics and outline the research conducted within them. We also examine the research in terms of where it was conducted, what populations were included in the study, and what methods were used. We recommend expanding maritime research to include randomized controlled trials, longitudinal studies, and more qualitative studies; studies that focus on the context of seafarers from outside of Europe; and studies that examine the wives and families of seafarers. In order to better promote marine health, we advocate for additional studies to be conducted on psychological and cultural concerns, as well as telehealth, and for a more robust systems view to be developed.

Dariush D. FARHUD (2015) A way of life is a practice followed by individuals, communities, and countries, and it is shaped by factors such as location, economy, politics, culture, and religion. The term "lifestyle" is used to describe the norms and practices of a certain population during a given epoch. It comprises the typical actions and routines that people engage in on a daily basis, such as work, play, and nutrition. Researchers have been more interested in lifestyle in recent decades due to its potential impact on health. The World Health Organization (WHO) claims that one's way of life accounts for sixty percent of the correlation between health and quality of life (1). Unhealthy habits are widely adopted by millions of individuals. As a result, they face the realities of sickness, incapacity, and even death. An unhealthy lifestyle may lead to a number of issues, including metabolic disorders, joint and bone difficulties, cardiovascular diseases, hypertension, obesity, excess body fat, violence, and more. It's important to give plenty of thought to the link between how you live and how you feel. All people's lives have seen major shifts recently. An unhealthy lifestyle is exemplified by widespread prevalence of risk factors such as malnutrition, poor diet, smoking, excessive alcohol use, drug addiction, drug abuse, stress, and so on. Also, residents must adapt to new difficulties in their daily life. One such global danger to people's physical and mental health is posed by the proliferation of new information and communication technologies like the internet and virtual communication networks. Problems arise when people abuse and exploit the technology.

AikateriniDrylli (2020) The world's commercial fleet consists of more than 50,000 ships, and it now employs more than 1.5 million seafarers. Historically, living at sea has been considered undesirable due to a number of health problems that might arise. Considering the large number of sailors and the seriousness of their health problems, no comprehensive review of the relevant literature has been

conducted as far. This study aims to do just that by reviewing research dealing with seafarers' health issues, crises, illnesses, and risk factors. Methods: Articles published between January 1, 2012, and April 15, 2018 were included in the systematic review. PubMed, Science Direct, Scopus, the Cochrane Library, and Google Scholar were among the resources searched. The study was conducted by a pair of lone researchers. Just 25 of the original 229 articles found met the requirements for inclusion. The findings showed that most research used a descriptive approach. Metabolic syndrome, obesity, cardiovascular/coronary heart disease, chronic weariness and stress, accidental injuries, and vehicular accidents were the most frequently reported health problems. Due to the limited sample size, study population selection, poor response rate to questionnaires, absence of medical history and demographic data, and sometimes inadequate information on diagnosis and treatment, it was determined that there was a significant risk of bias. It's safe to say that unhealthy lifestyles and occupational ailments are the biggest obstacles for sailors nowadays. Yet, despite the abundance of research, findings are constrained by factors like sample size, data availability, and methodology. That's why it's important to collect more data on seafarers' working conditions and health to determine what needs fixing and how.

Factors causing work-related accidents, injuries and homicides in seamen

Several writers have studied maritime workplace accidents to determine their prevalence, nature, and root causes. According to Hansen et al. (2002, 2005), maritime catastrophes and workplace accidents account for a disproportionately high number of fatalities in the commercial shipping industry. A lot fewer accidents were reported involving non-Danes, he said. It's possible that foreigners' safer habits translate into fewer incidents overall. It's possible that the disparity reflects true behavioral variations across cultures that contribute to the same workplace's varying accident rates. A greater prevalence of underreporting among this population may potentially be one reason. Some foreigners have trouble working with local officials because they are unfamiliar with the system and do not know their rights. Accidents leading to permanent disability were more common among the elderly. Both ship changes and the beginning of service on a new ship were shown to be significant predictors of adverse events. Serious mishaps occurred when people walked about the ship. The worst of the mishaps occurred on deck.

Despite the fact that the same employment had significantly varied risk on various ship types, the occupation of seafarers is an indication of accident risk. The most dangerous jobs on deck and in the holds are those that entail heavy lifting for the deck crew. Although marine engineers have a higher accident rate than the deck crew, their mishaps are often less serious. Galley and catering workers experience several incidents while preparing meals and serving it. Such an accident will in many instances render them temporarily ineligible for food handling, although the accidents infrequently cause lasting incapacity (Hansen et al., 2002). The fatal and non-fatal injuries among Baltic fisherman happened far more often, than in deep-sea fishermen operating on huge ocean–going trawlers-factory ships. This might be due to variations in working conditions across fishing boats (Tomaszunas, 1992). Many of the tragic incidents involving commercial fisherman in Australia may be traced back to factors like as bad weather, unseaworthy boats, improper usage of PFDs, and inexperience (Driscoll et al., 1994; Jensen et al., 2004).

The Roberts & Marlow research was a longitudinal look into the causes and consequences of traumatic workplace injuries and deaths in British commercial shipping from 1976 to 2002. (2005).

As compared to the rest of the British workforce, those who work in maritime occupations have a somewhat greater relative risk of dying on the job. The risks associated with working aboard ships have not diminished. Historically, the number of people killed in accidents involving commercial fishing fleets has been far greater than that of ships carrying goods. This meant that, in developed western nations, seafaring was often the second most dangerous vocation, behind commercial fishing. Fatal occupational accident rates were generally higher in cargo-carrying ships, and shipping casualty rates tend to be higher for flags of convenience fleets, which is why most British cargo-carrying ships were "flagged-out" to flags of convenience registries in the 1980s. The investigation connected to killings among British sailors and fishermen (Roberts, 2004 b) demonstrated that they were usually caused by assaults by attackers, other than colleagues, that happened onshore. During the 1970s, the murder rate in British shipping has gone down along with the number of deep-sea ships dealing with nations with a high murder rate. Among Asian sailors, most killings arose from disagreements resulted from arguments among colleagues that mostly happened on board ships. Preventative measures should include both conflict resolution for arguments amongst sailors and awareness of possible dangers while spending time ashore in areas with high murder rates.

Environmental and occupation-related

One-third of the population of seafarers and deep-sea fishermen over the age of 40 or with more than ten years of work at sea have abnormal electrocardiograms according to the standards established by the Minnesota Code of 1982. Four and a half percent of patients showed evidence of defective repolarization of the ventricle myocardium (grades four and five), and two and a third percent were diagnosed with cardiac action abnormalities manifesting as premature ventricular and junctional beats. Arterial hypertension in terms of WHO criteria was identified in 9, 4 % patients. Eight percent (8%) of the study population was overweight or obese. The rates of deviations in the electrocardiograms submitted to the examination with the code do not differ considerably from the data acquired from the research on industrial employees in Poland (Waśkievicz, 1991). According to the same author's (Waśkievicz, 1993) further research physical investigation of blood circulation was carried out and in 42 % sailors and deep-sea fishermen pathological abnormalities in blood circulation were identified, in 18, 6 % ECG recordings were abnormal. Arterial hypertension was found in 13.3% of the population. According to the survey results, the population of workers studied was at a high risk for cardiovascular illnesses.

Seafarers have a unique health risk from cardiovascular illnesses. Work-related exposures, their nutrition and inadequate physical activity while employment at sea are significant factors for the formation of ischemic heart disease (IHD) in this group of employees. The researchers behind the study by Filikowski et al. (2003) wanted to see how often people had problems with things like being overweight or obese, smoking cigarettes, having high blood pressure, having high cholesterol, or having high levels of uric acid in their blood. The research found that 82.9% of the studied population had at least one of the following risk factors, although 30.5% had only one, 50.3% had two, 13.2% had three, and 6.0% had four or more. All but 6% of the analyzed group were Polish seafarers.

Hazardous work and environmental conditions affecting health status

Many sailors are or have been exposed to carcinogen influences, and their workplace poses risks (asbestos, different chemicals, crude oil, oil products, organic solvents exhaust vapors etc.). Up to now the epidemiological investigations of this occupational category have primarily concentrated on

accidents and infectious illnesses. In the last year, benzene levels up to 300 times the permitted amount have been detected near the tanks and throughout the rest of the ships carrying the chemical in the United States, Denmark, Norway, and Sweden (Halder et al., 1986 a & b; Moen, 1991; Moen et al., 1992,1994,1995,1996; Svendsen &Hilt , 1997 a & b). C4 and C5 hydrocarbons make up anywhere from 67 percent to 74 percent of a typical gasoline vapor, according to an analysis of occupational exposure to gasoline fumes. It was also determined that between 61 and 67% by weight of the entire vapor is composed of the four components n-butane, n-pentane, n-pentanes, and isopentanes, which together account for more than 90% of all theC4/C5 vapor components (Halder et al., 1986 a & b).

Moen (1991) research demonstrated that seafarers were exposed to fumes from volatile chemicals throughout many operating tasks, such as loading, unloading and cleaning the tanks. The greatest exposure was presumably to organic solvents and other hydrocarbon compounds, both in the cargo and in the chemicals employed in the cleaning operations. Captains received practically minimal chemical exposure. It seemed that older sailors were subjected to higher levels of toxic exposure. Insufficient use of protective breathing equipment, working with organic solvents, and tank cleaning all contributed to 35% of the crew experiencing intoxication symptoms. 26 Long-term exposure to organic solvents has been linked to the development of neurological diseases, according to research by Riise and Moen (1990). Crew members who were exposed to the most benzene reported experiencing symptoms in their central nervous systems; however, benzene exposure is likely not the main reason (Moen et al., 1995).

Oil-mist exposure, or more likely a combination of past asbestos exposure and past or present oil-mist exposure, may explain the increased prevalence of respiratory symptoms (cough, wheezing, chronic bronchitis, severe dyspnea, any dyspnea, and mucous membrane irritation) among Norwegian marine engineers (Svendsen & Hilt) (1997 a). Many mariners have been or are now exposed to harmful substances at work, including carcinogens, organic solvents, chemicals, selenium, methylmercury, and others. Musculoskeletal, dental, auditory, and ocular health are all put at danger by a life at sea. Common signs and symptoms from these systems include but are not limited to: age, amount of years in the maritime profession, labor duties, weather, equipment, crew size, and experience.

Work-related stress and psychological problems

Norwegian fishermen's heart rates were analyzed digitally to determine the extent to which their cardiovascular systems were stressed when they engaged in long-bank fishing. Against popular perception, the study's authors found that older fisherman, who are more likely to experience job-related stress, are not always good candidates for bank fishing (Rodahl &Vokac, 1977). If an efficient system of task rotation is in place and the crew is big enough, ample rest may be had even during times of high fishing success. The intensity of neurotic disturbances increases with both age and years spent in the workforce (Dolmierski et al., 1998)

There were occasions when sailors were in imminent danger from one another. Weisaeth (1989) studied the psychological effects of shipboard torture on Norwegian sailors. Fear, sadness, and wrath were the first responses to the tremendous pressure. Over half of the treated sailors still showed symptoms of post-traumatic stress disorder six months after they were released. Seafarers and fishermen were shown to have a high prevalence of neurosis, especially psychosomatic neurosis (Dolmierski et al., 1990; Nitka, 1990). Probably due to the unique stresses of working and living at sea. The stereotypical sailor is someone who is always under pressure from their challenging physical

surroundings, constant movement, feelings of solitude, and poor personal habits. There was no increase in psychological symptoms in the study by Carel et al. (1990). Researchers hypothesized that the people they were studying were a happy bunch who had found their niche in life. Loneliness, homesickness, and "burn - out" syndrome were identified as the most prevalent mental health issues among sailors in a research devoted to the topic of stress (Agterberg&Passchier J., 1998; Sampson & Thomas M., 2003). Long absences at sea, the psychological impact of isolation on sailors, a decline in crew numbers, and the rise of automation were the primary causes of the issues.

Life-style factors and their relationship with seamen's health

The health of sailors is directly related to their way of life. Five-sixths of Icelandic fisherman smoke (lafsdóttir, 2004), while smoking is a major issue in Scotland's fishing community (Lawrie et al., 2004). Several facets of society are driven by people's occupations. A person's occupation is a reflection of their intellect, education, personality, ambition, social standing, and way of life, among other social and psychological aspects. There is a strong link between alcohol use and many different types of jobs. Liver cirrhosis mortality rates are proportional to national average alcohol intake. Several professions have obviously higher fatality rates than others. Jobs with above-average risks are the ones to avoid at all costs. Alcohol-related health care use among males is greatest among unskilled employees and mariners, and lowest among executives and farmers, according to a research conducted in Finland (Olkinuora, 1984).

Occupational risk factors include access to alcohol on the job, peer pressure to drink, isolation from friends and family, and lack of supervision. Rix et al. (1982) found that fishermen were more likely to become alcoholics than those in other professions. American merchant mariners who were actively working seemed to have drinking problems due to their jobs rather than a genetic predisposition to alcoholism (Haberman, 1983). More alcohol-related issues and more heavy drinking months were seen in sailors who had been exposed to organic solvents and other hydrocarbon chemicals (Moen et al., 1992).

Obesity,Metabolic Syndrome andCardiovascular Disease

Nine publications focused on the connection between the maritime lifestyle and the prevalence of obesity, Metabolic Syndrome, and cardiovascular disease. Three publications focused on Danish sailors, two on Iranians, one on Spanish sailors, one on American officers, and one contrasted two (or more) ethnic groups. Using questionnaires and Pre-Embarkation Medical Examinations (PEMEs), Moller Pedersen et al. gathered information from 524 sailors. There were 29,5% males and 10,7% females diagnosed with MS; 30% of smokers and 18% of heavy drinkers were in this group. After 2 years, Jepsen et al. reexamined 141 of these sailors to see how they were doing. 26.5% were diagnosed with MS; 37.7% were smokers; 19.6% were heavy drinkers.

Hjarnoe et al. conducted a similar study with 272 PEMEs and 360 questionnaires. Significantly, 44% of them were regular smokers. There was no discernible difference between on-board and on-land physical exertion. Additionally, there was a substantial difference in caloric diet and overeating at sea than at home. Just 25% had a healthy weight, whereas 51% had multiple sclerosis. Hjarnoe et al. conducted a 1-year follow-up research using PEMEs and questionnaires to evaluate these sailors. An considerable increase in physical activity, a decrease in caloric diet and a reduction of MS in 48% were noticed.

Conclusion

The publication World Maritime Health has been significant in developing the marine health research literature and culture. In the introduction, we posed the questions, "Does research on maritime health represent the globalization of the maritime industry? Does it give coverage of the complete spectrum of marine health issues?" and "Does it reflect the breadth of stakeholders involved?" The findings of this research indicate that further work is needed by International Maritime Health and other relevant publications to provide definitive solutions to these problems. Publications do not fairly reflect the breadth of marine activities across regions or the diversity of nationalities represented on crews. Additional studies should strive to address the multi-stake holder views owners, unions, port authorities, international regulatory organizations which are important to the difficulty of tackling numerous marine health concerns. A systems viewpoint, which has been effective in other sectors (such as aviation and the process industries), might be useful in fixing issues affecting seafarers' health at sea. While the ship, its crew, and its cargo are all located inside the same ship, they are not independent entities. Maritime health is affected by a variety of factors, including the environment, organization, operations, safety, and culture. A systems-based approach to future research can facilitate the targeting and implementation of integrated healthcare interventions, but many of the challenges seafarers face, such as long periods away from home, certain environmental conditions, and the inability to leave the workplace, cannot be avoided. We also point out that ships need to have access to a wide variety of powerful medicines and medical supplies. The “Medical Locker” is examined as part of the Port State Control system; nevertheless, greater study on the most efficient means of teaching workers to safely and effectively offer such treatment would also be important.

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