

AN ANALYTICAL STUDY OF LIFESTYLE, IMPACT ON SEAFARER'S HEALTH: PRECAUTIONARY MEASURES AND ABSTRACT

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ABSTRACT

The maritime industry has long had a reputation as a "risky career," both in terms of physical and mental health. Those who make their living at sea face unique stresses in the job, such as long hours, poor working conditions, and solitude. This research aims to examine the connection between mental and psychological health at work and issues of work-life balance and healthy living. Discussions center on expanding the number of crew members, providing more training and resources, and keeping an eye on employees for signs of mental illness.

Keywords: Occupation, Safety, Health, Mariners, Control and Maritime.

INTRODUCTION

Occupational Safety and Health (OHS), a study of the literature on a variety of topics impacting marine workers across the world. Despite the fact that the current body of knowledge on seafarers OHS is disjointed and fails to paint a global picture of OHS in the maritime industry, the available studies unequivocally reveal high rates of occupational fatalities, injuries, and ill health in the maritime industry and point to the urgent need for further investigation in this area.

The majority of the research on marine health and safety originates from the Nordic and North Western European nations. In this chapter's second section, we look at the additional difficulties created by economic globalization in terms of protecting the occupational health and safety of maritime personnel. It explains how deregulation and the free flow of money and labor across borders have contributed to unsafe working conditions for maritime workers and may have harmed OHS management generally. Various responses to the negative effects of economic globalization on the marine sector, and show how the sector has implemented self-regulation to raise OHS standards.

The marine business is an exciting and rewarding field to work in for many reasons. Some people would like a less conventional work schedule, one that allows for more periods of both work and rest. You may travel the globe while earning a living by choosing a career on the high seas. The mariner's lifestyle may be quite satisfying, but it also comes with its fair share of difficulties. Due to the nature of the profession, being a mariner is taxing on all three of your body's systems. Being a mariner is an unconventional profession in that it requires significant time away from family and friends. This presents difficulties that employees in other industries may not encounter.

This book will cover the physical, mental, and emotional health concerns faced by sailors, as well as the best methods for avoiding or dealing with these dangers, all with the goal of helping mariners have happy, healthy lives while at sea. Trade across the world has relied heavily on the accessibility of rivers for transport. As a result of scientific and technological advancements, maritime transport has

changed considerably throughout time. Historically, sailing ships were the primary mode of maritime transport, traversing both inland and coastal seas to deliver goods. These ships have come a long way from the days of basic sailing boats, with current versions being large container ships that can make transoceanic journeys while still navigating inland and coastal waterways. Multinational shipping organizations, multibillion-dollar trade, and worldwide commerce have come to dominate the maritime transportation business, which was formerly controlled by individual explorers, voyagers, and merchants.

The need to facilitate international commerce has spurred the development of the marine transportation sector. As globalization and marine commerce have grown intertwined, the international maritime transport sector has expanded rapidly. The United States has its own marine transportation business, which is governed by a set of laws that differ significantly from those of other countries. The Jones Act, the Maritime Security Program, and Cargo Preference are all examples of such laws. Since many countries have not had the same opportunities for advanced development, their marine rules, laws, and regulations are not as advanced as those in the United States.

Maintaining a safe and healthy workplace is a top priority for all humans. The maximum possible level of physical, mental, and social health in the workforce across all industries is the end goal of this movement, which seeks to achieve this goal via the customization of the working environment to each individual employee. As a worldwide problem, workplace health and safety are shifting gears. The fast industrial and agricultural growth taking place in emerging nations, as well as the introduction of new goods and product processes from these regions, seem to be the key contributors to this peculiarity. Workplace health concerns are likely to arise as many of these nations transition from manual labor to service automation in their primary productive sectors, including manufacturing, mining, and agriculture. Furthermore, these nations' unquenchable need for technological development has necessitated the importation of high-tech gear and equipment across all economic sectors, not just manufacturing. Inevitably, this has been linked to a shift in the composition of the labor force overall, with the result being more women in paid positions.

LITERATURE REVIEW

Shan, Desai. (2021). The COVID-19 pandemic has altered the labour market. However, international commerce is still seen as a vital industry, and shipping is crucial to globalisation so much so that its momentum cannot be halted. More than 90% of the world's goods are transported by water, yet since the epidemic began, few nations have let seamen disembark and return home. The limits on travel due to COVID-19 have created an OHS emergency in the maritime industry. In this research, the authors draw on interviews with 29 sailors to examine the occupational health and safety (OHS) issues they encountered during the COVID-19 pandemic.

Baygi, F., et.al (2020). Interventions to improve health and safety at sea are little documented, and the available evidence is inconsistent and mixed. It is important to assess existing data from marine contexts to develop systematic knowledge in this area since land-based enterprises continue to place a premium on lifestyle and health promotion. In this study, we combed through the literature on lifestyle interventions in the maritime context by searching the databases PubMed, NLM Gateway (for MEDLINE), Institute for Scientific Information/Web of Science (ISI/WOS), and SCOPUS as recently as

January 2019. Two readers evaluated the articles and compiled the information. Research quality was evaluated using the Cochrane Risk of Bias method to ensure only high-quality studies were included. Intervention efficacy was given as a qualitative synthesis because of the substantial variation across trials. Six research were done in marine settings in the United States, three studies focused on Danish seafarers, and one study was conducted in Finland. Six studies mostly focused on educational interventions such stress management, healthy eating, anti-smoking and anti-drinking sessions, sexual behavior programmed, and counselling regarding preventative tactics. A total of four studies detailed the introduction of various treatments, including micro- Positive, if modest, effects of structural and/or educational interventions in marine contexts were reported in three investigations. All of the listed studies were of low quality. This study found that there are few trials on lifestyle treatments in a marine setting, and that those that do exist are of low quality.

Demirel, Ergun. (2022).This study advocates for a more practical approach to continuing professional development (CPD) for mariners, who, by virtue of their occupation, have extremely limited access to regular educational options. The literature review and industry survey were undertaken to get a firm grasp of the idea and applications of continuing professional development (CPD) and to identify the factors that directly impact CPD possibilities for those working in the shipping sector. To address the current shortcomings of the CPD system, we examine the available data to see how it might be improved. The paper's contribution is an argument for how to help sailors by giving them a useful CPD system that can adapt to the demands of a continually evolving industry.

Yassin AH, et.al (2022) Even when COVID-19 was in effect, U.S. sailors remained on the high seas. Limited study on workplace determinants of mental health among COVID-19 participants despite the fact that several facets of their employment may put them at risk for negative mental health outcomes. N = 1384 U.S. mariners were surveyed online between January and July 2021 about their feelings of depression, anxiety, and stress in relation to their work, their feelings about the safety of their workplace, and their experiences sailing during COVID-19. Additionally, demographic data was gathered. Anxiety and depression logistic regression models and a stress linear regression model were created. The likelihood of experiencing depression and anxiety, as well as an increase in stress, were observed to rise in tandem with the number of COVID-19 worries expressed and with the self-reported poor mental health. Having a higher number of negative on-the-job events correlates with higher levels of stress and depression among sailors.

Ibrahim, Irwan et.al (2020).Each and every worker's safety has to be taken into account. The standard of workplace safety is accountable for and directly related to the lives of the people who work there. All well-established businesses place a premium on addressing any and all safety concerns. DD & I Engineering Sdn. Bhd., a subcontractor for Malaysia Marine and Heavy Engineering Sdn. Bhd. (MMHE), a business that does maritime-focused heavy work, hosted the research. The firm has been in operation since 2001 and is headquartered in PasirGudang, Johor. The company specialises in marine engineering tasks such as blasting, painting, hydro jetting, power tooling, cleaning, mucking-out sludge, dislodging, disloping, valve, piping, main engines services, boiler, generator, cooling system, pump, navigation, underwater works, and repair, maintenance, and

services of all manner of works pertaining of marine, ship, and vessel. The purpose of this investigation is to determine how familiarity with health and safety procedures affects marine security. A total of five areas of health and safety expertise fire, manual handling, noise and vibration, safety signs, and general health and safety were selected as independent variables for this study.

RESEARCH GAP

Carcinogen effects, organic solvents and other chemicals, selenium, methylmercury, and others are all part of the potentially hazardous working environment for seafarers. The musculoskeletal, dental, auditory, and ocular health of seafarers are all put at danger by their line of work. The symptoms from such systems are widespread, and they vary depending on factors including age, number of years in the nautical profession, kind of job activities on board, weather, equipment, crew size, and experience. The health of sailors is directly related to their way of life. Smoking is quite common among fisherman and passive smoking is a serious issue for many of them. Many 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. Jobs that involve dealing with clients or customers have numerous parallels with those that involve alcohol use or addiction. Alcohol intake rates are correlated with cirrhosis mortality rates. Such death rates are obviously higher than normal in several professions. Jobs with above-average risks are the ones to avoid at all costs. Occupational risk factors include access to alcohol on the job, peer pressure to drink, isolation from friends and family, and lack of supervision. Sleeping problems, excess weight, and emotional distress are all linked to poor health outcomes among sailors. Shipyard labour is characterized by lulls and flurrying activity. Sleep problems are associated with stress symptoms among sailors.

TRADITIONAL OCCUPATIONAL HEALTH CONCERN

High quantities of carcinogens have been found in the workspaces of mariners, according to recent research. They demonstrate an elevated risk of cancer due to exposure among mariners in contrast to the general population. Benzene was found at very high amounts in the workplaces of product tankers, according to research by Moen et al. (1995). The authors determined that the sailors were exposed to significant levels of carcinogens by monitoring air samples during cargo loading and unloading activities from the deck of eight tankers at Norwegian ports and analyzing questionnaires submitted by the seafarers exposed to such circumstances. They deduced that as a result, sailors had a higher chance of developing malignancies including lung and urogenital.

Another research analyzing the death pattern among maritime who utilized data from the economically active male Danish population between 1970 and 1985. It shown that sailors, due to their occupation, are substantially more prone to cancer than the overall population, as a result of their exposure to toxins. The authors discovered that engine room officers had a 1.9-fold higher risk of developing respiratory cancer than the overall working population in that nation, and that engine room ratings had a 2.5-fold higher risk. The authors found that the workplace was a major factor in the increased rate of cancer among professionals in the field looked at the incidence of cancer among Danish sailors from 1986 to 1999. The research included 33,340 male participants and 11,291 female participants, and it utilized the national rate's standard incidence ratio. Findings indicated that male

sailors had a 1.26-fold higher risk of developing cancer due to exposure than men in the general population. When compared to those of women sailors, the ratio was 1.07.

OCCUPATIONAL DISEASES DUE TO LIFESTYLE AND WORK-LIFE BALANCE

Lastly, a number of recent studies highlight the negative effects of seafarers' lifestyles and lack of work-life balance on their health. Long working hours, isolation and monotony aboard ships, and long-term separation from home and family to be the main cause of stress in the lives of seafarers. Sailors are more likely to develop alcoholism and mental health problems due to their working environment. Several studies have shown that sailors had a higher-than-average suicide risk due to mental health issues. For example, a study found that Polish seafarers were three times more likely to commit suicide and more prone to suffer from mental and emotional illnesses than the Polish working population on land. In maritime fatalities in the United Kingdom, if half of the "open-verbatim" involving missing seafarers are in fact suicides, it would account for fourteen percent of all maritime workers' deaths.

The authors noted that this was much greater than it was for other working groups, such as the total US population, where studies suggest that just 3% of deaths occur due to work-related suicide. Parker et al. undertook one of the most extensive studies to date on the topic of maritime workers' health on the job. The authors participated in a large-scale Australian research called FASTOH (fatigue, stress, and occupational health of seafarers), in which approximately 1800 sailors who frequented Australian beaches provided replies. The writers of this article examined the effects of work-related stress on the health and lifestyles of sailors. According to the research, sailors are more likely to report high levels of stress from all sources compared to members of the normative group. In particular, the researchers noted that the health of sailors was negatively impacted by factors such as heat, excessive humidity, and noise levels. Half or more of the participants in the research reported sleeping for six hours or less each day, highlighting the need of enough rest for good health. Sleep deprivation was a common problem among sailors for several reasons, including long working hours, short length of sleep, noise and vibration from numerous engines and equipment, and heavy rocking of the ship during inclement weather.

MENTAL HEALTH AND PSYCHOLOGICAL WELLBEING OF MARITIME PERSONNEL:

The mental and physical demands of working aboard a ship are frequently quite different from those of working in an office. As a distinct occupation, seafarers are unusually isolated due to their constant presence in the workplace, both during and outside of normal business hours. Since they spend so much time with their coworkers, it's crucial that they get along well and that their teams work well together. However, studies show that tensions arise frequently between different ranks and departments, which, when combined with extended absences from loved ones, can cause feelings of isolation and homesickness. In addition, seafarers often spend long periods of time alone in a setting that is not good for their psychological well-being: Being aboard a ship for an extended period of time may subject one to unpleasant environmental circumstances, such as loud sounds, vibration, sudden drops in temperature, spikes in temperature, and fluctuations in humidity. The most recent Seafarers Happiness Index research found that many seafarers feel forced to work excessive hours due to the long hours they are expected to work and the physical demands of their jobs. Long trips and the

resulting time zone changes may worsen the sleep deprivation and poor quality of life experienced by seafarers who operate on a 'watch system. Additionally, variables such as ship engine noise and vibration, lengthy shifts, unpredictable work hours, a rotating watch system as opposed to a constant watch cycle, night shifts, and inconsistent sleep amount are all contributors to weariness.

Extensive research has been done on the mental health of seafarers, and previous evaluations have looked at topics including stress, maritime pilots' happiness on the job, and depression and suicide. Collectively, these have identified a number of risk factors associated with poor wellbeing, such as: fatigue; high workload; long voyages; long working hours; rotating watch systems; short ship-turnaround times; little advance warning of being required to serve as a lookout; environmental stressors on board like motion, noise, and vibration; economic pressure; disturbed sleep; night shifts; variable weather; limited time for recreation.

In the first half of 2021, when this review was written, the COVID-19 pandemic presented unique difficulties for the maritime community, such as how to deal with infectious disease outbreaks at sea, how to implement quarantine and testing procedures, how to communicate with port authorities, how to handle crew rotations, and how to limit time spent ashore. The International Labour Organization's (ILO) Committee of Experts determined in December 2020 that governments had breached their duty of care to seafarers during the pandemic by failing to provide them with the minimum standards for basic rights like healthcare, repatriation, annual leave, and shore leave as required by international law. The number of calls to the ISWAN mariners' hotline reportedly tripled at the height of the epidemic. As a result, it is crucial to know what variables contribute to mental illness in maritime companies and how to help maritime workers.

MARINER HEALTH AND WELLBEING

Understanding the significance of this responsibility is the first step in making good changes to the health of your troops. After all, no business wants to waste time and resources on something that will fail. There are many good reasons to invest in your workers' health and fitness. Contributing to the health of your sailors allows you to:

- **Abide by regulations:** Regulations, such as the standards established by the Occupational Safety and Health Administration, may have been broken if your existing practices are causing major health concerns or other damage to your personnel (OSHA). The penalties for these sorts of infractions may be rather high. Making the required adjustments to guarantee compliance with all applicable health and safety regulations for workers is of the utmost importance.
- **Set employees up for success:** Business organizations should make every effort to assist workers in reaching their maximum potential. workers who take care of their health tend to be more productive. Workers whose mental or physical health is suffering may fall short of expectations, while those in good shape will be motivated and able to deliver.
- **Establish goodwill with employees:** The employer-employee relationship relies heavily on goodwill. One of the greatest ways to do this is to show genuine interest in the marines' health and happiness on all levels (physical, mental, and emotional).

- **Attract new talent:** Increasing the standard of living for sailors is likely to entice more individuals to join the maritime workforce. In the modern workplace, employees place a premium on a job's potential benefits to their overall well-being. To a mariner's eye, the benefits of working for your organization are immediately apparent, especially for those currently operating in the field.

THE PHYSICAL HEALTH CHALLENGES THAT COME WITH SEAFARING

While any vocation has the potential for accidents, sailing has a reputation for being especially risky. There are a number of physical health dangers associated with seafaring. Some are associated with a mariner's specific duties or work environment, while others are the result of more general lifestyle factors like smoking.

Some known dangers to mariners' physical health include:

- **Cardiovascular disease:** The most common cause of mortality among sailors is sudden cardiac arrest. Despite the fact that the risk of cardiovascular disease among seafarers is similar to that of the general population, it is noteworthy since many seafarers must fulfil health standards to qualify for the profession. Cardiac incidents aboard ships also have a poorer prognosis than they would on land since the person performing resuscitation is not a trained medical expert and does not respond quickly enough.
- **Fatigue:** A mariner's weariness may be brought on by the high demands of their profession, the long hours they must work, and the little number of people they have to help them. Tiredness increases a sailor's risk of injury.
- **Communicable diseases:** Malaria, cholera, yellow fever, TB, and other infectious illnesses are among those that are more likely to infect travellers than locals.
- **Cancer:** Due to their frequent exposure to harmful compounds and the sun's UV rays, mariners have an elevated risk of developing cancer on the job. As a result of their choices in life, such as alcohol use, tobacco use, and unhealthy eating habits, they may be at a higher risk of developing cancer.
- **Hand-arm vibration syndrome:** Hand-arm vibration syndrome (HAVS) is a condition that may be developed by mariners who often use power tools and can lead to temporary pain and, if left untreated, chronic incapacity.
- **Musculoskeletal Disorder:** Given that many seafarers work 12-hour shifts or 6-on, 6-off schedules, it's no surprise that some of them develop musculoskeletal diseases from lack of off-duty exercise.

STEPS TO PROTECT MARINER WELLBEING ABOARD SHIPS DURING COVID-19

Hundreds of thousands of seafarers are trapped aboard ships all over the globe, with few or no options to leave and return home. Shipping firms, trade groups, and governments must work together to ensure their safety. They also have an obligation to ensure the continued emotional and physical

wellbeing of the crew members who have been forced to stay on board beyond the completion of their scheduled tours.

The International Maritime Organization (IMO) is lobbying the United Nations (UN) for permission to classify seafarers as "keyworkers," which would facilitate crew changes and repatriations without penalty. This is crucial since current reports indicate the COVID-19 quarantine would likely last until the end of April.

Shipowners and crew managers face a tragic and sad scenario when they are unable to replace crew members or return them home. This is an insurmountable issue that no one wants to solve.

However, the vast majority of sailors have courageously accepted their new, mandatory responsibility to stay "indefinitely" on board and aid the international struggle to halt this devastating global epidemic.

Now more than ever, seafarers must manage their own stress, combat the effects of exhaustion brought on by longer shifts at sea, work together with equally nervous and worried coworkers both at sea and onshore, in makeshift home offices, and communicate with authorities both domestically and abroad. They have to deal with all of this while keeping up the same level of productivity they had before to the outbreak.

Most significantly, while stranded at sea, sailors must contend with worrying about their loved ones' safety. Each sailor's delicate mental stability is further tested by the conflicting demands of reassuring loved ones back home of their well-being while still feeling powerless to participate or help.

Cynics would point out that this is something people have done for a long time—during pandemics like SARS and H1N1 and even the 1918 flu, people kept the world's supply chain running smoothly. Perhaps such was the case in the past, but never before have we seen anything like this.

As a result of COVID19, we were all forced to deal with the 'unexpected,' 'unthought of,' situation; the meteor that landed on Earth, with few contingency plans accessible or ready to deploy, and without understanding the pandemic's global scope and devastating health, social, and economic consequences.

CONCLUSION

Historically, living on the high seas has been associated with a number of negative connotations, including a poor quality of life and a number of health problems. Regardless of the huge population of sailors and the severity of their health problems. Based on the findings of this analysis, bad lifestyle choices and occupational illnesses seem to be the most significant threats to the health of seafarers. To determine the causes of maritime workers' poor health and the steps that might be taken to improve their working circumstances, a long-term population study is necessary.

REFERENCES

1. Shan, desai. (2021). Occupational health and safety challenges for maritime key workers in the global covid-19 pandemic. *International labour review*. 161. 10.1111/ilr.12220.
2. Baygi, f., djalalinia, s., qorbani, m. Et al. Lifestyle interventions in the maritime settings: a systematic review. *Environ health prev med* 25, 10 (2020). <https://doi.org/10.1186/s12199-020-00848-7>

3. Demirel, ergun. (2022). Continuing professional development for mariners. Scientific bulletin of naval academy. Xxiv 177-195 doi: 10.21279/1454-864x-21-i2-018. . 177-195. 10.21279/1454-864x-21-i2-018.
4. Yassin ah, spectorjt, mease l, shumate a, hill r, lincoln je, baker mg. Workplace determinants of depression, anxiety, and stress in u.s. Mariners during the covid-19 pandemic. International journal of environmental research and public health. 2022; 19(24):16628. <https://doi.org/10.3390/ijerph192416628>
5. Ibrahim, irwan&esa, md&othman, hasbullah&bohiran, irnaema. (2020). A study on basic health and safety knowledge that influence the safety at maritime a case study of dd&i engineering sdn bhd.
6. Centers for disease control and prevention. Requirement for persons to wear masks while on conveyances and at transportation hubs [internet]. 2021. Available online: https://www.cdc.gov/quarantine/pdf/mask-order-cdc_gmtf_01-29-21-p.pdf (accessed on 10 july 2021).
7. Commandant, us coast guard. Marine safety information bulletin: covid-19 safety requirements in the maritime transportation system: change-1 [internet]. 2021. Available online:
8. U.s. Government publishing office. State of the u.s. Maritime industry: impacts of the covid-19 pandemic [internet]. Congress house committee meetings, house event lc66045. 2021. Available online: <https://www.congress.gov/event/117th-congress/house-event/lc66045/text?s=1&r=2> (accessed on 8 april 2021).
9. Doumbia-henry, c. Shipping and covid-19: protecting seafarers as frontline workers. Wmu j. Marit. Aff. 2020, 19, 279–293. [google scholar] [crossref]
10. Evoy, r.; case, s. Prevalence of adverse health behaviors and conditions among maritime workers, brfss 2014 to 2018, 38 states. J. Occup. Environ. Med. 2022, 64, 350–355. [google scholar] [crossref] [pubmed]
11. Lefkowitz, r.y.; slade, m.d.; redlich, c.a. Injury, illness, and disability risk in american seafarers. Am. J. Ind. Med. 2018, 61, 120–129. [google scholar] [crossref]
12. Onglertmontree, w.; kaewboonchoo, o.; morioka, i.; boonyamalik, p. Mental health problems and their related factors among seafarers: a scoping review. BMC public health 2022, 22, 282. [google scholar] [crossref]
13. Kinali, h.; yildirim, u.; toygar, a. A quantitative study on the mental health of turkish seafarers. Int. J. Occup. Saf. Ergon. 2022, 28, 2657–2667. [google scholar] [crossref]
14. Mellbye, a.; carter, t. Seafarers' depression and suicide. Int. Marit. Health 2017, 68, 108–114. [google scholar] [crossref] [pubmed]
15. Lefkowitz, r.y.; slade, m.d.; redlich, c.a. Rates and occupational characteristics of international seafarers with mental illness. Occup. Med. 2019, 69, 279–282. [google scholar] [crossref] [pubmed]