

Sailing into the Blue: Challenges and Coping Strategies in Occupational Health Hazards among Offshore Medical Officers in Southeast Asia

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ABSTRACT

This study explored the lived experiences of Offshore Medical Officers (OMOs) in Southeast Asia, focusing on occupational health challenges, coping strategies, and recommendations for improving workplace safety. Using a qualitative phenomenological approach, data were collected through semi-structured interviews and were analyzed using thematic analysis. The findings revealed that OMOs faced multiple challenges, including harsh environmental conditions, long working hours, fatigue, isolation, limited medical access, and psychological stress during emergencies. To cope, they relied on resilience, mindfulness, teamwork, telemedicine, communication systems, and safety protocols. Despite limitations of a small, self-reported sample, the study provided valuable insights to improve offshore health systems and supported the development of enhanced safety, mental health, and occupational health interventions for offshore personnel.

Keywords: Offshore Medical Officers, Occupational Health Hazards, Coping Strategies, Workplace Safety, Occupational Safety and Health (OSH)

INTRODUCTION

The offshore medical environment presents unique occupational health challenges that require Offshore Medical Officers (OMOs) to demonstrate specialized knowledge, resilience, and adaptability while providing comprehensive healthcare in remote, high-risk settings such as oil rigs, drilling platforms, and maritime vessels. Beyond routine clinical care, OMOs are responsible for occupational health surveillance, emergency response, disease prevention, and crew well-being while facing environmental, physical, chemical, ergonomic, and psychosocial hazards, including extreme weather, hazardous substances, long working hours, fatigue, isolation, and limited access to specialized medical support. In Southeast Asia, where the maritime, oil, and gas industries play a vital economic role, OMOs are essential to maintaining workforce health and operational continuity, yet their experiences remain largely understudied compared to those of other offshore personnel. Addressing this gap, the present study employed a qualitative phenomenological approach to explore the lived experiences of OMOs, focusing on occupational health challenges, coping strategies, and recommendations for improving workplace safety and well-being. The findings were intended to provide empirical evidence to inform occupational health policies, enhance support systems, strengthen workforce well-being and retention, and contribute to safer and more sustainable offshore healthcare practices across Southeast Asia.

Statement of the Problem

This study aimed to determine the Challenges and coping strategies related to occupational health hazards among Offshore Medical Officers in Southeast Asia. Specifically, this study meant (1) to determine the challenges on Occupational Health Hazards among Offshore Medical Officers in Southeast Asia; (2) to determine the Coping Strategies on Occupational Health Hazards among Offshore Medical Officers in Southeast Asia; (3) to identify the recommendations of Offshore Medical Officers in Southeast Asia; and (4) to determine the best plan in solving challenges on Occupational Health Hazards.

Scope and Delimitations

This study examines the occupational health challenges and coping strategies of Offshore Medical Officers (OMOs) in Southeast Asia using a qualitative phenomenological approach. Through purposive sampling and semi-structured interviews, it explores participants' lived experiences, risks, coping mechanisms, and recommendations for improving occupational health and safety. The study focuses on identifying themes related to well-being and resilience rather than quantitative comparisons. Although limited by a small sample size and reliance on self-reported data, it provides useful insights for future research, policy development, and occupational health management in offshore settings.

Review of Related Literature

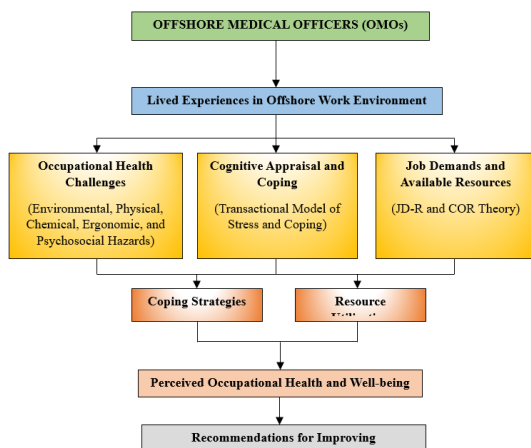
Existing literature highlights that offshore work environments expose personnel to significant physical, chemical, ergonomic, and psychosocial hazards due to remote locations, demanding work schedules, and challenging operating conditions. Studies have identified risks such as exposure to heavy machinery, confined spaces, noise, heat, fatigue, and hazardous substances, alongside psychological stressors including isolation, prolonged separation from family, excessive workload, and limited recovery periods, all of which contribute to reduced well-being and safety performance (Fox et al., 2023; Barifcani et al., 2023). Research further emphasizes the growing importance of telemedicine and remote clinical support systems in enhancing healthcare delivery and decision-making in offshore settings, although challenges related to connectivity, training, and organizational support remain (Mohammadzadeh et al., 2023). Preventive measures such as health surveillance, pre-employment medical examinations, strong safety cultures, mental health programs, and fatigue management systems have also been recognized as essential strategies for protecting offshore workers and improving resilience (Huerte & Ornos, 2023; Şenbursa et al., 2024). Despite these advances, the literature largely focuses on seafarers, engineers, and general offshore personnel, with limited attention to Offshore Medical Officers (OMOs), who serve as both healthcare providers and workers exposed to the same occupational hazards. Moreover, existing studies predominantly employ quantitative approaches, creating a significant gap in understanding the lived experiences, coping strategies, and occupational health needs of OMOs. This gap underscores the need for qualitative research to generate deeper insights to inform targeted interventions, policy development, and occupational health practices in the offshore industry.

Theoretical Framework

This study is grounded in an integrated framework combining the Transactional Model of Stress and Coping, the Job Demands–Resources Model, and the Conservation of Resources Theory to explain the occupational health experiences of Offshore Medical Officers (OMOs). These theories collectively address how OMOs appraise and cope with stress, how job demands and resources influence fatigue and resilience, and how resource loss and gain affect long-term well-being. Together, they provide a comprehensive basis for understanding occupational hazards and guiding interventions to improve health, safety, and coping strategies in offshore environments across Southeast Asia.

Conceptual Framework

Figure 1: Conceptual Framework of the Study



The conceptual framework illustrates that the lived experiences of Offshore Medical Officers (OMOs) in Southeast Asia are shaped by the occupational health challenges encountered in offshore environments. These experiences are interpreted through cognitive appraisal, job demands, and the availability of personal and organizational resources, as explained by the Transactional Model of Stress and Coping (TMSC), the Job Demands–Resources (JD-R) model, and the Conservation of Resources (COR) theory. The interaction among these factors influences the coping strategies adopted by OMOs, which in turn affect their perceived occupational health and well-being. The insights gained from these lived experiences ultimately form the basis for recommendations to improve occupational health, workplace safety, mental health support, and organizational policies for offshore medical personnel.

METHODOLOGY

This qualitative research study explores and understands the lived experiences of Offshore Medical Officers (OMOs) in Southeast Asia regarding occupational health hazards and their coping strategies.

Research Design

This study used a qualitative phenomenological design to examine the lived experiences of Offshore Medical Officers (OMOs) in Southeast Asia regarding occupational health hazards and coping strategies. By exploring participants' perspectives within their offshore work environment, the study sought to provide rich, descriptive insights into their challenges, coping mechanisms, and recommendations for improving occupational health and safety rather than producing statistically generalizable findings.

Research Steps

A qualitative phenomenological research design was adopted, and eligible participants were identified through purposive sampling. Data were then collected through semi-structured, in-depth interviews with OMOs working in offshore operations across Southeast Asia. The interview data were transcribed, organized, and analyzed using thematic analysis to identify recurring patterns, themes, and meanings related to occupational health challenges, coping mechanisms, and recommendations for improving health and safety practices. Finally, the findings were interpreted in relation to the study's theoretical framework and existing literature to develop conclusions and practical recommendations for offshore organizations, policymakers, and occupational health practitioners.

Data Collection and Sample Selection

A purposive sampling technique was used to select Offshore Medical Officers (OMOs) with relevant experience related to the study. Participant selection was guided by data saturation, with approximately 20 OMOs included. Informed consent was obtained from all participants to ensure voluntary participation and ethical compliance. The process was systematically organized into five stages: approval and coordination, participant recruitment, conduct of interviews, transcription and data management, and data validation.

Data Analysis Methods

Data were analyzed using Braun and Clarke's (2021) thematic analysis framework within a phenomenological approach. Interview recordings were transcribed verbatim, reviewed with field notes, and systematically coded to identify recurring patterns and themes related to occupational health challenges, coping strategies, and recommendations. Themes were refined and interpreted based on participants' lived

experiences, with direct quotations used to support key findings. Reflexivity and peer debriefing were employed to enhance the credibility and trustworthiness of the analysis.

Research Assumptions and Validation

This study assumes that Offshore Medical Officers (OMOs) in Southeast Asia have firsthand experience with occupational health hazards and can accurately describe the challenges, coping strategies, and support systems encountered in offshore environments. It further assumes that, despite individual differences, participants share common experiences and meanings that can be identified through phenomenological analysis. The study also recognizes that occupational health outcomes are shaped by the interaction of environmental, organizational, psychosocial, and personal factors. To ensure the credibility and trustworthiness of the findings, validation measures such as member checking, reflexivity, peer debriefing, and rich participant narratives were employed throughout the research.

Study Limitations and Ethical Considerations

The study is subject to limitations inherent in qualitative research, including reliance on participants' self-reported experiences and a limited sample size, which may restrict the transferability of findings to other contexts. Nevertheless, rigorous ethical standards were maintained throughout the research process. Participants provided informed consent and were informed of their right to withdraw at any time without penalty. Confidentiality and anonymity were protected by using pseudonyms and removing identifying information from all records. Data were securely stored in password-protected devices, with recordings and transcripts archived and scheduled for destruction after five years. Ethical approval was obtained from the institution's Ethics Review Committee, and all interviews were conducted with respect, sensitivity, and adherence to the principle of nonmaleficence to safeguard participants' well-being.

RESULTS AND DISCUSSION

The findings showed that experienced Offshore Medical Officers (OMOs) encounter multiple occupational health hazards, including physical, environmental, chemical, biological, ergonomic, and psychosocial risks. To cope, they use personal resilience, wellness practices, social support, recreational activities, and organizational resources. The results highlight the need for stronger, more comprehensive occupational health interventions, including improved safety systems, training, staffing, mental health support, fatigue management, and health surveillance. Overall, while existing systems are functional, they require more preventive, holistic, and worker-centered approaches to better support offshore healthcare personnel.

SUMMARY

This study found that Offshore Medical Officers (OMOs) in Southeast Asia face multiple occupational hazards in high-risk environments, with fatigue, isolation, and mental stress as key challenges. They cope through personal resilience, wellness practices, social support, and organizational resources such as telemedicine and mental health programs. The findings highlight the need for stronger, worker-centered occupational health systems that include better staffing, training, fatigue management, health surveillance, and psychological support. Although current systems are functional, further improvements are needed to enhance the long-term physical and mental well-being of offshore healthcare personnel.

CONCLUSIONS

The study concludes that Offshore Medical Officers in Southeast Asia face multiple occupational health hazards, including physical, environmental, biological, chemical, ergonomic, and psychosocial risks, with fatigue, stress, and emotional exhaustion as major concerns. Addressing these challenges requires both personal resilience and strong organizational support through mental health services, staffing, training, fatigue

management, and worker-centered policies. Although current systems provide basic medical and emergency support, they remain largely reactive and need more preventive, holistic, and sustainable approaches to improve offshore healthcare work conditions.

RECOMMENDATIONS

Based on the findings, it is recommended that offshore organizations, policymakers, occupational health practitioners, and future researchers collaborate to strengthen occupational health and safety in offshore environments. Priority should be given to hazard prevention, adequate staffing, mental health support, fatigue management, continuous training, wellness programs, and improved living and working conditions. Regulatory bodies should enhance occupational health policies, monitoring systems, and specialized training standards, while practitioners should promote preventive healthcare, resilience-building, and psychosocial support. Future research should expand the scope of investigation by examining broader populations, additional health-related factors, and the effectiveness of occupational health interventions to support evidence-based improvements in offshore worker well-being and safety.

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AI DECLARATION STATEMENT:

AI-supported tools helped with grammar and structure in creating this article. No AI tools were used to collect, analyze, or interpret data; all authors are credited for their academic contributions.

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