VIA MEDICA

ORIGINAL ARTICLE

Int Marit Health
2023; 74, 3: 161–170
10.5603/imh.96970
www.intmarhealth.pl

ISSN 1641-9251
eISSN 2081-3252

Five-year (2015–2019) follow-up study of 6,526 cases of medical repatriation of Filipino seafarers

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ABSTRACT

Background: *There is a limited number of studies on the medical repatriation of seafarers. The aim of the study was to follow up on the previous 2010–2014 study using data from 2015–2019 to evaluate the epidemiology of medical repatriation among Filipino seafarers.*

Materials and methods: *Data from medical repatriation records of Filipino seafarers from January 2015 to December 2019 were collected from various claims departments of different manning agencies in Manila, Philippines.*

Results: *Data from a total of 6,526 medical repatriation cases and 464,418 deployments in a 5-year period resulted in a medical repatriation rate calculated at 1.4%. We used the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10) to determine the most common causes of repatriation. We found that these were musculoskeletal disorders, gastrointestinal problems, and traumatic injuries. The distribution of the specific illnesses per organ system is presented.*

Conclusions: *Filipinos continue to represent the most numerous group of seafarers in the world. The continued profiling of health issues should lead to better health protocols and controlling medical costs. It should also lead to better prioritisation of health protection and care on board ships. Within the present 10-year database of medical repatriations coinciding with the implementation of Maritime Convention Labour Convention 2006, there is a compelling need to compare the two data sets to have an objective evaluation of the convention's projected goals.*

(Int Marit Health 2023; 74, 3: 161–170)

Keywords: occupational health, medical repatriation, epidemiology, seafarers, occupational injury

INTRODUCTION

Seafarers from the Philippines are a vital and indispensable workforce worldwide, with the Philippines being a major supplier, accounting for 20% of all seafarers according to the International Labour Organization (ILO) [1]. This has also been supported by the Baltic and International Maritime Council/International Chamber of Shipping (BIMCO/ICS) Seafarer Workforce report from 2021, that Filipinos were reported as having the highest number of both officers and ratings among the other top 5 manning countries, including, China, Russia, Indonesia, and India [2]. In 2021, statistics from the Statista Research Department [3] showed that about 345,520 seafarers were deployed overseas from the Philippines.

All seafarers are continuously at risk of developing illnesses and injuries while at work on ships. Their health is still a concern and studies on profiling their health issues are still relevant in mitigating medical repatriations. This has been emphasized by the implementation of the Maritime Labour Convention (MLC 2006) in 2015, where one of the provisions is to ensure the health protection, medical care, welfare, and social security protection of all seafarers [4].

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Received: 15.08.2023 Accepted: 13.09.2023

Despite this, there are still few studies regarding medical repatriations [5–9].

This observational study aims to continue to describe the epidemiology of medical repatriation among seafarers in the Philippines by highlighting the most common causes of repatriation and disorders or diseases by organ system as initiated during the first study done by our group in 2015 [10]. We wanted to get the data after MLC 2006 was enforced to be able to see if there have been any differences since its implementation. MLC 2006 came into force in August of 2013 and the review of the repatriation cases in 2015–2019 could be a first evaluation of its effect on seafarer health and safety. Making the stakeholders aware of this data has helped some of our clinical decisions in Pre-Employment Medical Examination (PEME) guidelines. Having spread the data to shipowners, manning agents, and Protection and Indemnity (P&I) clubs has given them a better understanding of the realities on board the various ships causing medical repatriations. From our past research, data has been helpful in implementing screening protocols during PEME for risk-based clinical assessment to reduce the incidence of medical repatriations among seafarers from the Philippines. It is hoped that bigger sequential data will help form better policies to further lessen the various health risks to Filipino seafarers.

MATERIALS AND METHODS

We collected aggregate data for the period of January 2015 to December 2019 from the claims and legal departments of various manning agencies in Metro Manila to get the most accurate and complete data on medical repatriation cases. Our analysis utilised de-identified and non-coded data, ensuring the privacy of individuals. The collected information included crew age, position, diagnosis, and the total number of seafaring deployments by the manning agencies from January 2015 to December 2019. We also obtained the total number of sea-based deployments published by the Philippine Overseas Employment Administration (POEA) to calculate the total repatriation rate.

No personally identifiable information was collected or used, and there was no direct interaction with individual crew members. To determine the most common causes of repatriation, we employed the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10) [11]. Each entry was double-checked by two medical doctors. Data management and descriptive analyses were performed using Microsoft Excel® and Google Sheets®.

RESULTS

Our study analysed 6,526 medical repatriation cases from January 2015 to December 2019 (Table 1).

Table 1. Distribution of deployments and repatriation cases

Period	Number of deployments	Number of repatriation cases (%)
2015	92,791	1,715
2016	92,554	1,396
2017	73,916	1,143
2018	100,128	1,068
2019	105,029	1,204
Total	464,418	6,526 (1.4%)

The 14 manning agents where we collated the repatriation data represented 2,478 ships from 166 different shipping companies (both merchant and passenger). There was a total of 464,418 deployments across the corresponding shipping companies, which represents 20.3% of the reported 2,288,937 deployments noted by the POEA for the same period of 2015–2019. The large number of data from 20% of the total population of the seafarer deployments for the 5 year period makes this study significantly representative of the Filipino seafaring population.

The mean age of medical repatriation for our study was 40.9 years. Of these cases, 37.2% were from deck staff, 26.6% were from engine staff, 25.2% were from hotel staff, and 11.0% were from kitchen staff. Based on our analysis, the three most common causes for medical repatriation are musculoskeletal, gastrointestinal (GI), and trauma cases, as seen in Table 2 and Figure 1.

Musculoskeletal disorders including strains, sprains, tears, and nerve impingement accounted for nearly a quarter of repatriations at 23.2%, while GI problems were the second at 18.6%. The third most common cause was injuries such as fractures, lacerations, and contusions at 15.1%.

The top 3 causes comprise more than half of all repatriation cases. The contributions of all other organ systems are each in single-digit percentages. Cardiovascular diseases, such as hypertension, stroke or cerebrovascular disease, and coronary artery disease, accounted for 7%. Dermatological problems, such as dermatitis, abscesses, and lipomas, represented 6.7%. Genitourinary system problems (6.6%), ophthalmologic diseases (4.1%), respiratory disorders (3.3%), infectious (2.9%), and psychiatric issues (2.3%) completed the top 10 causes for medical repatriation in our data set.

Figure 2 shows the distribution of injured body parts in seafarers due to musculoskeletal problems. These cases mainly included sprains and strains and included injuries not due to trauma. About a third of all complaints (n = 458 cases; 30.2%) were due to low back pain, while 235 (15.5%) cases involved the leg or the knee. Concerns regarding the shoulder/arm (n = 196 cases; 12.9%), ankle/foot (n = 166 cases;

Table 2. Distribution of the causes of medical repatriation using ICD-10

Cause of medical repatriation	ICD-10 code range	ICD-10 code category	Number of medical repatriations (%)
Musculoskeletal	M00-M99	Diseases of the musculoskeletal system and connective tissue	1516 (23.2%)
Gastrointestinal	K09-K93	Diseases of the digestive system	1213 (18.6%)
Injury (trauma)	S00-T98	Injury, poisoning and certain other consequences of external causes	988 (15.1%)
Cardiovascular	I00-I99	Diseases of the circulatory system	460 (7.0%)
Dermatological	L00-L99	Diseases of the skin and subcutaneous tissue	456 (7.0%)
Genitourinary	N00-N99	Diseases of the genitourinary system	430 (6.6%)
Ophthalmological	H00-H59	Diseases of the eye and adnexa	268 (4.1%)
Respiratory	J00-J99	Diseases of the respiratory system	212 (3.3%)
Infectious	A00-B99	Certain infectious and parasitic diseases	186 (2.9%)
Psychiatric	F00-F99	Mental and behavioural disorders	153 (2.3%)
Neoplastic	C00-D48	Neoplasms	133 (2.0%)
Otological	H60-H95	Diseases of the ear and mastoid process	129 (2.0%)
Neurological	G00-G99	Diseases of the nervous system	94 (1.4%)
Endocrinological	E00-E90	Endocrine, nutritional and metabolic diseases	86 (1.3%)
OB-Gyne	O00-O99	Pregnancy, childbirth and the puerperium	80 (1.2%)
Others	Not available	Not available	60 (0.9%)
Dental	K00-K08	Diseases of oral cavity, salivary glands and jaws	55 (0.8%)
Haematological	D50-D89	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	7 (0.1%)

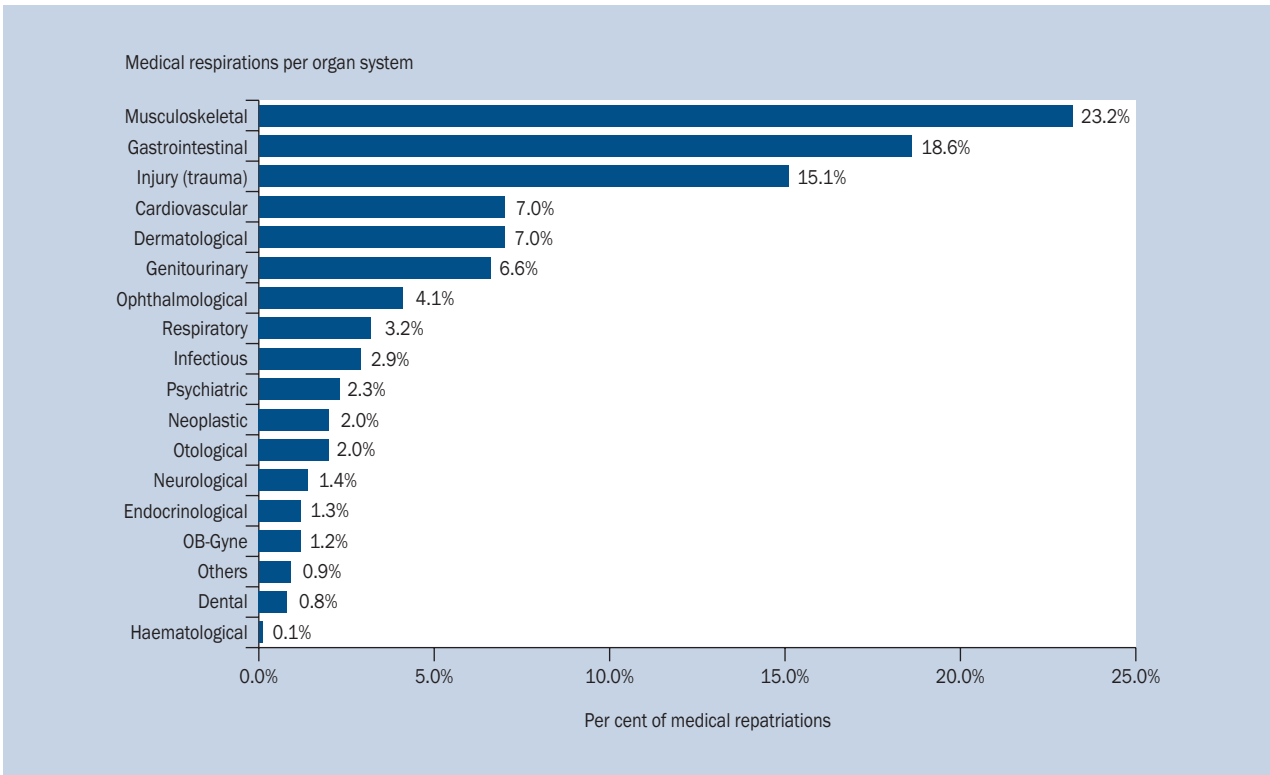

Figure 1. Distribution of the causes of medical repatriation using ICD-10

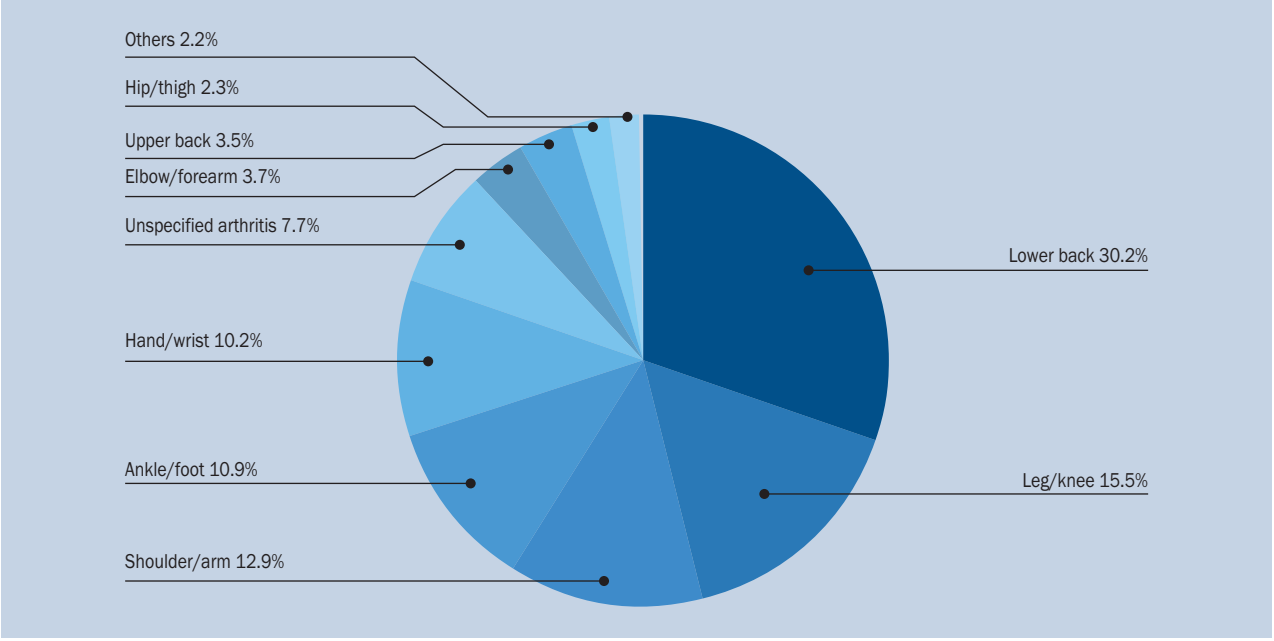

Figure 2. Distribution of affected body parts in seafarers due to musculoskeletal problems (n = 1,516)

10.9%), and hand/wrist (n = 154 cases; 10.2%) had similar contributions to the total number of cases. Those found with unspecified arthritis, such as gout and other rheumatisms, accounted for 7.7% of cases (n = 116), while those involving the elbow or forearm contributed 56 (3.7%) cases. Lastly, cases involving the upper back numbered 53 (3.5%), those involving the hip or thigh numbered 35 (2.3%), and those involving the chest numbered 14 (0.9%).

Figure 3 illustrates the different illnesses repatriated seafarers had due to GI disorders. The leading cause was appendicitis with 239 (19.7%) cases. Hernias and abdominal pain likewise had a similar number of cases at 161 (13.3%) cases and 156 (12.9%) cases, respectively. There were 133 (11.0%) cases of haemorrhoids, followed by 117 (9.6%) cases involving the gallbladder, including cholelithiasis and cholecystitis. Acid peptic disease, including dyspepsia, acid reflux, and gastroesophageal reflux disease, accounted for 96 (7.9%) cases. Causes of gastritis other than acid peptic disease were found in 66 (5.4%) cases. Anal problems other than haemorrhoids, including fistulas, were seen in 64 (5.3%) cases. There were 52 (4.3%) cases of acute gastroenteritis and infectious GI inflammation, including diverticulitis, colitis, etc., were found in 42 (3.5%) cases. GI bleed, including haematochezia, contributed to 36 (3.0%) cases. The other GI causes for repatriation included those involving the liver, including hepatitis, at 31 (2.6%) cases, pancreatitis at 9 (0.7%) cases, and those involving the oesophagus at 7 (0.6%) cases.

The third most common cause of medical repatriation are those due to injury, namely lacerations, contusions, burns, fractures, and amputations, among others, as seen in Figure 4. We divided the cases based on the injured body part, with the hand or wrist being affected in more than half of the total at 510 (51.6%) cases. This was followed by cases involving the head at 108 (10.9%) cases and the ankle or foot at 71 (7.2%) cases. Cases involving the leg or knee and elbow or forearm had similar counts at 63 (6.4%) cases and 62 (6.3%) cases, respectively. Those involving the chest and shoulder, or arm also had similar distributions at 48 (4.9%) cases and 47 (4.8%) cases, respectively. Heat exhaustion was the identified cause in 19 (2.9%) cases, while the lower back was affected in 18 (1.8%) cases, the hip or thigh in 14 (1.4%) cases, and the upper back in 4 (0.4%) cases.

Table 3 shows the distribution of injuries or illnesses classified by organ systems not part of the top 3 causes. Cardiovascular diseases accounted for 7% of all repatriation cases. The leading cause of cardiovascular disease was hypertension with 121 (26.3%) cases of repatriation. This was followed by coronary artery disease with 88 (19%) cases. There was a total of 69 (15%) cases of cerebrovascular disease. Dermatological diseases caused a similar share of all repatriations at 7%. Dermatitis and abscesses represent more than half of all dermatological problems with 175 (38%) and 120 (26%) cases, respectively. The third most common dermatologic problem was cysts at 43 (9%) cases.

The genitourinary system was affected in 6.59% of cases, with kidney stones accounting for 181 (42%) cases. This was followed by testicular disease, including

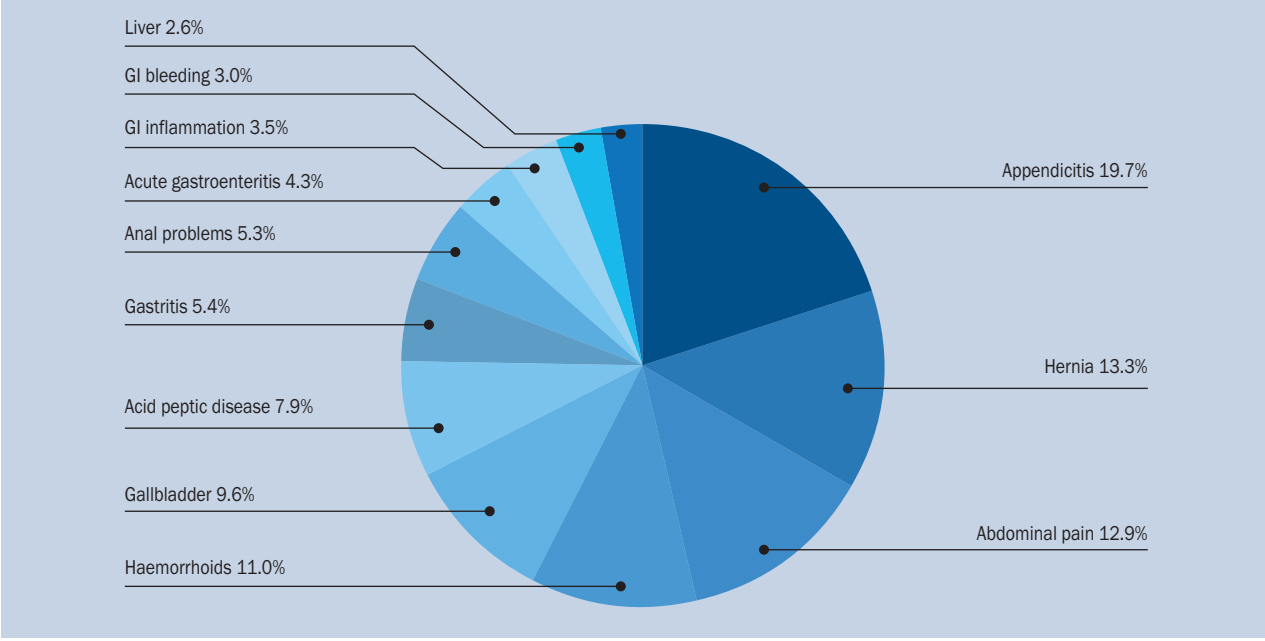

Figure 3. Distribution of illnesses in seafarers due to gastrointestinal problems (n = 1,213); GI — gastrointestinal

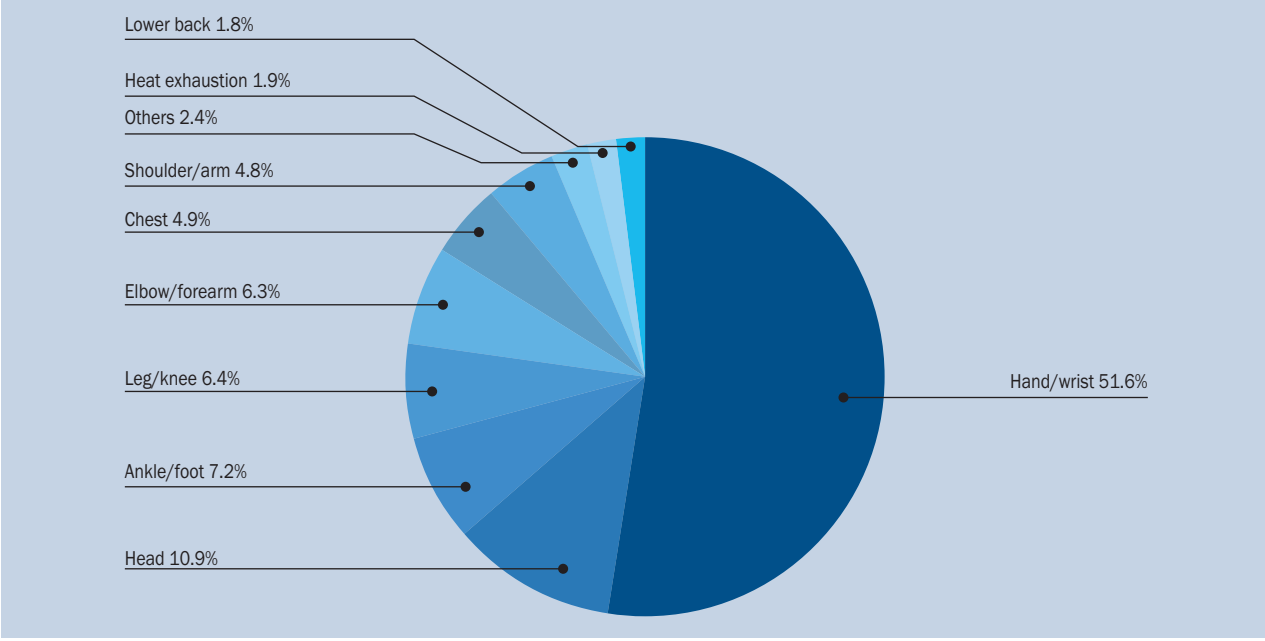

Figure 4. Distribution of injured body parts in seafarers due to injury (n = 988)

varicocele, epididymitis, and scrotal pain, at 116 cases (27%) and genitourinary infection or genitourinary infection at 66 (15%) cases. The most common ophthalmologic cause for repatriation was infection or inflammation, which included conjunctivitis, keratitis, and chalazion, at 66 (24%) cases. Cases involving the cornea, mainly due to foreign body injuries, followed at 53 (20%) cases, while cases involving the retina were the third most common at 30 (11%) cases.

Respiratory diseases accounted for 3.2% of cases, totalling 212. Infections involving the respiratory system, including pulmonary tuberculosis, comprised the most of these at 93 (44%) cases. Asthma or chronic obstructive pulmonary disease was second-most at 29 (14%) cases, while those involving the pharynx or upper airway, including obstructive sleep apnoea, tonsillitis, and sinusitis, were third at 26 (12%) cases. Infectious causes accounted for 2.85% of the total number of repatriations, with viral exanthems

Table 3. Distribution of illnesses by organ system

Organ system and chief complaint or injured body part	Rate of medical respiration (%)
CARDIOVASCULAR (n = 460)	
Hypertension	26.3%
Coronary artery disease	19.1%
Cerebrovascular disease	15.0%
Vascular	12.6%
Angina	11.3%
Arrhythmia	6.3%
Heart failure	3.0%
Syncope	2.4%
Cardiomyopathy	1.7%
Aortic dissection	0.9%
Cardiac arrest	0.9%
Rheumatic heart disease	0.4%
DERMATOLOGICAL (n = 456)	
Dermatitis	38.4%
Abscess	26.3%
Cysts	9.4%
Cellulitis	9.0%
Lipoma	5.7%
Allergy	3.9%
Psoriasis	2.2%
Nail	1.3%
Tinea	1.1%
Warts	0.9%
Acne	0.7%
Erysipelas	0.7%
Alopecia	0.4%
GENITOURINARY (n = 430)	
Kidney stones	42.1%
Testicular disease	27.0%
Genitourinary infection	15.3%
Prostate	8.6%
Acute/chronic kidney disease	5.1%
Kidney (others)	1.9%
OPHTHALMOLOGIC (n = 268)	
Infection/inflammation	24.6%
Cornea	19.8%
Retina	11.2%
Pterygium	10.8%
Visual defects	10.1%
Cataract	6.0%
Glaucoma	4.1%
Haemorrhage	3.7%
Others	3.4%
Eye lid	2.6%
Dry eye syndrome	1.5%
Optic nerve	1.1%
Vascular	1.1%
RESPIRATORY (n = 212)	
Respiratory infection	43.9%
Asthma/chronic obstructive pulmonary disease	13.7%
Pharynx/upper airway	12.3%
Nose (others)	11.8%
Epistaxis	8.5%
Pleura	4.7%
Inhalation injury	3.3%
Larynx	1.9%
INFECTIOUS (n = 186)	
Viral exanthems	44.1%
Malaria	18.3%
Sepsis	9.7%
Others	5.9%
Tuberculosis (outside lung)	5.9%
Dengue	4.8%
Sexually transmitted disease	4.8%
Fever of unknown origin	2.7%
Leprosy	1.6%
Meningitis	1.1%
Rheumatic fever	1.1%
PSYCHIATRIC (n = 153)	
Anxiety/adjustment disorder	54.9%
Depression	14.4%
Insomnia	10.5%
Psychosis/schizophrenia	9.2%
Post traumatic stress disorder	8.5%
Bipolar disorder	1.3%
Suicide	1.3%
NEOPLASTIC (n = 133)	
Head or neck	46.6%
Gastrointestinal	18.8%
Bone/extremity	8.3%
Breast	8.3%
Genitourinary	6.8%

Table 3 cont. Distribution of illnesses by organ system

Organ system and chief complaint or injured body part	Rate of medical respiration (%)
Lung	4.5%
Haematological	3.8%
Others	3.0%
OTOLOGICAL (n = 129)	
Vertigo/dizziness	35.7%
Ear infection/perforation	31.8%
Hearing loss	11.6%
Tinnitus	9.3%
Ear pain	8.5%
Cyst (otological)	2.3%
Others	0.8%
NEUROLOGICAL (n = 94)	
Migraine/headache	40.4%
Bell's palsy	25.5%
Neuropathy	21.3%
Seizures/epilepsy	10.6%
Coma	1.1%
Degenerative	1.1%
ENDOCRINOLOGICAL (n = 86)	
Thyroid	57.0%
Type 2 diabetes mellitus	38.4%
Dyslipidaemia	4.7%
OB-GYNE (n = 80)	
Gynaecologic problems	76.3%
Pregnancy/abortion	23.8%
DENTAL (n = 55)	
Dental infection	25.5%
Periodontal disease	21.8%
Toothache	14.5%
Jaw problems	12.7%
Dental caries	7.3%
Lost teeth	7.3%
Impacted tooth	5.5%
Teeth extraction	5.5%
HAEMATOLOGIC (n = 7)	
Anaemia	85.7%
Others	14.3%

being the leading cause at 82 (44%) cases. These included cases of chickenpox, varicella zoster, measles, mumps, and others. Malaria followed with 34 (18%) cases, with sepsis being the third most common at 18 (10%) cases.

Psychiatric or mental health concerns caused 2.3% of medical repatriations. Anxiety or adjustment disorder was the most common cause at 84 (54%) cases. Depression and insomnia then followed at 22 (14%) and 16 (10%) cases, respectively. Various neoplastic diseases caused 2.0% of cases, with those involving the head or neck being the most common at 46.6%. Those involving the GI system followed at 25 (19%) cases, with those involving the breast and bone or extremities being tied at 11 (8%) cases.

Medical repatriation cases involving the ear accounted for 1.98% of cases, with a number totalling 129 cases. Vertigo or dizziness was the most common otologic cause at 46 (36%) cases, followed closely by ear infection or tympanic membrane perforation at 41 (32%) cases. Hearing loss, tinnitus, and unspecified ear pain had a similar number of cases at 15 (11%) cases, 12 (9%) cases, and 11 (8%) cases, respectively. Neurological conditions caused 1.44% of cases and were mainly caused by migraine or headache at 38 (40%) cases. The second most common neurologic cause was Bell's palsy at 24 (25%) cases, followed closely by various neuropathies at 20 (21%) cases.

A majority of endocrinologic diseases (accounting for 1.3% of cases) were related to the thyroid at 49 (57.0%) cases and was followed by type 2 diabetes mellitus at 33 (38.3%) cases. Dyslipidaemia completed the list of repatriations due to endocrinologic disorders but represented a small minority of cases at 4.7% (or 4 cases) only. We classified obstetric-gynaecologic cases into pregnancy or abortion and gynaecologic problems. Gynaecologic problems were more common at 61 (76%) cases, while pregnancy or abortion were less common at 19 (24%) cases.

For dental (n = 55), many of the cases were dental infections and periodontal diseases, while for haematologic cases (n = 7), all but one was caused by anaemia (6 cases).

DISCUSSION

Observational epidemiological studies continue to be relevant in the field of research in medicine. One purpose of observational studies is to establish the frequency of occurrence, prevalence, impact, and other characteristics of diseases or other conditions in populations or selected subgroups of the population, in this case, Filipino seafarers.

The initial study by our research group published in 2015 examined the underlying causes of medical repatriations among seafarers from the Philippines, utilising the largest dataset from 2010 to 1014 on this subject worldwide. Drawing on data provided by the POEA spanning the period from 2015 to 2019, a total of 2,288,937 deployments was recorded in the country. Consequently, the data analysed in this present study account for a substantial proportion, approximately 20.3%, of the overall deployments in the Philippines during the same period.

Prior studies have endeavoured to explore the reasons behind repatriation across different nationalities, with a predominant focus on accidents and trauma occurring on board ships. Additionally, investigations have been conducted on the causes of mortality among seafarers [12–15].

The findings of this study underscore the top 3 causes of medical repatriation, namely musculoskeletal injuries (23.2%), GI diseases (18.6%), and traumatic injuries (15.1%), as the top 3 causes. These factors account for more than half of all repatriations observed at 56.9%. This is consistent with a study done by Sagaro et al. [12], where they found that the top 2 causes of disease or injury for their population of 423 Italian seafarers were GI disorders, followed by musculoskeletal diseases. There is a difference in the top 3 causes of repatriations in our previous publication in 2015 [10] where injury, musculoskeletal, and GI system, respectively, were the top causes. There is a plan to analyse and discuss the differences further in a subsequent study our research group is presently preparing. In our present study, the musculoskeletal system emerged as the most frequent reason for repatriation, comprising more than one-fifth of all repatriated cases. This most likely reflects the repetitive labour component of the seafarer profession, with continuous motor and strength motions causing musculoskeletal injury. Exposure to ergonomic risk factors and repetitive motions may cause fatigue and when fatigue, in time, overcomes the natural recovery system of the body, muscular imbalance and an actual anatomic disorder may occur. Lumbar issues (30.2%) predominate most probably due to poor lifting techniques and non-recognition of individual lifting limits. This is supported by a 2023 study by Bilir et al. [13], where they attributed the high incidence of musculoskeletal disorders among seafarers to either poor posture for captains/officers or a high level of physical strain for engine room/deck personnel.

These outcomes align with a 2005 study by Jensen et al. [14], encompassing 6,461 participants, which reported an injury rate of 9.1%. Their research indicated that blows and wounds constituted 49% of injuries, followed by fractures at 12.4%. Furthermore, 70% of injuries transpired on the ship's deck or within engine rooms. In our investigation, hand trauma accounted for 51.62% of injuries leading to repatriation, which is unsurprising given the manual labour typically performed by seafarers. The predominance of injuries to the hand or wrist is consistent with the study done by Sagaro et al. [12] in which the hand or wrist was the most common body part injured at 29% of cases, followed by lower back or lumbar spine injuries at 12%.

The digestive system is the second-highest system for medical repatriations. The most prevalent case is still appendicitis in line with the study by Dahl in 2006 [15]. While surgery is still considered the golden treatment standard, more non-surgical options like early and aggressive antibiotic treatment are being recommended by several studies [16–20]. Perhaps better and early identification and having antibiotics on board could be part of the treatment protocols, decreasing emergency port diversions or even helicopter evacuations.

Abdominal pain accounts for a significant cause of repatriation. This is due to the cautious approach in managing pain of unknown origin, preferring to discharge the patient rather than sail out with a patient in distress. Due to logistical considerations such as port delays or prolonged periods at sea, authorities more commonly decide to repatriate affected crew members. Many of these cases then return to the Philippines pain-free.

The combination of musculoskeletal problems and traumatic injuries accounted for nearly 41% of all repatriations, as these issues often arise from work-related activities. This finding assumes significance, as these cases could potentially be attributed to occupational factors. The high prevalence of work-related injuries underscores the urgent need for comprehensive safety training for Filipino seafarers. Additionally, the implementation of precautionary measures and the establishment of safe working conditions are imperative for reducing and preventing accidents and traumatic incidents.

Considering the overall medical repatriation rate of 1.4% in this study, it can be viewed as low. This observation suggests that Filipino seafarers are generally a healthy group. When removing typical work-related injuries and musculoskeletal disorders, the repatriation rate of actual medical illnesses is approximately 0.86%. This outcome could again be attributed, at least in part, to the comprehensive health screenings conducted by pre-employment medical clinics in the Philippines and proper medical management of chronic diseases while seafarers are on board. Continued epidemiological monitoring is beneficial for observing trends and patterns for occupational health maintenance.

STRENGTHS AND LIMITATIONS OF STUDY

The strengths of this observational study lie in the large number of cases over a 5 year period. Studying the data of 20.3% of an epidemiologic population study makes it significant and representative. With the amount of data which now can include our previous paper, we can stretch this into a 10 year study and/or analyse the differences or similarities between two five year periods. There can also be various studies that can further evolve from this database of information for further analysis into the various tissues regarding seafarer health and safety.

Several limitations should be considered. First, the data collection was limited to manning agencies located in Manila, Philippines. As a result, the findings of this study may

not accurately represent the overall burden of medical repatriations in the entire Philippines. Additionally, there is a likelihood of underreporting of repatriation cases because it is assumed that Filipino seafarers may be hesitant to seek medical assistance while on board and may prefer to seek treatment after returning to their home country. Furthermore, this study primarily focused on acute health disorders, potentially leading to an underreporting of latent chronic conditions. Moreover, the retrospective nature of the analysis and the use of aggregated data resulted in a lack of detailed and comprehensive information, which could have been ideal. Further research is required to conduct a more thorough analysis of the available data, particularly considering that this dataset represents the largest collection of medical repatriations to date. Certain regulatory restrictions (i.e., strict implementation of R.A. 10173, or the 2012 Data Privacy Act) prevented the study team from doing a longitudinal follow-up study of individual-level patient data.

CONCLUSIONS

Observational studies serve the purpose of assessing the prevalence, consequences, outlook, and various attributes of diseases or conditions in populations or specific subsets of the population. These studies provide valuable data for prioritising research and control efforts, determining target areas for prevention, and identifying the appropriate treatment resources required. Profiling the health issues specific to Filipino seafarers can contribute to the optimisation of existing protocols, implementation of health surveillance programmes, and formulation of health policies tailored to seafaring personnel. Additionally, the outcomes of our study can aid pre-employment medical exam physicians in identifying and managing conditions that pose a heightened risk of necessitating medical repatriation.

Medical repatriations continue to place a significant liability on the largest demographic group of the global seafaring population. The highest prevalence of musculoskeletal injuries and trauma highlights the continued dangers and risks on board as well as the necessity of comprehensive safety protocols on ships. This present study's findings can continue to serve as a reference point for assessing the health status of seafarers from any shipping company in the Philippines. It would be ideal to get this kind of medical repatriation data from other seafaring nations to benchmark, evaluate and share best practices. The recently established MLC 2006 was created to improve the safety, living conditions, and health of the global seafarer. Since we now have 10-year data from a period before and after it went into effect, our group intends to make a comparative study looking at the repatriation data from both periods in a separate paper.

Conflict of interest: None declared

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