



CHALMERS

Covid-19 mitigation procedures

Effects and consequences for seafarers

Bachelor thesis for Master Mariner Program

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DEPARTMENT OF MECHANICS AND MARITIME SCIENCES

CHALMERS UNIVERSITY OF TECHNOLOGY
Göteborg, Sweden, 2021

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SAMMANDRAG

2020 spreads Covid-19 världen över, vilket resulterade i regeringar stängde gränser, arbetsplatser, skolor och restauranter. IMO reagerade med att vädja regeringarna att hålla sina gränser öppna för sjöfolk, så att dessa skulle kunna ta sig till och från sina fartyg. På många håll i världen hördes aldrig IMO's vädjan och hundratusentals sjöfolk satt fast runt om i världen utan någon möjlighet att ta sig hem.

Den här studien undersöker hur sjöfolk som både är bosatta och jobbar i Europa har påverkats av pandemin.

Studien har blivit genomförd som en fallstudie och använder sig av data från intervjuer med sjöfolk ombord på ett norskflaggat fartyg som jobbar i europeiska farvatten. Diskussionen och slutsatserna är baserade på ett jämförande av intervjudatan och guidelines publicerade på IMO och ICS hemsidor.

Nyckelord: Covid-19, social distancing, WHO, IMO, ICS, procedure, restriktioner

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ABSTRACT

In 2020, Covid-19 overwhelmed the world, with the result that governments all over the world shut down borders, workplaces, schools and restaurants. The International Maritime Organisation reacted by urging governments to keep their borders open for seafarers, so that these would be able to go to and from work. In many places of the world, the pledge from the IMO was unheard and hundreds of thousands of seafarers were left stranded without any means to go home.

This paper aims to study how seafarers, who live and work inside the European borders, have been affected by the ongoing pandemic.

The study has been conducted as a case study, using data collected through interviews with seafarers working on a Norwegian flagged vessel working in European waters. The discussion and conclusion have been made, comparing the interview data with data from literature search based on scientific data and official guidelines released by international organisations such as the WHO, the IMO and the ICS.

Keywords: Covid-19, social distancing, WHO, IMO, ICS, procedures, restrictions

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ACRONYMS AND TERMINOLOGY

CDC	Center for Disease Control
ICS	International Chamber of Shipping
IMO	International Maritime Organisation
WHO	World Health Organisation

1. INTRODUCTION

On the 5th of January 2020, the World Health Organization (WHO) published a letter saying their China office had received information about cases of pneumonia with unknown causes in the city of Wuhan (WHO, Disease outbreak news, 2020). By the end of January, countries in Asia, North America, and Europe, started reporting cases of people infected by the new virus (Hoffman, 2020).

On the 30th of January 2020, the director general of the WHO released a statement declaring the new Corona virus outbreak a global health emergency. The outbreak that started in the Wuhan region in China had now reached the rest of the world with 98 confirmed cases of infected people, in 18 different countries (WHO, WHO Director-General's statement on IHR Emergency Committee on Novel Coronavirus (2019-nCoV), 2020).

In the following months countries, all over the world implemented measures to try to limit the spread of the virus. Public places such as restaurants, schools and shops were closed. People were asked, and in some cases even told to stay at home. Travel restrictions were being enforced and borders were being closed (Hoffman, 2020).

All these measures have had an immense impact on society. Many people have lost their jobs, businesses are struggling, and in March 2020 Dow Jones saw the biggest quarterly drop since 1987 (Jones, Palumbo, & Brown, 2020).

The travel restrictions have also had an immense effect on the international shipping industry, and on the lives of the many hundreds of thousands of seafarers who are the very core of this vital societal function. The restrictions on travel, visas, port accessibility, new quarantine rules and reduction in available flights, has left many seafarers stranded. Seafarers have been stuck onboard ships several months past their contractual times, and it is taking a toll on their wellbeing. Reports have come into the ILO about seafarers in urgent need of land based medical care, being denied disembarking (ILO, 2020). Media has reported about hunger strikes aboard vessels with crewmembers, being desperate to go home, and there has even been reports about suicides, related to the situation (Street, 'Treated as cargo:' Stranded cruise ship crews recount desperation, 2020). The Secretary General of the United Nations has called the situation a "humanitarian and safety crises", asking nations worldwide to categorize seafarers as key workers and facilitate their travels (News, UN chief calls for seafarers to be designated 'key workers', with many stranded at sea, 2020).

On the 11th of September, the IMO released a statement urging all governments to immediately recognize seafarers as key workers and remove any obstacles to crew changes.

On the 11th of September, the IMO released a statement urging all governments to immediately recognize seafarers as key workers and remove any obstacles to crew changes.

And while many states had already taken actions to facilitate the crew changes, it was still estimated that around 300 000 seafarers were stuck onboard ships around the world, without knowing how or when they would be able to fly home (IMO, 2020).

Just as the measures taken by governments all around the world has had an immense impact on the global shipping industry and the lives of seafarers, the internal measures now being implemented by shipping companies will also come with side effects. Shipping companies are implementing procedures to try to keep Covid-19 off their vessels, and to satisfy clients and authorities so that they can continue to operate throughout the pandemic. But the shipping companies have the same problems as the governments. They have been scared and forced into implementing procedures before anyone really knows what we are dealing with. The procedures are there to try to keep the seafarers safe, and while a lot of the procedures are sound, some have shown to have no effect at all, and some have even done more harm than good.

1.1 Aim of the study

This research paper will study how Covid-19 restrictions and procedures have affected seafarers in Europe.

The restrictions and procedures that have been put in place by governments all around the world has had an immense effect on the lives of seafarers. According to several news articles, seafarers have been stuck onboard their vessels, not being able to travel home, for months beyond their contractual times, and others have been stuck at home, not being allowed to travel to their vessels, and therefor losing their incomes. This has had an immense effect on the financial means and the mental health of seafarers all around the world (News, More action needed for seafarers, ‘collateral victims’ of measures to curb COVID-19, 2020).

This study will investigate how the restriction due to Covid-19 have affected the lives of seafarers working and living in Europe.

The goal is to get an idea of how the seafarers feel about the restrictions. If the restrictions are conceived as meaningful in the quest of stopping the pandemic or if they are mainly seen as a nuisance, making their lives harder.

1.2 Research questions

1. What kind of restrictions have seafarers in Europe been subject to live with during the Covid-19 pandemic?
2. To what degree are the seafarers accepting and embracing these procedures?
3. Has the mental wellbeing of seafarers been affected by the restrictions?

1.3 Delimitations

The study is focusing on the effect that Covid-19 has had on seafarers living and working on vessels inside Europe. The case interviewees were picked from a Norwegian flagged offshore construction vessel, working in European waters. Three of the interviewees were living in Norway and two of them were living in Poland.

Peer reviewed research about Covid-19 is still extremely limited because of the novelty of the situation. The information on Covid-19 is therefore mainly gathered from official webpages of health authorities such as the WHO and the CDC.

For information regarding the procedures put in place to mitigate the risks of Covid-19, webpages of maritime authorities such as the IMO, the ICS and the Norwegian Maritime Authority have been searched.

2. THEORY

2.1 Covid-19

2.1.1 Overview

Covid-19 is the given name of a respiratory illness caused by a newly discovered corona virus, that was first identified in December 2019.

Corona viruses are a group of viruses where some can cause severe illness in humans. In 2003 an outbreak of SARS (Severe Acute Respiratory Syndrome), started in China and spread to several different countries before ending in 2004. The SARS outbreak was caused by a corona virus, which in many ways is like the one causing Covid-19 (Sauer, 2021).

2.1.2 Symptoms

The most common symptoms of Covid-19 are fever, coughing, shortness of breath and muscle pain. Some patients may also experience headache, diarrhoea and/or a sore throat a few days before the fever sets in. The loss of taste and smell has also been reported as an early sign of the infection.

The progression pattern of the Covid-19 infection shows great variety from patient to patient. Some patients are almost asymptomatic. Some patients get flu-like symptoms such as fever, headache, and muscle pain. In some patients the virus affects the respiratory system with symptoms such as shortness of breath normally setting in a week after the first flu-like symptoms. Patients with severe symptoms can suffer from a rapid progression of the infection, sometimes leading to multiple organ failure and death (Luo, Chiu, Weng, & Chen, 2020).

2.1.3 Fatality rate

As of August 2020, the infection fatality ratio (total number of infected people / total number of Covid-19 related deaths) was estimated to be approximately 0,5-1%. This would suggest that up to 1% of patients infected by Covid-19 end up dying. This is still a very rough estimate. Mainly because the total number of infected people is unknown, and the number used for the calculation is only an estimate. A lot of cases go undetected as patients only show mild or no symptoms at all, and therefore never seeks medical care or gets tested. To estimate the total number of infections, a serological testing of a representative random sample of the population can be performed. Several surveys of this kind are currently being conducted worldwide, and some of these have suggested a considerable underestimate of infected cases (WHO, Estimating mortality from COVID-19, 2020).

Two other factors to consider while trying to understand the severity of being infected by Covid-19, are risk groups and excess mortality. High risk groups are mainly considered to be elderly people (65+), and people with underlying conditions. According to the Centers for Disease Control, a person who is 65 years or older run a five times greater risk of dying if infected by Covid-19 than a person who is 30 years (CDC, cdc.gov, 2020). The excess mortality is the number of covid-19 related deaths that are in excess of the number of deaths in a normal year.

The severity of being infected by Covid-19 has been reported to be strongly influenced by age and underlying medical conditions (WHO, Estimating mortality from COVID-19, 2020). In a pandemic, the number of deaths can rise rapidly, but causes are often inaccurately recorded, particularly when reliable tests are not widely available. The number of deaths attributed to Covid-19 may therefore be significantly undercounted. Excess mortality data overcome two problems in reporting Covid-19-related deaths. Miscounting from misdiagnosis or under-

reporting of Covid-19-related deaths is avoided. Excess mortality data include ‘collateral damage’ from other health conditions, left untreated if the health system is overwhelmed by Covid-19 cases, or by deliberate actions that prioritise patients with Covid-19 over those with other symptoms. For example, in a pandemic, measures implemented by governments may also influence death rates. For example, deaths from traffic accidents may decline but suicide rates may rise. Excess mortality captures the net outcome of all these factors (Janine Aron, 2020).

2.1.4 Transmission

The virus SARS-COV-2, commonly referred to as Covid-19, was first transmitted from animals to humans, and has since then been transmitted between humans at a high speed. At the beginning of the pandemic, it was believed that the virus could only be transmitted from symptomatic individuals, but as the understanding of the new virus grew, it became clear that it could also be transmitted from asymptomatic individuals. In other words, individuals who are not even aware that they are infected.

At the beginning of the pandemic, it was believed that the virus could only be transmitted from symptomatic individuals, but as the understanding of the new virus grew, it became clear that it could also be transmitted from asymptomatic individuals. In other words, individuals who are not even aware that they are infected, can be contagious.

It is believed that the main transmission route of the virus is through close contact between humans, and from breathing in small respiratory droplets released into the air when an infected individual sneezes, coughs, laughs, sings, or simply talks.

A secondary route of transmission is through touching contaminated objects, followed by touching the face, near the mouth, nose and eyes where the virus can enter the human body (ecdc, ecdc.europa.eu, 2020).

Another route of transmission is through touching contaminated objects, followed by touching the face, near the mouth, nose and eyes where the virus can enter the human body.

2.1.5 PPE

As the main routes of transmission is believed to be through respiratory droplets and contaminated object, the most effective ways of avoiding contamination are believed to be social distancing, meticulous hand hygiene and the wearing of face masks in situations where adequate social distancing is not possible (ecdc, ecdc.europa.eu, 2020).

Face masks

Whereas social distancing has been widely accepted by the public as a means of limiting the spread of Covid-19, the wearing of face masks among healthy individuals has been more controversial. There are still no peer-reviewed scientific studies that have investigated the effectiveness or ineffectiveness of wearing face masks among “healthy individuals” to limit the spread of COVID-19. Since the beginning of the pandemic the recommendations from health officials around the world, on wearing face masks has been varied and sometimes unclear. Some countries have strongly recommended the use of face masks as a way of limiting the spread, and the risk of getting infected. Some countries have made it compulsory to wear face masks in public areas, and some countries has announced recommendations against the use of face masks amongst people not diagnosed with Covid-19. The recommendations against the masks have pointed to the danger of more frequently touching the face while wearing a mask. A mask needs adjusting and can be itchy. There is also a risk of instilling a false sense of security in people wearing masks, making them less attentive to respecting social distancing (Keshini, 2020).

There is how ever ongoing research on the effectiveness of the face masks. In a preprint of a scientific article, a group of scientists describe how they tested the effectiveness of different types of face protection to limit the risk of contracting a virus such as Covid-19. They used a cough aerosol simulator to propel small aerosols particles into different types of face protections. A primary benefit of wearing any kind of face protection is that it limits the amount, and the distance that aerosol particles can be released while for example coughing. The test did also show a high efficiency in blocking the aerosols. The N95 mask, also known as a surgical mask, blocked 99% of the aerosols. A 3-ply cloth mask blocked 51%, where as a face shield only blocked 2 % of the aerosol particles. (William G, Francoise M, Brandon F, Donald H, & John D, 2020).

Soap, water and hand sanitizer

When it comes to avoiding infection from contaminated surfaces most guidelines point to the importance of good hand hygiene and avoiding touching the face. Studies have shown that the most efficient way to remove germs from the hands is by a thorough hand scrub with soap and running water. Alcohol based hand sanitizers may be easier to use and is therefore a good supplement where a proper hand wash is not possible, but studies have shown that even the ones with high enough alcohol percentage are not able to kill of all kinds of bacteria and viruses. They are also less efficient if the hands are dirty. Hand sanitizer work well in clinical settings, where hands are not heavily soiled and greasy (UCI Health, 2020).

Disposable gloves

Both the US and the European CDCs (Centers for Disease Control and Prevention) do not recommend the public to wear gloves in their normal daily lives as a means of protection against Covid-19, other than if they are cleaning or caring for another individual infected with the virus (CDC, cdc.gov, 2020) (ecdc, ecdc.europa.eu, 2020). Wearing gloves when for example using a shopping trolley or an ATM will not necessarily protect against the virus, as these adhere very well to the material of gloves, and if you touch your face at any point, you may still have exposed yourself to the virus. For the gloves to work as a barrier it is also important to respect the proper way of removing the gloves and washing the hands after removal. Otherwise, the virus can easily be transferred onto the clothes or wrists while removing the gloves, says Debra Goff from the Wexner Medical Center at Ohio State University (Goff, 2020).

2.1.6 Test methods

There are currently hundreds of different tests to detect if an individual is or has been infected by Covid-19. They all fall into three main categories. **PCR**, **antigen** and **antibody** tests (Ducharme, 2020).

PCR tests

The most used tests today use **PCR** technology. PCR is short for polymerase chain reaction and can detect traces of the virus genetic material on a sample, collected from a nose or a throat swab. PCR tests are generally considered to be the best method of detecting if an individual is infected by Covid-19, but the accuracy of the test is still very uncertain, with some studies suggesting as high as 30% of results being inaccurate (Ducharme, 2020). In an article from Harvard Health, MD Robert H, Shmerling writes that the reported rate of false negatives lies between 2-37% (Shmerling, 2020). The high number of false negative test results can have several explanations. One is that the test sample was not collected from deep enough into the patients nose or throat. Another is the timing of the test. If the test is taken to early after exposure to the virus, this can go undetected. The perfect timing to get an accurate

test seems to be approximately 5 days after exposure. Whereas false positive test results seem to be less common, there can still be a lot of genetic materials from the virus left in the body after the virus has been killed off. This can lead to positive test results even though the patient is no longer sick or infectious (Ducharme, 2020).

Antigen tests

Antigen tests also requires a test sample from a nose or a throat swab. But instead of looking for genetic material from the virus, it is looking for proteins that live on the surface of the virus. Antigen tests require less laboratory work and can therefore yield a quicker test result. Its downside is that it is less accurate than PCR tests, with a higher percentage of false test results (Ducharme, 2020).

Antibody tests

Antibody tests are unlike PCR and antigen tests, not looking for an ongoing infection, but rather looking for specific antibodies indicating that an individual has already gone through and come out of an infection. Antibodies are produced by the body's immune system to fight of a viral infection and can render the individual immune to that specific virus. It is however still very uncertain to what degree and for how long an individual can get immune to Covid-19 after having gone through an infection. (Ducharme, 2020) Further on, the antibody tests are also subject to false test results. The accuracy of these tests varies between different manufacturers, but none of them are 100% accurate, and according to CDC (Centers for Disease Control and prevention), both false negative and false positive results are common (CDC, [cdc.gov](https://www.cdc.gov), 2020).

2.2 IMO guidelines

2.2.1 Travel advice

On the 27th of March 2020, the IMO (International Maritime Organisation) sent out a circular letter to all member states and associated organisations, pleading to designate seafarers as “key workers”, providing essential services to society, and asking governments to facilitate seafarers travel to and from vessels (IMO , 2020).

IMO 2020, says that the objective of the letter, is to ensure that seafarers are healthy when they start their travels to or from a vessel, and that they avoid getting infected, or infecting others during their travels.

The letter includes a set of protocols which are meant to mitigate the risks for seafarers of being infected, or infecting others, with Covid-19 during crew change travels.

With these protocols the IMO is hoping to convince governments to make exceptions for seafarers in local travel restrictions, in order to facilitate crew changes (IMO , 2020).

The seafarer’s responsibility

According to circular letter, the seafarer is required to check and log their own temperature for a set number of days before travelling. The number of days to keep this log is up to the shipping company to decide and should be based on consulting local regulations where the seafarer will be travelling.

The seafarer is required to carry necessary documents, proving their status as seafarers, and their compliance with these protocols. The seafarer must always respect social distancing, and wear appropriate PPE according to company procedures, and local regulations.

The seafarer should also comply with any local regulations regarding testing and avoid public transport to and from the airports if possible (IMO, 2020).

The shipping company’s responsibility

According to the circular letter, the shipping companies are required to provide seafarers with the latest Covid-19 information and mitigation procedures to adhere to during their travels.

The company shall provide PPE for the entire travel route of the crew member, and if possible, they shall arrange private transfers to and from the airports, to avoid using public transport. If a stop-over is required, a hotel room shall be arranged by the company. The shipping companies are required to instruct their seafarers report immediately if they develop any symptoms of Covid-19 (IMO, 2020).

The local authority’s responsibility

In the circular letter, governments and local authorities are asked to provide shipping companies with the latest updates on restrictions and regulations regarding Covid-19, and designate seafarers as “key worker” and exempt them from travel restrictions that could hinder their crew change (IMO , 2020).

2.3 ICS (International Chamber of Shipping)

Coronavirus (COVID-19)

Guidance for Ship Operators for the Protection of the Health of Seafarers

In March 2020, the ICS published a guidance to help ship operators and seafarers follow the advice provided by international organisations such as the WHO, the IMO and ILO, on how to mitigate the risks of Covid-19 (Shipping, 2020).

According to the ICS guidance, ship operators should consider introducing procedures to lower the risks of bringing Covid-19 onboard via an infected person. The procedures should include measures such as screening questionnaires, PCR testing and quarantine (Shipping, 2020).

2.3.1 Pre-travel questionnaire

A pre-travel questionnaire should be developed by the ship operator, and anyone who wishes to join the vessel should fill this out prior to his travel. The questionnaire should contain questions that try to make sure that people who are infected by Covid-19, people who have symptoms that could be related to Covid-19, or people who have been in close contact with someone infected by Covid-19 do not travel (Shipping, 2020).

2.3.2 PCR testing

The ICS protocols encourages companies to test all personnel joining a vessel for Covid-19. According to the protocols, only PCR tests are currently recommended for such a test, and this should be performed at an approved testing facility. The testing shall be performed as close to the vessel as possible, and as late as possible before crew change (Shipping, 2020). If the authorities in the country of embarkation requires a negative PCR test, the seafarer might have to do a test already before leaving home. This should always be checked by the ship operator. Testing before traveling should however not be a replacement for the test at the place of embarkation (Shipping, 2020).

The testing arrangements shall be organized by the company and their respective agent. The company shall book a testing facility and organize the transport to and from airport, testing facility and isolation hotel. Once tested, the personnel should be isolated in a designated hotel where meals will be delivered to the room. Once a negative test result is received, the company shall arrange the last transport to the vessel (Shipping, 2020).

Positive results

If somebody tests positive, they will not be allowed to board the vessel. Depending on what country they are in they might not be able to travel home either and will therefore have to stay in the isolation hotel until all symptoms of Covid-19 have passed and the governing force declares them fit to travel. The costs and arrangements for such an extended stay shall be taken care of by the company. Once the infection and a quarantine period has passed and they have been declared fit for travel, the company will arrange the onward journey back home. (Shipping, 2020).

2.3.3 Hygiene & PPE

Shipowners should provide all personnel joining their vessels with general information on Covid-19 and how to mitigate the risk of catching and spreading it.

The ICS guidelines refers to information published by the WHO and puts emphasis on the importance of proper hand and respiratory hygiene (Shipping, 2020).

According to the guidelines the ship operator should inform and encourage the seafarers to wash their hands frequently with soap and water, and to use alcohol-based hand sanitizers when hand washing is not practical. They should also encourage the seafarers to sneeze in disposable tissues, or into their flexed elbow if no tissues are available. The seafarers should

also avoid touching their face with unwashed hands and keep a social distance of minimum one meter whenever possible (Shipping, 2020).

PPE

The only PPE that the ICS are mentioning specifically in their Covid-19 guidelines is facemasks. They do however not recommend a routine use of facemasks onboard. According to the guidelines, facemasks should be worn if someone needs to interact with another person from outside the vessel, or if a social distance of one meter can not be maintained during a work situation (Shipping, 2020).

2.3.4 Shipboard self-distancing (SSD) protocol.

According to the ICS guidelines, ship operators should consider obliging their crews to complete a period of shipboard self-distancing (SSD) after embarkation. This is to limit the risk of a large-scale outbreak onboard in case an infected but at the time, asymptomatic person has embarked the vessel. It is up to the ship operator to decide what kind of measures shall be part of the SSD, and for how long these measures shall be in play. The ICS suggest doing the Shipboard Self Isolating for a period of 14 days. If no crewmembers have developed any symptoms during this time the extra restrictions can be lifted (Shipping, 2020).

The restrictions that the ICS suggests for the SSD protocol are for example to maintain a social distance of at least one meter, disinfect their own work area and tools after use, and use external stairways and walkways to move around the vessel if it is safe to do so. Further on people should avoid using common areas such as day rooms, smoking rooms and gymnasium. The ICS also suggest that the crew receive and eat their meals in their cabins if it is safe to do so. The restrictions implemented in the SSD protocol should however not stop anyone from performing their duties (Shipping, 2020).

2.3.5 Visitors

According to the ISM code, shipowners should assess all identified risks to their vessels and personnel and develop plans to mitigate these risks. According to the ICS, the interaction between shipboard personnel and shore-based personnel during port calls is such a risk, and a plan should therefore be made on how to mitigate this risk (Shipping, 2020).

The ICS suggests that such interactions should be kept to a minimum, and that visitors to the vessel should only be allowed if deemed necessary for the operations or for safety reasons (Shipping, 2020).

2.4 The Norwegian Maritime Authority

2.4.1 Crew change in Norway

The Norwegian Maritime Authority has published a protocol with regards to crew change on ships for foreign nationals signing on or off in Norway. The protocol is in line with the IMO circular letter NO4204 and exempts persons who can prove their status as seafarers, from any travel restrictions to and from vessels for the purpose of crew change. Up to 15 days of transit is accepted while awaiting vessel or transport (Norwegian Maritime Authority, 2020).

2.4.2 Quarantine requirements

All persons entering Norway may be subject to quarantine of ten days in a suitable location, depending on what country they are travelling from. A list of areas which are subject to quarantine is available and continuously updated on www.lovdata.no . If the vessel is found suitable, a seafarer can do the ten days of quarantine onboard the ship. Otherwise, the shipowner must organize a suitable location for the quarantine.

Persons who have been in close contact with confirmed Covid-19 case must be in quarantine for ten days no matter where he is travelling from (Norwegian Maritime Authority, 2020).

2.4.3 Quarantine exemption for seafarers

A seafarer can join a vessel and immediately start working if he or she tests negative for Covid-19 after arrival to Norway. If the shipping company is not able to arrange a testing, the seafarer can still be exempted from quarantine if the he or she can be considered to have an essential function onboard.

A seafarer who has been exempted from quarantine can start working, but must still exercise self-quarantine during leisure hours for a minimum of ten days, or until a second test has been made with a negative result. The second test must not be made earlier than 48h from the first test.

Seafarers who embarked a vessel in Norway are exempt from quarantine when the vessel returns to Norway, as long as no crew or passengers have gone ashore (Norwegian Maritime Authority, 2020).

2.4.4 Confirmed or suspected Covid-19 case onboard

Any vessels sailing in Norwegian waters should report any confirmed or suspected cases of Covid-19 as soon as possible to the Norwegian Authorities.

2.4.5 Onboard preparedness

Shipping companies are obliged to develop and implement a preparedness plan for a possible Covid-19 outbreak onboard their vessels.

The plan should include:

- Information about possible dangers of an outbreak onboard a vessel.
- Guidelines for how to report a suspected or confirmed outbreak.
- Measures to be implemented to try to limit the spread, in case of a suspected or confirmed Covid-19 case onboard.
- A plan for isolating persons with symptoms and a routine for following up on these persons.
- Guidelines for evacuating an infected person.

The preparedness plan shall be made available to all crew working onboard a vessel, as well as to local medical assistance (Norwegian Maritime Authority, 2020).

3. METHOD

3.1 Choice of method

This research is based on a case study. There are several reasons for this. One, being that this research was aiming to focus on a specific part of a larger problem. Secondly, because of the author's access to information and interviewees with first-hand experience of the problem.

Martyn Denscombe 2014 describes a case study as a study focusing on a specific part of a larger scale problem. In the immense problem that is the Covid-19 pandemic, this study chooses to focus in on the effects that the mitigation procedures are having on the lives of seafarers. Denscombe further states that case studies are widely used in research aiming to provide in-depth information of events, experiences, and processes occurring during a specific time.

3.2 Data collection

The documentary data for this study has been collected through internet search engines such as the school library search engine and google scholar. Documents and data have also been sourced directly from official webpages of larger organizations and governments such as the IMO and the Norwegian Maritime Authority.

Scientific papers have been used where possible, but as Covid-19 is such a new phenomenon the amount of scientifically approved data on the subject is limited. Data from newspapers and official websites has also been used, alongside with procedures and protocols downloaded from official websites.

The interviews were conducted onboard the vessel of the case study. All the interviewees volunteered for the interviews, but their identity will remain anonymous.

At the beginning of this study, access to the company procedures had been granted, but at a later discussion they decided that they did not want their procedures to be used as a reference in a paper that would be public. The information in this study regarding procedures are therefore mainly gathered from the ICS guidelines and from the interviews.

3.3 Interviews

According to Martin Denscombe 2014 interviews are particularly suitable to gather subtle and complex information such as, feelings, opinions and experiences.

The main purpose with these interviews was to get information of how the seafarers feel about the Covid-19 mitigation procedures that they have had to adhere to since spring 2020.

The interviews were conducted one on one, in a private room onboard the vessel. Before the interviews started, the interviewees were asked if they were ok with the interviews being recorded? They were also explained that once the interviews were transcribed, they would be erased, and that nothing in the final report would in any way reveal the identity of the interviewee.

During the interview's, a set of questions was used as a guideline to help the interviewer get answers on the main questions at hand. To let the interviewees, develop and elaborate their own thoughts on the questions, without pushing them in any direction, the interviews were conducted in a semi-structured way. According to Martyn Denscombe 2014, semi-structured interviews should follow a clear list of issues to be addressed, but still leaving room for the interviewee to speak widely on the subject and elaborate his/her own thought on the issues.

3.4 Literature search

Literature searches has been conducted to gather material for the theory of this study. For the theory of Covid-19 and pandemics in general, the focus has been to try to find material from peer reviewed articles and research papers. The main sources to search for these articles was through the Chalmers Library's internal search engine, and google scholar, but other internet-based search engines were also used when the wanted material could not be found otherwise.

Because of the novelty of the Covid-19 pandemic, peer reviewed papers on the effects of the virus on the global maritime industry were non-existent. To get information on how the virus had affected the maritime industry and the lives of the seafarers, the search was extended to include news articles from large international media such as BBC and CNN, but also articles and letters released by international organizations such as the IMO.

To gather information on official Covid-19 mitigation procedures, official web pages of organizations and governments were searched. The two main sources being the IMO, and the Norwegian Maritime Authority.

3.5 Information evaluation

Information used in research need to be thoroughly evaluated in terms of its authenticity and the credibility of its facts (Denscombe, 2014).

There is never a guarantee that the data one finds is a hundred percent accurate, but by using a few rules of thumb, the likelihood of being misled by false data diminishes. Before using any kind of data these four basic criterions should be considered:

Authenticity, Is the document authentic? Is the document really what it claims to be, and not a fake or a forgery?

Representativeness, Is the document complete? Has it been edited? Does the document represent a typical instance of the thing it is portraying, or is it describing an exception?

Meaning, Are the meaning of the words clear or does it leave a lot of room for interpretation?

Credibility, Is the document accurate and free from errors and bias meanings? To evaluate the credibility these further questions should be asked:

Why was the document written?

Who produced the document?

Were the events directly witnessed by the author?

When was the document written?

Academic journals and commercial publishers generally have their articles reviewed before they are published. This gives these sources a lot of credibility, and when looking into the publisher's history and connections to other organizations and/or authorities, the credibility can be either further enhanced or diminished (Denscombe, 2014).

The authenticity of the information received during the interviews also need to be evaluated. The interview questions in this study were specifically aimed at the opinions, believes and feelings of the interviewees. To evaluate if someone is telling the truth while expressing his/her feelings is hard, but there are some practical checks that researchers can use when trying to evaluate data from interviews. For example, one should consider the number of interviews conducted as these can be crosschecked against each other, to look for some kind of consistency in the answers. The way the interviews are conducted also play a role to the likelihood of the interviewees feeling comfortable to express their own true feelings and opinions. Are the interviews anonymous, are the interviews conducted one to one, or in a group? Does the interviewee trust the interviewer? (Denscombe, 2014).

3.6 Ethics

According to Martyn Denscombe 2014, there are a few ethical principles that should be considered during research work.

- The research should not endanger the interests of any of its participants.
- Participation in the research must be voluntary.
- The research should avoid deception.
- It should comply with any laws of the land where it is conducted.

When conducting interviews, informed consent and confidentiality are fundamental to research ethics (Denscombe, 2014). The interviewees in this study were informed about the subject and the purpose of this research, when asked about participating. Before commencing the interviews, they were asked to give their consent to recording the interviews, and they were further informed about the confidentiality of any information that they would be giving during the interview. They were informed that the recordings taken during the interviews would be erased after being transcribed, and that the transcribed material would be completely anonymous.

4. RESULTS

The results below are a summary of the answers from the interviews that were all conducted onboard the vessel of the case study. All five of the interviewees are full time employees onboard the vessel. Three of them are Norwegian and two are Polish.

4.1 Restrictions at crew change

All five of the interviewees mentioned the crew changes as the main cause for concern since the Covid-19 pandemic started.

At the time of the interviews none of the interviewees had been stopped from travelling to or from the vessel because of any governmental lockdowns, but two of the interviewees had already been refused to join the vessel because of the company procedures that had been put in place to mitigate the risks of Covid-19.

According to the interviewees, the first procedure that was put in place in early spring 2020, was that the crewing manager called all the on-signers the day before they were supposed to travel onboard and asked if they had any symptoms of a cold or flu, that could potentially be Covid-19. In other words, if anyone had a runny nose, a sore throat, or a cough, they were told to stay at home. Two of the interviewees, both Norwegian, were denied travelling on two different occasions because of a sore throat. At the time, none of them were tested for Covid-19, as the tests were still a hard thing to come by, but in the interview they both stated that they did not think that it was Covid-19.

4.1.1 Testing

At the time of the interviews, the company had just started to implement PCR testing for all crew joining the vessel. According to one of the interviewees this was mainly due to pressure from the vessel's clients. At the time of the interviews, the interviewees had just done their first crew change with PCR testing. The test had taken place at a hotel close to where the vessel was berthed, and one crew member had tested positive. The crew member who had tested positive was informed that he would have to stay in his hotel room until he was well again, and all the symptoms had passed. When the test results came back, the government immediately did a close contact tracing, and they informed the crew that anyone who had been on the same plane as the positive crew member and had seat less than two rows from the infected crew member, would count as a close contact. Most of the Polish crew had arrived with the same plane in the morning and two of these had had a seat within two rows from the infected person, so they were also told that they would have to stay in quarantine in the hotel. They had to stay in quarantine for at least seven days, to observe if they would develop any symptoms. If they did not develop any symptoms during this time, and tested negative once again, they would be allowed to travel on to the boat if this could be arranged.

At the time of the interview the crew member who tested positive had just been allowed to fly back home, after spending nearly two weeks quarantined in a hotel room, and the other two crew members had been able to come onboard the vessel.

The interviewees expressed different feelings concerning the prospect of potentially being confined in a hotel room for weeks on end. Two of the interviewees raised a slight concern regarding the mental aspect of, as they called it, being locked up for two weeks. None of them was really scared, but they both said that they dreaded the idea and that it would most certainly have a negative effect on their mental wellbeing.

Another one of the interviewees had a completely different take on the PCR testing and the prospect of being quarantined in a hotel somewhere. For, the last crew change, he had come

prepared, with extra clothes, his computer and even a playstation. He said that the idea of sitting in a hotel room for a couple of weeks did not really bother him at all. If he was sick, he would not be able to do much but play video games anyway, as he put it.

The two Polish crew members who were interviewed were mainly concerned about losing out on work. They knew that if they would test positive, they would miss a whole rotation of work. As their contract did not give them the right to any social benefits such as sick leave payment, it would really mean, losing out on two months' worth of income. They also explained that they had been obliged by their manning company to take another test before they left home. Their company had introduced antibody testing in their procedure. It meant that all Polish crew had to take an antibody test before leaving home, and if the test came back positive, they would not be allowed to travel. One of the interviewees explained that he had a friend who had tested positive for antibodies, four months after being infected with Covid-19. This was perhaps the greatest concern that the interviewees had regarding Covid-19, that if they would contract the virus at any time, this could mean that they would lose their source of income for several months.

Mind the potential consequences of testing positive, all five interviewees agreed that PCR testing before joining the vessel was a good thing. As they said it, it had already proven itself by stopping one infected crew member. One of the interviewees explained that at the time of the testing, the infected crew member was completely asymptomatic, and would most likely have brought the virus onboard without knowing about it if not for the PCR test. Two of the interviewees did however question the way the PCR testing was done. They said that they would have preferred to be tested at home before leaving. That way, if they were to test positive, they would at least be able to spend the quarantine-time at home instead of in a foreign hotel.

A negative thing that was mentioned by all five of the interviewees was the uncertainty of the crew changes. The interviewees were working on a four weeks on, and four weeks off rotation, and for the last couple of years the crew changes had been more or less spot on the scheduled date, plus minus maximum one day, said one of the interviewees. Ever since Covid-19 started to spread in Europe, the crew changes had become more and more uncertain. According to one of the interviewees, the date to fly out kept on changing till the last minute and he had received no less than four different flight tickets before the last crew change. One of the interviewees said that never knowing when one would have to fly out to work, or when one would come home, was really stressful. The uncertainty of the crew changes was always present and especially hard for the ones with families at home.

4.1.2 Information & PPE

All five interviewees said that they had been well informed from the company regarding how they should act during their travels. They had all been told to avoid public transport to the airports, wear facemasks always, keep a good hand hygiene and always keep a social distance of minimum one meter, as far as possible.

Every time they had signed off the vessel, since the beginning of the pandemic, they had received a little travel kit with a few facemasks and a small bottle of hand sanitizer.

4.2 The implementation of the procedures onboard

The crew onboard the vessel seems to have a good understanding and awareness of how to mitigate the spread of Covid-19 onboard the vessel. The first interviewee said that the company had made their own Covid-19 mitigation procedure and 4 out of 5 of the interviewees said that they had read the whole procedures themselves.

There had also been several information meetings for the whole crew onboard the vessel regarding the Covid-19 procedures. However, two of the interviewees mentioned one of these meetings as a negative because of the way it had been conducted. According to the interviewees, the entire crew, of 65 people had been gathered at the same time in the messroom. And this at the very beginning of a rotation when they were supposed to keep a social distance and they had been asked to limit their interactions as much as possible.

4.2.1 Adherence to the procedures

When being asked the question of whether they were following the procedures or not, all five of the interviewees said that they were. At the question of how they perceived that their colleagues were following the procedures, the answers varied.

One interviewee mentioned that some crew had taken the land leave restrictions rather lightly while the vessel was in port. According to the procedures, people could go ashore when the vessel was in port, but only for exercise and fresh air. People were not allowed to meet up with other people, go to the stores or other public places that could potentially be crowded. According to the interviewee, some crew members had ignored this and gone to the stores, and a fast-food restaurant, while they said they were only going a walk.

Another interviewee said the level of hand hygiene amongst the crew varied quite a bit, even though he/she also said that the hand hygiene amongst the crew onboard had gotten considerably better overall. The procedures mentioned hand hygiene as one of the most important measures against Covid-19 and the crew had been encouraged to wash their hands more frequently. Extra hand sanitizers had also been placed all around the vessel.

The one measure that all interviewees mentioned being hard to keep was the social distancing of minimum one meter. One of the interviewees said that it was hard to keep the distance because of their work and because of the way a vessel is designed, with tight stairways and limited space. The interviewee also said that it varied a lot, how serious the crew took the social distancing. According to the interviewee, some crew members were very careful and would for example not sit down at a dinner table if there was not an empty seat between all persons. While some other crew members did not seem to care at all. According to the interviewee, they had the mindset that once they were on the boat it did not really matter anymore, as they were all living so closely together anyway. The interviewee said that, more often than not, the dirty mess and the smoking room was full of people sitting close together just as normal.

4.3 Work onboard the vessel.

When it comes to the actual work onboard the vessel, none of the interviewees signalled any major difficulties in doing their jobs. Only one of the five interviewees had experienced a significant increase of his/her workload caused by the procedures and restrictions related to Covid-19, but nothing that had stopped the normal work.

In general, the work onboard seemed to be going on as normal. The main difficulties that were noted by the interviewees were due to the restrictions of bringing external people onboard. Visits to the vessel had been forbidden except for when considered necessary. Meaning that it was still possible to get service personnel, or inspectors onboard when no other solutions were available. But as one of the interviewees reported, it had become more complicated, time consuming and expensive to organize.

One measure that all five of the interviewees mentioned and questioned, was the use of disposable rubber gloves in the mess room. According to the interviewees they were obliged to put on disposable gloves when they entered the mess room to eat. Once they had served themselves at the buffet and sat down, they could take off the gloves to eat. But if they wanted to take more food, they had to put on new gloves and change their plates. According to one of the interviewees this made no sense to him, as the mess room was the only place where anyone wore gloves. In the dirty mess, people drank coffee and ate cake without gloves, as he put it. The use of disposable gloves also caused huge amounts of unnecessary garbage. According to one of the interviewees, they were going through roughly 300 pairs disposable gloves every day onboard the vessel.

4.3.1 Recreational time onboard

One of the biggest changes that were noticed by the interviewees were on their recreational time. Since the beginning of the pandemic, shore-leave had been restricted to going for a walk, a run or a bike-ride. Visits to public places such as cafes, restaurants and shops, had been prohibited. Although none of the interviewees thought that this was a big restraint on their lives onboard, as they normally did not have much time to go ashore anyway, three out of five interviewees mentioned these shore-leave restrictions as something that could take a toll on the crews' mental health in the long run. Not having the option to go ashore, and at least see some other people, creates a feeling of being locked up. Said one of the interviewees.

A positive change that was brought up by two of the interviewees was regarding the gymnasium onboard the vessel. The gym was off limits for the first week onboard and once people could start using it, it was restricted to maximum three persons at a time. Since this measure had been implemented, people had started to book their times for when they wanted to go to the gym. This had worked out well, and as far as they knew, everyone who wanted to go to the gym could still go, except for the first week, and the gym was never crowded.

4.4 Health concerns

None of the interviewees expressed any fear for their own health in regard of catching the virus. All five of the interviewees were in their late twenties to mid-thirties and felt confident that they would not become seriously ill if they would get infected by the virus. However, they all expressed some level of concern for the possibility of getting infected and spreading the virus on to more vulnerable members of their families at home.

5. DISCUSSION

This chapter will analyse the results in comparison with the theory presented in the earlier chapters. The chapter will discuss the direct impact Covid-19 and its restrictions has had on the lives of seafarers and the mental effects it has had and could have in the long run.

5.1 Introduction to the discussion

At the time of writing this, Covid-19 is still a new phenomenon. Peer reviewed research on how the virus spreads and on how to best protect oneself against the virus is still very limited. At the beginning of the outbreak, little was known about the virus and a lot of the early restrictions put in place by governments around the world seem to have been mainly based on fear, or just feeling that something needed to be done. These kinds of rushed decisions can end up doing more damage than good. The restrictions that governments have put in place to try to limit the spread of the virus have varied greatly between different countries. The restrictions have also been in a constant change, almost from week to week. This can be attributed to the lack of hard scientific evidence. Without the hard data, it has been up to the politicians and their advisors to make educated guesses of what the best actions would be, and how much those actions are worth in terms of costs for the society.

5.2 Crew change during Covid-19

Looking at news articles and statements released by the IMO, crew changes has become a serious problem for seafarers around the world since the Covid-19 pandemic started (IMO , 2020) (Street, edition cnn, 2020). This presumption was very much confirmed by the results of the interviews in this study. Although the seafarers in the interviews had had lesser implications on their lives than some of their fellow seafarers in other places of the world, the crew changes had still become a major concern for all of interviewees during this pandemic. All of the interviewees in this study mentioned that the question of when and how they would be able to go home, or go to work, was a constant stress factor to some degree.

Mind the numerous lockdowns and restrictions all around Europe, the borders inside Europe have remained open for seafarers going to and from work during the entire pandemic. Compared to many other places in the world, where seafarers have been stuck for months without being allowed to travel, the seafarers in Europe have been much less impacted. IMO's pledge to the governments in the beginning of spring 2020, to designate seafarers as keyworkers, seems to have been heard in Europe. This is very positive, but it does not mean that the lighter restrictions in Europe have come without a price, and it does not mean that it will stay this way. The four weeks of holiday that the interviewees in this study used to enjoy between rotation was now down to three weeks and a couple of days. This was partly due to there being less flights available, therefore they often had to fly out a day earlier and sometimes only get home the day after crew change, but it was also due to the company introducing testing procedures, which meant that they had to fly out several days in advance. Losing three four days of holiday every second month does not sound to bad when you compare it with a seafarer who has not been able to fly home for several months, but the fact that someone else has it worse than you, does not make it less painful.

5.3 Covid-19 tests

5.3.1 PCR test

At the time of the interviews in this study, the ship operator had just started implementing PCR testing for all on-signing crew. It was done as close to the vessel as possible, (meaning, it was done after the crew had all taken their respective flights and only a taxi ride remained to get to the vessel) and it was done as late as possible, (meaning, timewise as close as possible to the crew change). The whole procedure follows the guidelines of the ICS perfectly. Still, two of the interviewees questioned the way the tests were planned and executed. They argued that it would have been as safe for the company, if they would all have done the PCR tests at home the day before crew change, and it would have been much better for the individual crew members. According to the interviewees, the argument from the company had been that the risk of contracting the virus while traveling through airports and commercial airlines was considerable. Therefore, the tests should only be done after the crew members had taken their commercial flights and only a privately organized transport remained to the vessel. The interviewees questioned this argument because from what they had understood, it would take a few days after contracting the virus before it would show positive on a PCR test. This is backed up by Ducharme, 2020, who says that the perfect timing for the PCR test is approximately five days after exposure.

The way the testing was organized, the crew flew into the airport in the evening before the crew change and stayed the night in a hotel. The next morning, they were tested in their hotel rooms, and when the results came back around noon, a minibus drove them to the vessel. The interviewees argued that, if they had contracted the virus on their journey to the hotel, this would never have shown on the PCR test anyway. In other words, it would have been as efficient to do the test at home just before leaving. The main reason they would have preferred doing the test at home, was that it would eliminate the risk of being quarantined in a foreign place for weeks in the case of a positive test result. If they would have tested positive at home, they could have spent the quarantine period at home, and as one of the interviewees said it. If he were to get really ill, he would prefer to be close to his family and friends.

5.3.2 Antibody test

According to the ICS guidelines, PCR test is the only test that they recommend for ship operators to implement into their procedures.

During the interviews one of the polish interviewees said that all the polish crew had been obliged to do antibody tests prior to the crew changes and if someone tested positive for antibodies, this person would not be allowed to go to work. The polish crew were all employed by a separate manning company, and it was that company who had introduced the antibody testing into their procedures. The interviewees thought this was really bad and they questioned why they had to do this. They did not understand why having antibodies was a bad thing. As they had understood it, it only meant that they had been infected by the virus previously and that they had now developed some level of immunity against the virus. This is also backed up by Ducharme's research that says that the antibody test looks for specific antibodies which are developed by the body's immune system to fight off a specific virus and indicates that a person has gone through and come out of an infection.

Having to do the antibody test was the biggest concern regarding Covid-19 for the interviewees at the time of the interviews. As they expressed it. Having to do the antibody test basically meant that if they would ever get infected by Covid-19, they would lose their job for a prolonged period of time. No matter if they were infected just before they were about to join

the vessel, or at the beginning of a free period. They explained that a colleague on the opposite rotation to them whom had been infected by Covid-19 in May, still tested positive for antibodies in October when the company introduced the new policies and was not allowed to come to work.

The interviewees said that they had taken up the issue with the Captain and that he had asked the ship operator to investigate the matter.

5.4 Onboard measures

5.4.1 Hand hygiene & social distancing

The measures that had been implemented onboard the vessel to try to mitigate the risks associated with Covid-19 seem to be following the advice given in the ICS guidelines. The interviewees had noted a general improvement in hand hygiene amongst the crew onboard and even though the social distancing concept was not taken seriously by everyone, the information regarding the matter had been clear from the company's side.

5.4.2 Visitors

The main restriction that was felt by the interviewees was that they were no longer allowed to interact with anyone from outside the vessel while in port. There were no longer any visits from suppliers, ship agents or office personnel from the company. Three of the interviewees mentioned that they missed this kind of visits, but so far it had not hindered their actual work in any way. In fact, they all thought that this restriction was a good thing. They recognised that, bringing visitors onboard was probably one of the more likely ways, after the crew changes, to bring the virus onboard.

The restrictions of allowing visitors onboard the vessel is backed up the ICS guidelines which state that, the interaction between shipboard personnel and shore-based personnel during port calls should be considered a risk, and such interactions should be limited as much as possible.

5.4.3 Disposable gloves

The use of disposable gloves in the mess room was mentioned by all five interviewees as a measure that they did not really see the benefit in. In fact, they saw it as an unnecessary waste of resources. One reason for this was that the mess room was the only place in the accommodation where people had to wear gloves. In the rest of the accommodation, people were touching handrails, door handles, computers and so forth without wearing any gloves. According to the interviewees it made no sense to wear the gloves in one place, and then go out and touch the same coffee machine without gloves.

One of the interviewees also argued that the way the gloves were distributed and handled by the individual crew members, invalidated the whole concept of wearing the gloves as a measure to stop people from spreading the virus by touching the food and the cutlery. The gloves were laid out in big pile on a table at the entrance of the mess room. When a crew member would enter the mess room, he would grab a pair of gloves from the pile, most likely touching half a dozen other gloves in the process, and sometimes ending up grabbing three or four gloves, putting back the surplus in the pile again, before putting on the gloves. The interviewee explained that it was compulsory to use the hand sanitizer that was just outside the mess room, before entering, so if any virus survived the hand sanitizer, they would most likely end up on the outside of the gloves anyway, as the interviewee expressed it.

Both the US and the European CDCs (Centres for Disease Control and Prevention) do not recommend the public to wear gloves as a means of protection against Covid-19, other than if they are cleaning or caring for another individual infected with the virus. They expressively

say that the virus adheres very well to the material of gloves, and if you touch your face at any point, you may still have exposed yourself to the virus. For the gloves to work as a barrier it is therefore important to respect the proper way of removing the gloves and washing the hands after removal.

The ICS guidelines for how to handle Covid-19 onboard vessels, do not mention disposable gloves at all.

5.5 Recreational time onboard

5.5.1 Shore leave

According to the interviewees, their possibilities to go ashore while the vessel was in port had become extremely limited since the pandemic had started. The company had prohibited anyone onboard the vessel to go to any public places ashore, such as, restaurants, shops or busy town centres.

The ICS do not mention shore leave restrictions anywhere in their guidelines. They do however speak of the importance of limiting the number of interactions between ship-based personnel and land-based personnel as much as possible. The company had not forbidden the crew to go ashore completely. They could still go ashore for exercise and fresh air. They were just not allowed to interact with anyone ashore. Stopping the crew from interacting with people ashore could very much be seen as following the ICS's advice.

5.5.2 The use of common rooms

None of the interviewees mentioned that the company had implemented a specific SSD (Shipboard self-distancing) protocol, but the gym was off limits until they had been at least one week onboard. Further on, the gym was limited to maximum three persons at a time. This is well aligned with the ICS's Shipboard Self-distancing protocol, but except for the gymnasium, the vessel did not seem to have adopted any restrictions regarding other common rooms. For example, one of the interviewees mentioned that the dirty mess and the smoking room was as crowded as normally during coffee breaks.

5.6 Discussion of the method

Limiting the study to only one vessel has been beneficial in terms of getting a nuanced picture of what kind of problems seafarers in Europe have had to deal with because of Covid-19. But where studying the seafarers on only one vessel made it possible to go into details and feelings regarding the subject, it also limited the possibilities of drawing broader conclusions regarding the situation. The study gives a very authentic view of the problems that the seafarers on the specific vessel of this case study, have been facing because of Covid-19. But it only gives an idea of what the general situation for seafarers in Europe look like. To be able to draw solid conclusions on how the Covid-19 restrictions have affected seafarers in general, a much larger study would have to be made. Interviews would have to be conducted with seafarers on many vessels, preferably working in different segments of the shipping industry and with shipping companies based in several different countries.

Because of the many different European nationalities working onboard the vessel of this case study, it does however give a good idea of how it is to travel to and from vessels inside Europe during the pandemic.

The data collection for this study was mainly gathered from authorities' webpages. Some scientific studies were also used, but because of the novelty of the Covid-19 situation, available peer reviewed studies on the subject were limited. The authenticity and reliability of

the information published on the authority's webpages can hence be discussed. The reliability and authenticity of the information published by these authorities are on the other hand not vital for this study. This information is what the governments and companies have based their measures and restrictions on, no matter if it is true or not. In other words, this is the information that has created the restrictions and hence affected the seafarers of this study.

The interviews in this study were conducted in a semi structured way. The interviewer had a few bullet points that he wanted to ask the interviewees, but it left a lot of room for the interviewees to develop their own thoughts and feelings around the subject. Because of this open structure, information came up that the interviewer was not aware of, and that would not have been discovered if a strict set of questions would have been followed.

Due to time limitations, only five interviews were held, with interviewees of two different nationalities. To get a more reliable and more nuanced result, more interviews should have been held, with more different nationalities.

6. CONCLUSION

This chapter will try to answer this study's questions, drawing conclusions based on the discussions in the previous chapter.

6.1 Covid-19 in Europe, from a seafarer's perspective

Seafarers living and working in Europe have fared a lot better during the Covid-19 pandemic than many of their fellow seafarers working in other parts of the world. In some parts of the world, seafarers have not been allowed to go ashore and consequently some have not been able to travel home for several months. Inside Europe the borders have remained open during the entire pandemic for seafarers to travel between their homes and their vessels. The crew changes have become more complicated and time consuming, but people have still been able to travel.

The main issue regarding Covid-19 for seafarers in Europe, have been the loss of work and the loss of free time. Seafarers have lost both work and free time, not only because they have been infected by Covid-19, but also because of the testing and quarantine procedures themselves.

For the work onboard the vessel, the restrictions have mainly meant minor adjustments for the crew. They have had to get used to stricter hygiene protocols, and getting spares and assistance from external personnel has become more complicated.

6.2 The acceptance of the procedures & restrictions

The level of acceptance of the procedures onboard the vessel has varied amongst the crew. Some procedures have been willingly followed by most crew, such as washing hands and the use of facemasks while travelling. Other procedures have been questioned or simply ignored when they have caused too much trouble. It seems like most people will happily accept a procedure if it does not have too much of an impact on their personal preferences, but if it stands in the way for something that is important to them, many will simply ignore it or deem it useless. For example, the crew would happily keep a good social distance in the queue to the mess room because they would get in as fast anyway. But when it was time for a coffee break and only half of the crew would actually fit in the coffee room, if the social distancing rules should be adhered to, then it was not as important anymore, and everyone squeezed in just as normal.

A lot of the crew did not see the point of using the disposable gloves in the mess room, therefore they did not give them the care the gloves need to be efficient. Instead of carefully putting on the glove, making sure not to touch the outside or any other glove, they just grabbed a handful and put them on like any other working glove. Because they could not see the point of using the gloves, they ended up making sure the gloves were useless by the way they treated the whole procedure.

For a procedure to be effective, it needs to be well accepted by the people who are supposed to follow it. The greater the impact of a restriction is, the greater the benefit of the restriction needs to be to be accepted. If the reason for a procedure cannot be explained, it will most likely end up being questioned and sometimes ignored. This will in the end, render the procedure ineffective.

6.3 The mental wellbeing of seafarers during the pandemic

So far, the pandemic and its restrictions does not seem to have affected the seafarers in Europe to much. But the restrictions are being felt, and it is questionable what it will do to the mental wellbeing of seafarers in the long run. For example, it might be easy to accept restrictions on the possibilities of going ashore, if it is only for a limited period of time. But if the pandemic keeps on going, or the companies simply decide to keep the restrictions, just in case. It could potentially have serious consequences for the mental wellbeing of the seafarers. Seafarers are used to spending a lot of time away from home. A lot of that time will also be spent at sea, where the possibilities of going somewhere else but the vessel does not exist. But if the liberty of moving is also taken away from them when the possibility is right in front of them, it would likely lead to a feeling of imprisonment, which could have negative effects on their mental state.

The fact that their free time is getting shorter and the constant worry of when, how or if they will be able to go home, or if they will be able to go to work has a great impact, not only on the seafarer's wellbeing but also of their families. The fact that seafarers in other places of the world has had it much worse, does not eliminate the fact that the life for seafarers in Europe has become harder during Covid-19. In some way it could actually mean an extra stress factor, that this could be the way the situation is heading also for them.

6.4 Future research

Covid-19 and the restrictions that have followed is still very much a new phenomenon. It would be interesting to see research on the efficiency of the different restrictions and measures that were implemented by shipping companies during this pandemic.

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