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Training in the detection of psychological distress on board ships through health simulation during the COVID-19 epidemic

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ABSTRACT

Background: *An innovative medical simulation course was offered to seafarers during their statutory medical education refresher course. During the coronavirus disease 2019 (COVID-19) pandemic, they experienced difficulties dealing with mariners' mental health problems.*

Materials and methods: *One hundred and fifty-three seafarers underwent training at the C3S medical training centre in Lorient Hospital. At the end of the module they were asked to fill in a questionnaire.*

Results: *Ninety-seven per cent of them were satisfied with their training. They felt that their training had given them confidence to deal with these problems when returning to sea. On this occasion, we tested their feelings on the psychological consequences of the COVID-19 pandemic on board and compared their answers with the data available in our telemedical assistance service (TMAS) and in the literature.*

Conclusions: *Simulation training is an appreciated and effective educational tool for raising awareness and training medical managers in psychological or psychiatric situations.*

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Key words: psychiatric training, simulation, seafarers, COVID-19

INTRODUCTION

During the coronavirus disease 2019 (COVID-19) pandemic, statutory medical training for staff on board ships with a crew role was maintained by replacing the hospital nursing course with a health simulation course [1].

At the beginning of each training session, learners were asked about their priority needs for advice or medical training. Very often they mentioned the difficulties in managing their own stress as well as the psychological distress of their crew. This was exacerbated by the COVID-19 pandemic period, as confirmed by the scientific literature [2, 3].

Indeed, during this pandemic, the health rules applicable on board varied: quarantine conditions, the absence of screening tools on board, inaccessible vaccinations, the impossibility of disembarking the sick in certain countries increased the psychological tensions on board and created a feeling of abandonment for captains.

In this particular context, we decided to create a specific simulation scenario on the management of psychological distress on board with the educational aim of learning how to detect and deal with psychological risks on board 1 year later.

MATERIALS AND METHODS

We proposed to the seafarers coming to our centre for their medical training according to the Standards of Trainings Certification and Watchkeeping (STCW) programme, a simulation scenario of dealing with a seafarer in psychological distress.

Prior to the session, trainees were asked to fill in an anonymous questionnaire about their previous professional experiences on this subject.

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Figure 1. Scenario unfolding, seen from the control room

Figure 2. Team debriefing with video after the scenario

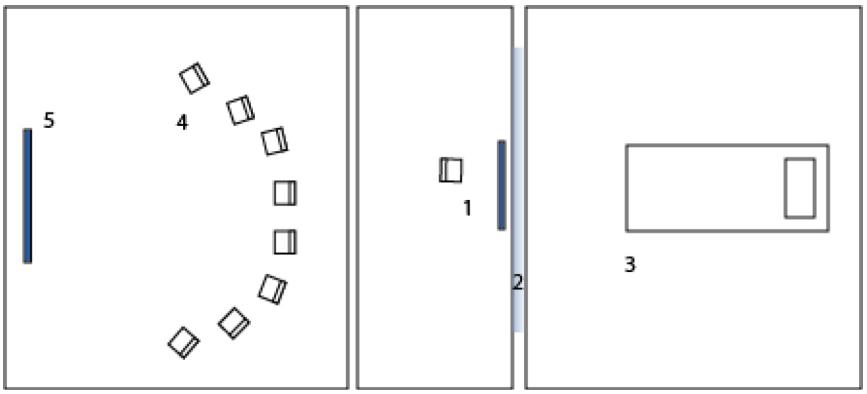

Figure 3. Map of the health simulation centre; 1 — control room; 2 — untinted glass; 3 — simulation room; 4 — debriefing room; 5 — screen for remote viewing of the scenario.

The scenario proposed, performed by a professional actor, was that of a seafarer presenting chronic anxiety increased by confinement with the appearance of suicidal ideas in a context of known alcohol addiction. Two trainee seafarers welcomed him into the reconstructed sick bay of a ship and had to take care of him. They could seek advice phoning a monitor. The latter, who is a doctor and a simulation instructor, simulated a regulation by the telemedical assistance service (TMAS). A medical kit containing, among other things, the prescribed psychiatric drugs was available in the infirmary.

The other trainees were in an adjacent room and could hear and see the scenario being played out on a screen using directional cameras and a microphone (Figs. 1, 2, 3).

At the end of the exchange with the TMAS, the scenario was stopped and a debriefing of about 45 minutes was carried out on the key points of a suicide risk screening and the therapeutic possibilities on board.

At the end of the training, they always anonymously filled in a satisfaction questionnaire on this module.

We compared the results of the first part of our qualitative and descriptive study with the TMAS data available in relation to the calls received for psychological reasons during the last 2 years, and we report these results and those of the satisfaction questionnaire at the end of this specific training module.

RESULTS

The study took place from December 2020 to October 2021.

One hundred fifty-three trainees were trained; the average age of the trainees was 39 years, and the majority were men.

Ninety per cent of the trainees were in refresher courses, and therefore had at least 5 years' experience as a shipboard medical officer.

Most of the trainees were returnees, and therefore had at least 5 years' experience as on-board medical officers; the general data are summarised in Table 1.

Table 1. Typology of trainees who were included in the survey

	Numbers	Percentage
Total number of trainees	153	
Total psychological survey questionnaires used	107	70%
Total questionnaires not usable due to e-mail problems	20	18%
Total no response	26	17%
Total female trainees	10	6.5%
Total male trainees	143	93.7%
Ages of trainees < 30	29	19%
Ages of trainees < 30 – < 40	47	31%
Ages of trainees < 40 – < 50	30	20.2%
Ages of trainees < 50 – < 60	21	14%
Ages of trainees < 60	24	15.6%
Time of the learning path:		
Initial training	15	10%
Refresher course	103	90%

Table 2. Comparison of psychological or addiction items found in the questionnaires with the regulations carried out by a telemedical assistance service (TMAS) over a period of one year.

Distribution of psychological themes	Distribution of responses to the questionnaire during the course in per cent	Distribution of psychological themes collected in TMAS calls
Number of cases of confrontations with psychological problems out of all the data collected	107/153 trainees (70%)	45/2130 medical regulation (4%)
Suicides on board	10%	Not collected
Total psychological distress	**44%**	**82%**
Anxiety disorder, insomnia	Not detailed	49%
Depressive disorder	Not detailed	24%
Psychotic disorder	Not detailed	2%
Substance use problem or withdrawal:	**82%**	**8%**
Alcohol	53%	8%
Ecstasy	2%	Not detailed
Cocaine	5%	Not detailed
Heroin	4%	Not detailed
Cannabis	15%	Not detailed
Other	3%	Not detailed

Table 2 shows the percentage distribution of some of the items in the questionnaires collected and the French TMAS collection form during the year before the course.

During 2020 TMAS received 5718 calls concerning 2130 seafarers. Several calls may correspond to the follow-up of the same seafarer.

There were 45 (2%) calls for psychiatric reasons.

We have tried to reconcile the themes in order to compare the experiences expressed by the seafarers in the questionnaire with the reality of the themes evoked in the calls to our TMAS during the year preceding the course.

Concerning their previous training and the helpers on board, 80% (87) were not aware of any tools to help them managing a psychiatric emergency.

Thirty-four per cent (36) of the trainees considered the theoretical training provided by the STCW on psychological issues to be moderately satisfactory, and 16% (17) of them considered it to be non-existent.

Addictive behaviour was a source of medical situations or incidents on board for 82% of the managers who replied, but it was rarely found in the reasons for calling TMAS (8%).

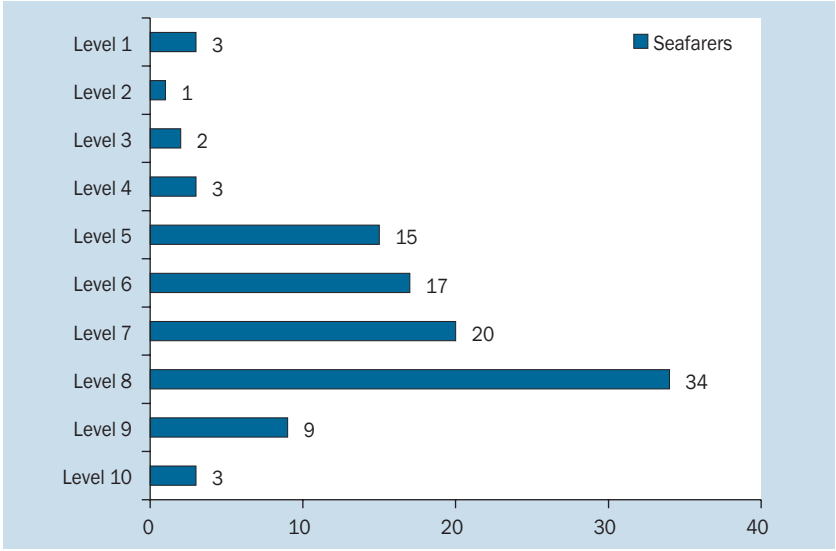

Figure 4. Judgement of the level of psychological impact of COVID-19 on board

The COVID-19 pandemic had a psychological impact on board (Fig. 4), assessed on a subjective analogue rating scale from 1 (no impact) to 10 (major impact).

The evaluation of the trainees' satisfaction after the training was distributed as follows in the questionnaires: 97% of the trainees considered the proposed scenario to be appropriate and credible and were satisfied with it.

Managing the risk of suicide remained difficult for 50% of trainees.

Forty three per cent felt better equipped to deal with it, although 11% said they were still not able to face such a situation on board.

Sixty per cent of on-board managers said that they would set up a specific organisation to manage psychological problems after the training.

DISCUSSION

CONCERNING OUR STUDY

The high response rate to the questionnaire just before the training, the exchanges during debriefings, confirm the interest of the seafarers for a specific training on the subject of psychological problems, which increased during the pandemic.

The training evaluation questionnaire was filled in just after the training at the simulation centre, which may have influenced the answers.

COMPARISONS OF ON-BOARD PSYCHIATRIC CONDITIONS COLLECTED IN OUR STUDY VERSUS TMAS AND LITERATURE DATA

Addictive pathologies occurring on board are under-represented in the calls to TMAS compared to our survey. It is possible that they are under-reported and detailed, and that they may be professionally severe for the seafarer in relation to his employer.

Anxiety is the predominant reason. It is a comorbid symptom of many psychiatric and somatic pathologies. It is a warning sign that does not allow us to conclude to a precise diagnosis.

In a recent article by Baygi et al. [4], on an evaluation of 470 seafarers with the General Health Questionnaire (GHQ-12) and the Zung Self-Rating Anxiety Scare (SAS), signs of depression were found in 12.3% of them, stress in 5.9%, anxiety in 11.6%, and non-specific psychiatric disorders in 42.6% of cases, such as sleep disorders [4].

Comparison of TMAS regulation data between 2019 and 2020 did not reveal an increase of calls on such requests despite the COVID-19 pandemic. But a new evaluation would be useful for the year 2021 because of the repetition of the COVID-19 waves, in order to better appreciate the possible delaying effects of these. The increase in the number of calls received at TMAS during the period mainly concerned on-board COVID-19 cases (+13% in 2020/2019) [5].

The main factors that exacerbate psychological problems are responsibilities on board, separation from the family and the duration of the separation, loneliness, fatigue, multi-nationality, limited recreational activities and the lack of sleep. The multiplicity of administrative tasks, the lack of time and responsibilities with less competent staff are particularly pointed out by officers [6].

A more detailed analysis of calls to the Centre de Consultation Médicale Maritime (French maritime TMAS) (CCMM) shows that on-board managers request more medical advice than ordinary sailors. Thus, in our series, almost a third of the calls concern people with responsibilities on board

(captains, lieutenants, chief engineers). However, one explanation given by one of the captains is that these calls for medical reasons, apart from access to the 4 or 5 G Wi-Fi network near the coast, are made from the gateway. This difficult and non-confidential access may limit the number of calls.

All of these phenomena, anxiety syndromes were increased during the COVID-19 period in people confined without work but are little different from those observed in places where work has not stopped [7].

Our survey shows that 10% of trainee captains say they have experienced suicides on board.

Cases have been reported by seafarers and in the non-medical press with a causality that seemed to be established with the prolonged confinement on board. However, no specific medical study has yet been carried out to verify these hypotheses. The statistics on calls to the CCMM do not show an increase of calls on this subject. They are not mentioned at all in the grounds for appeal, as this item is not included in their data.

We have seen that the year 2021 has not been included in the requests and the effect of post-traumatic stress may be revealed later. Suicide remains a particularly high risk on board ship. One out of ten officers in our cohort claims to have been confronted with it, and the literature also confirms this [8]. Mental illnesses leading to retirement from seafaring represent 3.9 per 100,000 people per year [9]. Analysis of the perception of support at work by seafarers, equal treatment influences the perception of stress, which is a favourable factor in the case of chronicity [10].

TRAINING AND AIDS

The initial training in psychiatry in the official teaching guidelines for seafarers was judged in more than half of the questionnaires to be insufficient or even non-existent. It is taught in the form of theory courses, but this format may not be sufficient for on-board practice.

The verbatim comments made possible at the end of the questionnaire express this grievance in 35% of responses. Seafarers advocate more time in practical training rather than lectures to address these issues. This was also found in the surveys on medical maritime education [11].

The particularity of stress prevention during the COVID-19 period was the subject of questionnaires sent to Norwegian seafarers during a study [12].

The results revealed that the shipboard managers who are delegated to manage psychiatric problems while sailing without proper training or proven procedures are also potentially more vulnerable to post-traumatic stress.

The captains responsible for on-board care are particularly exposed to stress during the COVID-19 period because of their medical role on board. Not only do they have to manage psychiatric pathologies that are increased by the confinements, but they could not disembark patients as usual. This can cause moral wounds that can lead to negative thoughts that can result in psychiatric pathologies in the long run [13, 14]. Some have expressed feelings of guilt following the death of seafarers diagnosed with COVID-19 who they thought had been landed too late because of the constraints.

Easy-to-use scales to help carers assessing stress or suicidal risk are available. In addition, 8-hour training courses help to limit the stigmatisation of mental illness and to provide some elementary notions of therapy. These should be included in the current training programmes for seafarers who have medical responsibility on board [15].

The teaching currently available for seafarers is of short duration, in lecture form. The academics interviewed mentioned the lack of time to include these subjects in the compulsory part of the STCW teaching, as it is already considered too broad. The current traditional type of teaching is also considered by the instructors to be unsuitable. In a survey carried out in Norway, but also in Germany, teachers mentioned that such training could be provided within the framework of the quality of life at work and the prevention of psychosocial risks by shipowners.

The need to adapt the modules to the various shipping vectors, but also to acquire intercultural management skills because of the various nationalities on board, was also stressed [16–18].

From our experience, we notice the simulation teaching model satisfies the trainees. Comparisons made with traditional training come to the same conclusion [19, 20].

CONCLUSIONS

Seafaring is a dangerous profession, with a high rate of work-related accidents, and the conditions of navigation linked to remoteness bring together the specificities of isolated medicine.

Ship's officers, who are essential interlocutors in the chain of prevention, detection, rescue and medical alert, benefit from standardised training based on notions of medical, traumatological and surgical care.

Our study and the literature show that they also have to face psychological distress increased by the COVID-19 pandemic, and they feel helpless and insufficiently trained. The themes of concern evoked have little correlation with those motivating calls to the TMAS.

Health simulation has enabled us to adapt our teaching to the demand for training in psychological distress on board, which seems to have been exacerbated by the COVID-19 pandemic. We focused on assessing the risk of suicide on board and the problems of addiction or acute intoxication and the treatments available on board.

Trainees were 99% satisfied with this type of training, which already exists for the management of psychiatric emergencies on land.

Long-term evaluation of our cohort of seafarers is planned within 6 to 12 months.

INFORMED CONSENT

Talking part in this study was voluntarily. All participants gave their informed consent before taking part in this study.

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Conflict of interest: None declared

REFERENCES

1. STCW. International Convention on Standards of Trainings Certification and Watchkeeping for seafarers 1995. https://www.imo.org/en/OutWork/humanelement/trainingcertification/pages/stcw.conventionaspx (Last accessed on November 2021).
2. Baygi F, Mohammadian Khonsari N, Agoushi A, et al. Prevalence and associated factors of psychosocial distress among seafarers during COVID-19 pandemic. BMC Psychiatry. 2021; 21(1): 222, doi: 10.1186/s12888-021-03197-z, indexed in Pubmed: 33931081.
3. Pesel G, Canals ML, Sandrin M, et al. Wellbeing of a selection of seafarers in Eastern Adriatic Sea during the COVID-19 pandemic 2020. Int Marit Health. 2020; 71(3): 184–190, doi: 10.5603/IMH.2020.0033, indexed in Pubmed: 33001430.
4. Baygi F, Mohammadian Khonsari N, Agoushi A, et al. Prevalence and associated factors of psychosocial distress among seafarers during COVID-19 pandemic. BMC Psychiatry. 2021; 21(1): 222, doi: 10.1186/s12888-021-03197-z, indexed in Pubmed: 33931081.
5. Dehours E, Balen F, Saccavini A, et al. COVID-19 and French Medical Maritime Teleconsultation. Telemed J E Health. 2021; 27(4): 397–401, doi: 10.1089/tmj.2020.0296, indexed in Pubmed: 33576704.
6. Jensen HJ, Oldenburg M. Training seafarers to deal with multicultural crew members and stress on board. Int Marit Health. 2020; 71(3): 174–180, doi: 10.5603/IMH.2020.0031, indexed in Pubmed: 33001428.
7. Pesel G, Canals ML, Sandrin M, et al. Wellbeing of a selection of seafarers in Eastern Adriatic Sea during the COVID-19 pandemic 2020. Int Marit Health. 2020; 71(3): 184–190, doi: 10.5603/IMH.2020.0033, indexed in Pubmed: 33001430.
8. Carter T, John A, Williams JG, et al. Suicide, fatal injuries and drowning among the crews of United Kingdom and Bermuda registered cruise and passenger ships from 1976 to 2018. Int Marit Health. 2020; 71(1): 12–19, doi: 10.5603/IMH.2020.0006, indexed in Pubmed: 32212143.
9. Lefkowitz RY, Slade MD, Redlich CA. Rates and occupational characteristics of international seafarers with mental illness. Occup Med (Lond). 2019; 69(4): 279–282, doi: 10.1093/occmed/kqz069, indexed in Pubmed: 31094424.
10. McVeigh J, MacLachlan M, Vallières F, et al. Identifying predictors of stress and job satisfaction in a sample of merchant seafarers using structural equation modeling. Front Psychol. 2019; 10: 70, doi: 10.3389/fpsyg.2019.00070, indexed in Pubmed: 30787888.
11. Jensen HJ, Oldenburg M. Training seafarers to deal with multicultural crew members and stress on board. Int Marit Health. 2020; 71(3): 174–180, doi: 10.5603/IMH.2020.0031, indexed in Pubmed: 33001428.
12. Greenberg N, Docherty M, Gnanapragasam S, et al. Managing mental health challenges faced by healthcare workers during covid-19 pandemic. BMJ. 2020; 368: m1211, doi: 10.1136/bmj.m1211, indexed in Pubmed: 32217624.
13. Sanden S, Johnsen BH, Eid J, et al. Mental readiness for maritime international operation: procedures developed by Norwegian navy. Int Marit Health. 2014; 65(2): 93–97, doi: 10.5603/IMH.2014.0020, indexed in Pubmed: 25231333.
14. Morgan AJ, Ross A, Reavley NJ. Systematic review and meta-analysis of Mental Health First Aid training: Effects on knowledge, stigma, and helping behaviour. PLoS One. 2018; 13(5): e0197102, doi: 10.1371/journal.pone.0197102, indexed in Pubmed: 29851974.
15. Peyron PA, David M. [Suicide risk assessment tools for adults in general medical practice]. Presse Med. 2015; 44(6 Pt 1): 590–600, doi: 10.1016/j.lpm.2014.12.009, indexed in Pubmed: 25958158.
16. Abila SS, Acejo IL. Mental health of Filipino seafarers and its implications for seafarers' education. Int Marit Health. 2021; 72(3): 183–192, doi: 10.5603/IMH.2021.0035, indexed in Pubmed: 34604987.
17. Oldenburg M, Jensen HJ, Lucas D, et al. Stress and strain among seafarers related to the occupational groups. Int J Environ Res Public Health. 2019; 16(7), doi: 10.3390/ijerph16071153, indexed in Pubmed: 30935082.
18. Lucas D, Jego C, Jensen OC, et al. Seafarers' mental health in the COVID-19 era: lost at sea? Int Marit Health. 2021; 72(2): 138–141, doi: 10.5603/IMH.2021.0023, indexed in Pubmed: 34212354.
19. McGaghie WC, Issenberg SB, Cohen ER, et al. Does simulation-based medical education with deliberate practice yield better results than traditional clinical education? A meta-analytic comparative review of the evidence. Acad Med. 2011; 86(6): 706–711, doi: 10.1097/ACM.0b013e318217e119, indexed in Pubmed: 21512370.
20. Daniels K, Arafeh J, Clark A, et al. Prospective randomized trial of simulation versus didactic teaching for obstetrical emergencies. Simul Healthc. 2010; 5(1): 40–45, doi: 10.1097/SIH.0b013e3181b65f22, indexed in Pubmed: 20383090.