Health Protection and Safety on Board Ships
(Healthy Ship)

AWEARENESS OF THE RISK OF INFECTIOUS DISEASES ON BOARD SHIPS
SURVEY OF THE RESULTS

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Finaval S.p.A. recognises that its employees are the Company’s most valuable resource and that the welfare of all its employees is essential in achieving the Company’s objectives. The modern social and work environment requires a more focused approach to staff welfare. In response, the Board has embraced its responsibility to staff by ensuring that activities associated with protecting, promoting and supporting the health and well-being of staff are recognised in overall strategic objectives.

This booklet is part of the HEALTHY SHIP project for health care improvement and health promotion on board ships, created to protect the health of the seafaring crew with the objective of offering safe workplace conditions and welfare, in cooperation with the University of Camerino and CIRM.

Finaval is aware that concepts of welfare have evolved and is thereby offering welfare services to its staff in order to help them be physically and mentally ready for high performance and loyalty.

Capt. Fabrizio Mazzucchi
FINAVAL Crew Manager
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The work on "Risk perception of infectious diseases on board ships" carried out by Finaval, CIRM and the University of Camerino is of considerable importance as it is the first time that an analysis is performed specifically on the seafaring crew to assess their knowledge of health risks. In this case, the analysis relates to infectious diseases which represent the greatest risk considering a vessel’s confined environment.

It should be noted that the survey was carried out on multi-ethnic crew (6 nationalities) and it therefore reflects the reality in the composition scheme of onboard crew.

Usually, this type of surveys are conducted on shore staff (which is also the case of Finaval).

This analysis is essential for moving on to the following step, that is to decide what information needs to be provided to reduce the risk of infection.

The survey revealed that seafarers have a superior degree of knowledge on HIV with respect to other infections, meaning that the extensive amount of information produced on the subject, also in part by the media, is very useful, which thereby indicates that similar results can also be achieved by providing information on other infectious diseases.

The ITF, especially in the last several years, has been strongly committed to preventing HIV among seafarers of the world through an extensive distribution of information.

The study performed by Finaval was carried out on 9 crews plus the office staff, meaning a limited sample of the maritime world.

The research must now be expanded by involving those who are able to distribute and collect questionnaires during visits on board vessels.

These include the ITF with its Inspectorate, the Stella Maris, and Welfare Committees.

For these reasons, this work should continue and expand if we really seek to make a useful contribution to the seafaring community and to the community at large.

Yours sincerely.

Remo Di Fiore
Head of ITF Italy
Foreword

A few months ago it was proposed, to seafarers working on board of FINAVAL ships, and to staff of offices of the company headquarters, an anonymous questionnaire on personal hygiene and prevention of infectious diseases. Questionnaire was followed by a booklet entitled *Healthier life on board through a better personal hygiene*. Questionnaire and publication are part of the Healthy Ship project, a collaborative initiative between the Center for Telemedicine and Telepharmacy of Camerino University (UNICAM), the International Radio Medical Centre (CIRM) in Rome and FINAVAL. Healthy Ship is an important project aimed at preventing diseases on board sailing ships through information campaigns on the major health risks for seafarers and on how to prevent them.

At the end of this step of the project, we are spreading the results of the first questionnaire. Answers highlight some weaknesses of information/knowledge on important issues that will be covered by specific initiatives to be undertaken in the near future.

We should thank all who answering to the questionnaire helped to make this survey, whose results are of particular interest. The results of the questionnaire will become a scientific publication. This to make them available to all those interested in the topic.

We are indebted to the participants to the survey for the time spent with it. We will be pleased of giving them clarifications and/or further information if necessary. For this purpose, just send me an e-mail message at the address francesco.amenta@unicam.it.

Thank you again for your collaboration. It is both a duty and a pleasure to wish to all of you a nice trip. In your trips please do not forget that the respect of the principal rules of hygiene will help prevent transmittable illnesses. This will make our work and our trips smoother.

Prof. Francesco Amenta
Chairman Clinical Research, Telemedicine and Telepharmacy Centre UNICAM
President and Scientific Director of CIRM
This report summarizes the results of the anonymous questionnaire "RISK PERCEPTION OF INFECTIOUS DISEASES ON BOARD SHIPS" submitted to the seafaring crew of the 9 FINAVAL vessels currently in service and, as reference, to the company’s headquarter staff.

THE SAMPLE

Figure 1 shows the number of people who voluntarily participated in this study by completing the proposed questionnaire.

89.69% of the participants were male. The women who responded to the questionnaire by indicating their gender were 3.59%. The latter are Finaval’s headquarter personnel. 6.73% of the respondents did not answer the question.

Data analysis according to seafaring crew and headquarter’s personnel, 93.94% and 65.38% of the sample respectively were men, while the women, being exclusively employed in the shore offices, corresponded to 23.08%. Seafaring careers are formerly known to be typically male. These data confirm this trend. Among people working at sea, 74.75% are aged between 21 and 40, whereas the most represented age group among the people who work in the office is 31-59 (76.92%). 8.08% of the seafaring crew and 11.54% of the shore personnel did not answer the question (Figure 2).
The seafaring crew who participated in the survey are of six different nationalities. On board ships, the highest percentage is represented by Indians (48.99%), followed by Italians (21.72%) and Filipino (17.68%). Ukrainians, Romanians and Bulgarians are a minority, respectively standing at 3.03%, 2.02% and 0.51% of the crew. 6.06% of the seafaring crew did not indicate their nationality (Figure 3A). 84.61% of the office personnel is Italian, while 15.39% did not answer the question (Figure 3B).

In terms of education, 3.54% of the seafaring crew only have an elementary education, 11.11% a lower secondary education, 22.22% a high school diploma, 22.73% a professional diploma and 20.20% are university graduates. 20.20% of the participants did not answer the question (Figure 4A).

The breakdown for the office personnel is as follows: 7.69% have a high school education, 3.85% have a professional diploma; most employees possess a
diploma (38.46%), and 26.92% also have a university degree; 23.08% did not answer the question (Figure 4B).

The job responsibilities of staff have been grouped into classes based on a certain homogeneity in order to obtain data more adaptable to comparison with other studies. For this purpose, the category Deck Crew includes Ordinary Seaman, O / S, A / B, GP Trainee.

The category Deck officer includes officers of the watch, navigation, deck, etc. A similar classification has been made for other professional groups. 29.46% of the participants did not provide information on their rank onboard. 15.63% of the participants who have stated their rank onboard belong to the deck crew category, 14.73% to galley and catering crew, 11.16% to engine crew, 10.27% to deck officers, and 7.14% to engine officers. Masters constituted
1.79% of the participants. The administrative staff at the company’s headquarters (Administration) corresponded to 9.82% (Figure 5).

**AWARENESS OF RISK IN THE WORKING PLACE**

The awareness of risk and danger in a complex work environment such as the seafaring world is strongly affected by exposure to constant, ongoing stress factors affecting workers on a 24-hour basis. This makes work and life on board different from those on shore. For this reason, the answers that the participants provided on their perception of risk to the health of those working on board were classified according to shore personnel or seafaring crew. Psychological stress, and above all, isolation from the rest of the world and a limited living space can make a factor to be perceived as more risky than others. Of course, those who live this condition are far more sensitive to the problem than those who only imagine it.

A difference in the perception of not being adequately cared for in case of illness was noticeable. It is understandable that, in an isolated environment which is difficult to reach like a ship at sea, the crew is more sensitive to the possibility of not receiving adequate assistance in case of illness compared to the shore staff. This people knowing that they can rely on easily accessible health facilities, perceive much less danger than their mates at sea. This is reflected in the participants’ response: 41.91% of the seafaring crew consider the possibility of not receiving adequate assistance in case of illness as a major risk, compared to 13.64% of the shore personnel (Figure 6). Another notable difference relates to suffering from psychological disorders due to isolation and / or affective and social deprivation. Here too, the seafaring crew, having first-hand experience, feel this problem more relevant (48.53%) compared to their shore mates (18.18%) (Figure 6).

Suffering from eyesight problems is mostly felt by the shore staff (36.36% of participants to the survey), whereas only 8.82% of the seafaring crew believed the same. It is possible that the administrative staff, spending many hours in front of the computer, is more sensitive to the problem than their seafaring colleagues. Other perceived risks are similar for both seafarers and administrative crew, differing only by about 10 percentage points. It is nevertheless interesting to note them: the risk of contracting sexually transmitted diseases is not perceived by shore personnel (0%), while 12.50% of the seafarers perceive it. Nutrition or digestion problems, damage related to drug use, and the risk of contracting diseases from poor hygiene are more perceived by the seafaring crew compared to the shore personnel. The risk of contracting diseases from second-hand smoke and the risk of psychological violence was low for both groups (Figure 6).

**AWARENESS OF RISK OF INFECTIOUS DISEASES**

Disease is any condition of the body and mind which reduces the probability of survival of an individual. The onset of a disease can be caused by many different things, both internal and external: viruses, pathogens (germs), trauma, chemicals, physical phenomena (noise, vibration, climate, etc..),
environmental and behavioral factors (unhealthy diet, alcohol and other substance abuse, etc.), genetic factors.

Infectious diseases are those caused by pathogens (and / or the toxins they produce) that come in contact with the individual. The route of transmission varies based on the type of organism: through air, food and water, feces, contact with hands or infected body parts, saliva, blood, body fluids, mucous membranes, insect stings, etc.. Some diseases may have just one mode of transmission whereas others can be transmitted in several ways. Not all diseases are infectious (ie, transmitted by a pathogen).

Figure 6: Participants’ answers to the question "In your opinion, what are the major health risks for people working on board ships?", classified according to seafaring crew or shore personnel.

In the survey question " From the following list of pathologies, select those classified as infectious diseases ", the following were properly selected: tuberculosis (by 56.5% of the respondents), hepatitis C (50.22%), HIV / AIDS (69.95%), scabies and lice (34.08%) (Figure 7). This demonstrates that the majority of respondents have a general idea about the nature of some diseases, but not for all. For instance, scabies is a highly contagious disease caused by a mite (Sarcoptes scabiei), but only about 34% of respondents considered it as such, whereas HIV / AIDS is recognized as an infectious disease by almost 70% of the seafaring crew (twice as much as scabies). A portion of the sample, albeit small, has difficulty in recognizing an infectious
disease from one that is not: 3.59% of the participants indicated heart attack as infectious and the same also applied it for cataract (with 4.48%) and emphysema (with 6.73%). These diseases are not infectious and it is therefore not possible, for example, to get heart attacks or cataract by coming in contact with a patient. Pulmonary emphysema may be aggravated by infection, but it is not caused by a pathogen agent.

Figure 7: Participants’ answers to the question “From the following list of pathologies, select those classified as infectious diseases”

Some infectious diseases are transmitted through the air, but not all of them. Certainly there are other mediums to transmit infectious disease (we have already mentioned feces, food and water, blood, etc.). 85.2% of participants are aware of it (having answered no to the question “In your opinion, are all infectious diseases transmitted through air?”) contrary to 10.76% which instead answered yes. 4.03% did not answer the question (Figure 8).

Figure 8: Participants’ answers to the question "In your opinion, are all infectious diseases transmitted through air?" (na: no answer)

Nevertheless, air is an important medium for the transmission of infectious diseases, especially for respiratory diseases. Some infectious diseases like influenza are spread through droplets of saliva contaminating air after sneezing. Other diseases such as hepatitis A are transmitted by the fecal-oral route, and others such as hepatitis B and HIV / AIDS are transmitted by parentenal route. This route consists in the contact with the mucous or membranes of infected blood, injuries from the shared use of sharp objects, shared use of needles, etc. and also by sexual and transplacental /perinatal route (from infected mother to infant).

Hepatitis B appears is a disease little known by participants. A survey question asked how the disease was not transmitted. The answers were somewhat
controversial. 25.56% of the participants indicated that it could not be transmitted from mother to child (instead it can be transmitted from mother to child), 30.49% that it could not be transmitted through sharing needles (instead it can be transmitted through sharing needles), 21.52% that it could not be transmitted through unprotected sex (instead it can be transmitted through unprotected sex), 20.18% that it cannot be transmitted by sharing scissors and sharp objects (instead it can be transmitted by sharing scissors and sharp objects). However, 47.98% of participants correctly answered that it was not transmissible through a handshake. Finally, 3.59% also indicated other transmission mediums: hugs, kisses, poor hygiene, saliva, bodily secretions, blood tests (only the latter case is correct). These data reveal a widespread misinformation on hepatitis B. It is also possible that the participants did not understand the question, that they did not carefully read the question, or that they confused methods of transmission with transmissibility (Figure 9).

A – Awareness of risk of transmission of infectious diseases

Awareness of the risk transmission of a disease is subjective and is partly due to the type of job that one performs. Seafaring crew were asked to identify which diseases have a higher risk of transmission. 56.05% of the participants identified HIV / AIDS as the most contagious, followed by other sexually transmitted diseases (43.05%), skin diseases (40.36%), tuberculosis (33.18 %), hepatitis B and C (30.94%). Hepatitis A (23:32%), scabies (19:28) and meningitis (14.8%) were perceived as less contagious (Figure 10).
The questionnaire responses show that many consider HIV / AIDS and other sexually transmitted diseases as at high risk of transmission, as opposed to meningitis. In this regard, it is appropriate to clarify dangers, contagiousness and the likelihood of being infected. A disease can be more or less dangerous, e.g. more or less capable of causing a harmful event (the worst of which is death), more or less contagious, more or less easily transmitted from one individual to another, and may be more or less rare, a factor that determines the probability of being infected. In the specific case of meningococcal meningitis, it should be noted that this disease is very dangerous (as it can cause death) and contagious (as it can be contracted by direct contact with infected persons through droplets of saliva, coughing, sneezing). However, it is a sporadic disease in Italy for which there is a vaccine. This significantly reduces the risk of contracting it. Similarly, AIDS is a very dangerous disease, fairly contagious (depends on the levels of the virus in the blood of infected individuals) and has a high risk of transmission if proper precautions are not used. However, it is difficult to contract this disease if one does not adopt dangerous behavior (unprotected sex, sharing needles and other sharp materials, etc.)..

The survey also asked participants which risks they felt they were most exposed to, and the following were indicated: poor hygiene in the event of injury (7.62%), intravenous drug use (28.69%), poor hygiene in the cabins and showers (35.43%), unwashed raw foods (37.66%), unprotected sex (49.77%), poor ventilation of cabins (25.11%), improper maintenance of medical instruments (29.14%), promiscuous use of razors, scissors, etc. (21.52%), tattooing (9.86%) (Figure 11). The greatest risk perceived on board is unprotected sex which, in fact, has a direct role in the transmission of sexual diseases (i.e. those perceived by participants to be the most contagious).
B – Knowledge of HIV and AIDS

Contrary to hepatitis B, basic knowledge of HIV / AIDS is much greater. 84.75% of the sample know that the disease is transmitted through unprotected hetero and homosexual relations and 81.61% know that the disease can be contracted through sharing needles. However, some misinformation still exits: 19.28% (i.e. the remainder of the sample) believe that HIV can be transmitted by kissing, 11.21% by living together, 5.83% by drinking from the same glass, 3.59% by breathing closely, 2.69% by sharing the telephone, 2.69% by hugging. As mentioned, HIV / AIDS is a disease that is transmitted primarily by sexual and parental mediums. Thus, any contact that does not involve the exchange of blood, semen or vaginal secretions cannot be contagious. Living with a person who is HIV-positive is possible provided that there are no sexual relations and that common rules of hygiene are adhered to (which include not sharing razors, toothbrushes, scissors, etc..) (Figure 12).
Information campaigns on HIV / AIDS by various bodies have not only raised awareness about the disease but also the alert level to the population at large. 88.79% of the seafaring personnel under question claims to have had the opportunity to learn about HIV and how to prevent it. The overwhelming majority (85.71%) states to have received information from the media. This illustrates to what extent HIV / AIDS is considered a "social disease".

50.51% of those surveyed said to have been informed through pamphlets of prevention campaigns, 41.84% through a doctor, 32.14% through healthcare professionals, 38.26% through friends, 22.45% by talking about it with the partner, 7.14% through the drug addiction service operator, 4.08% were informed during PDOS seminars and 2.55% through educational courses (Figure 13). 6.28% said that they have never had the opportunity to learn about the disease. 4.93% did not answer the question. The quality of information is very important for prevention. The best sources of information about HIV / AIDS are their doctors, healthcare professionals, drug addiction service operator and educational courses with their relevant leaflets. Knowledge of the problem only through friends, your partner and the media is therefore not sufficient and should be further elaborated. Despite the high percentage of people who say they have received information about the disease, only 6.73% believe that they have an excellent knowledge of HIV / AIDS and other contagious diseases. 41.70% of the participants believe they have a good understanding of the problem while the majority of respondents (42.15%) believe they have a discreet knowledge of this type of disease. Those who believe they have a poor and insufficient knowledge of the subject are 4.03% and 0.45% respectively. 4.93% of the respondents did not answer the question (Fig. 14).
Fig. 14: Participants’ evaluation of their knowledge of HIV and other contagious diseases (na: no answer)

To test whether the type of general information received from information campaigns were useful, questions were asked about risk factors and the transmission of AIDS. In general, there is a discrete (but not sufficient) understanding of the mechanisms of transmission: heterosexual intercourse (79.37%), transfusion of infected blood (74.89%), sharing needles, razors, etc. (72.64%), homosexual relations (63.68%).

Only half of the participants (56.05%) were aware that the virus could be transmitted from infected mother to child during pregnancy. The percentage of those who erroneously believe that contagion is possible through the shared use of toilets (3.14%) and cutlery (1.79%) is still present although in a very low percentage (Figure 15). Ambiguity nevertheless remains for the hypothetical transmission from insect bites. 15.25% of the sample believe that an insect that sucks infected blood can then transmit the disease. There are several reasons why this is impossible which have to do with the digestive system of bloodsucking insects (for instance mosquitoes) and their feeding behavior. Therefore there is no reason to fear that HIV can be transmitted in this manner.

Figure 15: Methods of HIV/AIDS transmission indicated by participants

Sexual relations is the method of HIV transmission that is most perceived by participants. According to 83.86% of those surveyed, having unprotected sexual relations is a very high risk factor. (Figure 16).
However, there is less awareness on transmission via intravenous drug use. Only 60.54% believed that the risk of contracting HIV by injecting drugs intravenously is very high. It is important to note that this is true only if syringes and needles are exchanged. 13.45 and 11.21% believe that it is probable and very limited respectively (Figure 17).

The vast majority of the sample is aware that the disease is transmitted through blood (93.27%) but the percentage is lower when it comes to sperm (77.13%) and only 48.43% believe that it can also be transmitted through vaginal secretions. Saliva, tears and sweat cannot transmit the disease. 12.11% and 0.9% respectively gave incorrect answers (Figure 18).
83.41% of participants to the text know that HIV / AIDS is a contagious disease caused by a virus that destroys the body's immune defenses. In fact, HIV attacks and mainly suppresses the cells that regulate our immune system. In doing so, it compromises the body's ability to defend against other diseases (Figure 19).

However, the percentage of those who know what is the "window period" is lower, as only 47.53% were aware that it is a period of several months after one has been infected during which the disease is not detectable in the test. Given that 24.66% of respondents think that a person can go back to being HIV-negative after being infected and 8.07% believe that during this period the disease cannot be transmitted to others, it might be important to mention that many infections occur exactly during this window period (Figure 20). In fact it is at this time that one becomes infected but does not know it. This condition means that many people, believing that they are healthy, do not take the necessary precautions.

*Figure 19: Participants’ answers to the question “Based on your knowledge, which of the following definitions of AIDS is most appropriate?” (na: no answer)*

Not surprisingly, when an individual thinks that he has been infected, the test is repeated twice: immediately after the suspected infection and three months after the first test since the antibodies detected by the HIV test do not develop immediately. In itself, the test does not detect the virus but the presence of the antibodies that develop after infection.

*Figure 20: Participants’ answers to the question “In your opinion, what is meant by "window period" when talking about HIV?” (na: no answer)*
It is important to know that HIV is not resistant as it cannot survive outside the human body for more than a couple of hours. It does not resist to drying, exposure to air, the ultraviolet rays of the sun, ethyl alcohol and bleach. Sterilizing a room or an object means eliminating all living forms of microbes (pathogenic or not), including the spores. When answering the question "If you had to sterilize a used needle or syringe, which of the following ways would you consider proper to avoid HIV infection?", the only true method of sterilization among those proposed in the questionnaire was boiling it in water. The majority of the sample (73.99%) knew that water at 100 °C is an effective sterilizing agent. It should be noted that the procedure requires at least 30 minutes of boiling time in order to ensure results.

Given that outside the human body, HIV is a short-lived virus, normal disinfection methods able to kill most microorganisms (though not all) are enough for its deactivation. 6.72% of respondents stated that bleach can disinfect a used needle or syringe and 22.87% identified ethanol as a substance that can disinfect instruments and contaminated surfaces (Figure 21).

![Figure 21: Participants’ answers to the question “If you had to sterilize a used needle or syringe, which of the following ways would you consider proper to avoid HIV infection?”](image)

It is important to know that sexual intercourse between two HIV-positive persons should be protected, both because the virus exists in different forms having diverse degrees of contagion and virulence that may exacerbate the HIV condition, and because there is always the risk of transmitting other infections. Only 40.36% of the respondents think that it is better to continue using precautions to avoid further infection from HIV (remember that it is possible to be HIV positive, that is to carry the virus without having AIDS), while 52.02% believe that it is better to engage in safe sexual relations only to avoid the transmission of other sexually transmitted disease (Figure 22).
For now, prevention appears to be the only effective weapon against HIV / AIDS, therefore it is important to use a condom during sexual intercourse. Condoms with occasional partners should always be used. Transmission of the virus between regular partners is possible if one of them engages in infidelity combined with the lack of protection. 51.57% of the participants claimed that they always used a condom with occasional partners, but 42.6% did not answer the question. In contrast, 35.87% never use protection with regular partners (Figure 23).

Foodborne (or fecal-oral) infectious diseases are contracted through the ingestion of food or water contaminated by a pathogen deriving from the feces of sick individuals. In other words, transmission occurs through the passage of pathogenic microorganisms from one digestive tract to another. Contact with the pathogen can occur through stools, putting one’s hands in one’s mouth, food and water, flies and other flying insects, objects and surfaces that have become soiled with feces (ex when one does not wash his hands after going to
the bathroom). Poor hygienic conditions are therefore among the main causes of contamination.

Of course, not all diseases of the gastrointestinal tract are of microbial origin and therefore contagious. For example, the following diseases are not contagious: colitis (3.14% of the respondents mistakenly thought it was) and hemorrhoids (2.24%). A separate discussion should be given to tetanus (1.79% of the sample classified it among foodborne illnesses), caused by the toxin produced by *Clostridium tetani*. It is an infectious disease (because it is caused by bacteria) which affects the digestive system but is not contagious (cannot spread from person to person). The following however, are foodborne illnesses: gastroenteritis (which was correctly identified by 68.16% of the sample), hepatitis A (39.91%), cholera (38.12%), and some poisoning resulting from the ingestion of toxins produced by bacteria and viruses (3.14%) (Figure 24). It should be noted that not all food poisoning has an infectious nature. For example, those caused by poisons and chemical and/or toxic substances are not infectious. Even alcohol is a non-infectious food poisoning.

Symptoms of food infection may be different and varied. Diarrhea and vomiting certainly appear this way as they are sometimes accompanied by nausea and fever. The latter symptom is usually typical of poisoning caused by viruses rather than bacteria. 83.41% of the seafarers who participated in the study correctly associated vomiting with infection and / or food poisoning, 67.71% recognized diarrhea as a symptom of food disease and only 27.35% believed that fever is indicative of an infection caused by food (although it is usually caused by viruses).

![Figure 24: Diseases which participants have reported as transmissible through food consumption](image)

It should be noted that these symptoms are not exclusive of foodborne diseases, as they could also indicate other problems. Cough, on the other hand, is the body's reaction to various causes, including infections of the respiratory tract. No foodborne pathogen causes cough (only 1.34% of the respondents wrongly listed it as possible manifestation) (Figure 25).
Food infection/poisoning can develop because of raw or cooked food stored outside the refrigerator or stored inside but kept for too many days without being consumed. It is a good idea to always check the overall appearance and smell of food (of any kind) before consumption. The presence of mold, strange colors, strong or unpleasant smell indicate that a food may have been contaminated and is therefore best not to eat it. The questionnaire reveals that respondents do not always check the food before consumption. A different behavior is also noted, depending on the food type. Raw meats are the most controlled (62.78% of the participants stated that they always check these products). However, little attention is paid to eggs, fish and dairy products, which are always controlled only by 27.35%, 25.11% and 26.90% of the participants respectively (Figure 26).
To avoid contamination of food, especially of already cooked food that will not be eaten in the course of the day, the leftovers should always be stored in the refrigerator. 54.26% of the participants stated that they were aware of such procedure. Instead, 39.01% believe that the type of preservation depends on the food, 4.03% believe that food should always be kept outside the refrigerator and 0.45% think that it should be thrown away. 4.93% of the sample did not answer the question (Figure 27).

![Figure 27: Participants’ answers to the question “In your opinion, how should cooked foods be preserved if not consumed during the day?” (na: no answer)](image)

It is important to always keep cooked foods that are not consumed in the refrigerator, that is, in a place where there is low temperature so that bacteria does not proliferate (bacteriostatic effect) in the short term. When stored in the refrigerator, cooked foods must be adequately heated before being eaten, and should be consumed within a few days, unless frozen. Inadequate storage (even in the refrigerator) can result in contamination of the food and, consequently, in intoxication. Foods stored at room temperature can cause staphylococcal food poisoning, while the botulinum toxin can develop both in foods stored at room temperature, and in canned, oil and encased foods. Home-made preserved vegetables and fruit can be dangerous. It is important to check for the presence of swelling in the boxes or air in vacuum-packed cans. If detected, the food should be thrown away. Seafood harvested in dirty water often cause infection / intoxication. Fish and seafood should therefore only be eaten cooked. Only 16.14% of the sample interviewed in the survey always or frequently consumes raw fish products, and 29.15% does so rarely. The majority of respondents (48.43%) does not consume them at all. 6.28% did not answer the question (Figure 28).
Even eggs must be well cooked: eating raw or undercooked eggs may cause the onset of salmonellosis. In general, the sample interviewed in the survey is aware of the diseases and disorders caused by food, although the meanings of disease, disorder, symptom and pathogen are often confused.

D – Vaccine prevention awareness

Not all diseases can be prevented through vaccination. Data reveals a marked indecisiveness on the issue. 51.57% of the sample is aware of the prevention effects of vaccines, but 42.15% believe that vaccination can eradicate all infectious diseases (Figure 29). In some cases, vaccines have greatly helped prevent the onset of a disease but one must consider that there is no universal vaccine. This means that for each disease, at least one vaccine must be discovered (and that is not always easy), and given that many diseases are caused by highly mutagenic pathogens, a vaccine discovered today may no longer work in the near future. Moreover, in certain cases, complications can arise following the administration of a vaccine. An example of an infectious disease for which there is no vaccine is HIV / AIDS due to the very high mutagenic ability of the HIV virus.
CONCLUSION

Information is the first step towards knowledge. Knowledge frees us from fear of the unknown and allows us to gain awareness. Awareness leads us to being responsible. Responsibility means adopting a healthy lifestyle, which does not put us at risk. Small gestures and attention (such as washing one’s hands before going to the bathroom, only drinking clean water, using a condom during sexual intercourse) can prevent the transmission of potentially dangerous diseases.

Today seafarers certainly have a better understanding of the risks arising from an improper lifestyle compared to a few decades ago. Some diseases and their methods of transmission are discreetly known by most employees of the naval fleet. Nevertheless, much remains to be done to improve the knowledge acquired so far and to make up for the lack of information on diseases that are known or spoken of to a lesser extent.

Hygiene is prevention; prevention is better than cure!