

Awareness on Medical Examinations and their Importance to Maritime Students

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ABSTRACT

This research work sought to gain insights on the level of awareness on medical examinations and their importance to maritime students. This study could be a help to determine if maritime students are aware on the medical examinations given to seafarers and to know their insights on how important medical examinations are in relation to their chosen profession. This study applied a descriptive research method with two hundred forty (240) Maritime students that were chosen on the basis of random sampling. After tallying the results, the researchers came to a conclusion that the respondents of the study are aware about the medical examinations given to seafarers. The medical examinations cited helped them to get insights which they will face in the near future. Furthermore, the respondents are also aware that medical examinations are important in determining if they are fitted for their chosen profession, which is in accordance to the research's general objective which is to imprint into the students' minds how important health is to a seafarer and to encourage them to take care of their health.

Key words: *Maritime students, medical examinations, health, awareness, imprint*

INTRODUCTION

The term "physically fit" often conjures the image of an individual who attends to his daily routines with alertness and vigor and also at the same time, maintains adequate energy for leisure activities. To be physically fit means to have a sufficient amount of energy needed to perform your daily routines and activities alertly and with vigor while also maintaining an adequate energy for leisure activities at the same time (Ibach, 2010). Furthermore, being physically fit also means being healthy mentally, socially and emotionally. These aspects have to give off positive outcomes to coin an individual well fit. Being healthy and physically fit is very important to everyone, especially to students, for this may determine their lifetime profession and conclude if they are fit for the job.

Each profession requires a certain medical standard that has to be met by the students in order to pursue their preferred career. There are different fields which require minimum health standards while there are those which implements very strict health standards. The latter is where the field of Marine Transportation falls. To be able to pursue this career, a Deck Cadet has to maintain and assure that he is physically fit and capable of doing the chores, duties and responsibilities that will be assigned to him when on-board. To be able to attest this, medical examinations are being conducted and this is where this research will focus. (Synergy Group, 2013; Petrick, n.d.)

Merchant seafaring is an occupation which differs from other occupation in many aspects. Not like the others, seafarers live in their workplace for several weeks, months, or even years depending on

the contract they have signed. They often work long hours, and usually around the clock shifts (Hansen, Tüchsen, & Hannerz, 2005).

Every crew on board ship must have a medical certificate to attest that he is well fit for the work that he had applied. With this, he must be in good health and is therefore not allowed to obtain any disease which would endanger the health of other persons on board. World Health Organization (WHO) and International Labor Organization (ILO) provided the guidelines which presents the medical conditions that need special consideration. Medical care for seafarers must not be temporary but a continuous, long-term medical follow-up, especially today wherein the safety of the sea has come more stressed (Saarni, 2003).

All the tests needed to determine the visual fitness of a seafarer are to be reliably performed by a competent practitioner and use the procedures which are recognized by the relevant national authority. Quality assurance of vision-testing procedures at a person's first seafarer examination is particularly important to avoid inappropriate career decision makings. Competent authorities may specify the Distance vision which should be tested using the Snellen test type, the Near vision by reading test type, and the Colour vision by colour confusion plates like the Ishihara test. (ILO, 2013)

Being color blind is a serious matter for seafarers especially to deck mariners. Colors are being used in different kinds of signals and so it is important that seafarers are able to distinguish a color from another correctly. To be able to assure this, seafarers are required to take the Ishihara Test developed by Dr. Shinobu Ishihara in 1917. It is a diagnostic vision for red-green color deficiencies (Bedinghaus, 2014).

Continuous monitoring of one's overall health is also essential. To attain this, a physical examination is being rendered to the applicants. It is also known as a wellness check. The doctors also use a technique known as "percussion," tapping around the body like it was a drum. This helps him discover fluid in areas where it should not be, as well as locate the borders, consistency and size of organ. During the exam, the doctor will also check the patient's height, weight, and pulse (Krans, 2012).

Urinalysis is the physical, chemical, and microscopic examination of urine. It involves a number of tests to detect and measure various compounds that pass through the urine. ("McPherson", 2014)

An electrocardiogram (ECG) records the electrical activity of the heart. The heart produces tiny

electrical impulses which spread through the heart muscle to make the heart contract. These impulses can be detected by the ECG machine. An ECG helps in finding the cause of symptoms such as palpitations or chest pain (Tidy, 2012).

Psychological tests are essential in measuring traits, feelings, beliefs and abilities which can lead to people's problems. Some tests assess the presence of certain conditions, such as depression, anxiety, anger control or susceptibility to stress while other tests measure the general well-being and provide an overall picture of a person's personality (Bauer, 2000).

Seafarers with serious communicable disease are prohibited to go on-board and have to go under medical examinations and various treatments. An example of this is the Pulmonary Tuberculosis (TB). Coughing, sometimes with blood, chest pains, weakness, fever and weight loss are some of the symptoms. This could be detected by having chest x-ray (World Health Organization, 2014).

To safeguard the health and welfare of every seafarer on-board is the objective of MLC (2006). This is to reduce the risks to other crew members and for the safe operation of the ship. The organization requires every seafarer to hold a medical certificate, detail the information to be recorded and indicate certain specific aspects of fitness that need to be assessed. Furthermore, medication can play an important part in enabling seafarers to continue to work at sea. Some have side effects that can affect safe and effective performance of duties and some have other complications that will increase the likelihood of illness at sea (Prentice, 1996).

These are the different medical examinations that seafarers are required to take before going on-board. In Lyceum International Maritime Academy, the students also experience some of the medical examinations such as CBC, chest x-ray, Ishihara Test, audiogram, urinalysis and stool analysis. These are essential in determining that the students are not suffering from any condition which could affect their performance while in school.

At present, Lyceum International Maritime Academy provides the students various medical examinations such as Ishihara Test for color blindness, Hearing Test by Audiometer for hearing sensitivity under different frequencies, Chest X-ray, Stool Analysis, Urinalysis and Complete Blood Count (CBC). The student has to meet the standards of the said examinations to be able to pursue his studies and to assure that he is well fit for his chosen profession.

This research centers primarily on the level of awareness and importance of medical examinations

taken up by the students in Lyceum International Maritime Academy. In addition, this research will focus mainly on the types of medical examinations taken up and if these are enough to guarantee that the students would be able to pursue their career. Through this research, various kinds of medical examinations will be explored and analyzed, including the different kinds of diseases that the students have to avoid.

The aim of this research is not to judge the school of its present way of giving off medical examinations to students. Rather, it serves as a way of expressing the thoughts and ideas the students have about the said examinations which would soon lead to various enhancements and improvements for the benefit of everyone. Furthermore, the researchers want the students to be clearly assessed whether they are healthy enough to pursue their career and avoid spending too much which will only result to nothing. Most importantly, the researchers would want to imprint into the student's minds how important and essential health is in relation to their chosen profession.

OBJECTIVES OF THE STUDY

The objective of this research is to determine the level of awareness and importance of medical examinations among maritime students and to propose a program to further enhance their awareness on the different medical examinations given to seafarers.

METHODS

Research Design

The researchers used the descriptive method. According to Shuttleworth (2008) descriptive research is a scientific method which involves observing and describing the behavior of a subject without influencing it in any way. Moreover, it is often used as a pre-cursor to quantitative research designs, the general overview giving some valuable pointers as to what variables are worth testing quantitatively.

Participants

In order to determine the Level of Awareness and Importance of Medical Examinations to maritime students, a total of two-hundred forty (240), one hundred ninety three (193) from BSMT and forty seven (47) from BSMarE, randomly selected Filipino LIMA students responded to the questionnaire prepared by the researchers. To obtain a common idea about the questionnaire, the participants qualified

must be enrolled in their respective department of this academy.

Instruments

The main data-gathering instrument used in this research is the survey questionnaire prepared by the researchers. It was divided into two main parts namely the level of awareness and importance. The objective of the first part is to determine the level of awareness of the respondents on the medical examinations that seafarers are required to take while the second part examined the viewpoint of the participants about the importance of medical examinations to them.

Procedure

First, the researchers formulated the questionnaire. After the approval, the researchers began to distribute the questionnaires to the chosen respondents. The content of the questionnaire was explained first to the respondents before letting them answer it and 100% retrieved rating of questionnaire was achieved. After collecting all the answered questionnaires, tallying of answers began and then interpreted after.

Data Analysis

The following statistics were used in treating the responses of the two-hundred and forty maritime students in LIMA regarding the Medical Examinations for seafarers. Weighted Mean was used to determine the level of awareness of maritime students regarding the medical examinations given to seafarers and the level of importance to maritime students regarding the medical examinations. Ranking was used to determine the order of the items.

RESULTS AND DISCUSSIONS

Table 1 represents the Awareness of Maritime Students on Medical Examinations given to Seafarers. It can be seen in the table that the respondents of Lyceum of the Philippines University Batangas, (Lyceum International Maritime Academy) are aware in the different medical examination given to seafarers with a weighted mean of 3.48.

The items registered low to very high mean ranging 2.83 to 3.81 interpreted "Aware" and "Highly Aware" on the different medical examinations given to seafarers. This explains that most of the respondents are aware of the medical examinations that they will soon encounter.

Table 1. Awareness of Maritime Students on Medical Examinations given to Seafarers

| Level of Awareness | WM | VI | Rank |
|---|-------------|--------------|------|
| 1. Ishihara is a test for color blindness. | 3.81 | Highly Aware | 1 |
| 2. Audiometry determines if an individual is suffering from hearing impairments. | 3.70 | Highly Aware | 4.5 |
| 3. Checking of Blood Pressure helps in determining any risk of having health problems. | 3.65 | Highly Aware | 6 |
| 4. Complete Blood Count (CBC) helps in checking any possible symptoms of an infection. | 3.50 | Highly Aware | 8 |
| 5. Urinalysis detects and measures various compounds that pass through the urine. | 3.70 | Highly Aware | 4.5 |
| 6. Fecalalysis or Stool Analysis determines certain conditions affecting the digestive tract | 3.59 | Highly Aware | 7 |
| 7. Chest X-ray examines the structure inside of one's chest. | 3.75 | Highly Aware | 3 |
| 8. Electrocardiography (ECG) records the electrical activity of the heart. | 2.83 | Aware | 13 |
| 9. Psychological Test measures the traits, feelings, beliefs, and abilities of an individual. | 3.46 | Aware | 9 |
| 10. Snellen Test checks the sharpness of someone's vision. | 3.13 | Aware | 11 |
| 11. Spirometry is being used to assess the lungs' condition of an individual. | 2.92 | Aware | 12 |
| 12. Physical Examination helps in determining one's overall health | 3.45 | Aware | 10 |
| 13. Dental Examination helps an individual maintain healthy teeth and gums. | 3.79 | Highly Aware | 2 |
| Composite Mean | 3.48 | Aware | |

Scale: Highly Aware: 3.5-4.00; Aware:2.50-3.49; Less Aware: 1.50-2.49; Not Aware: 1.00-1.49

The result shows that Ishihara Test (for color blindness) has the highest rank with a weighted mean of 3.81 and interpreted as "Highly Aware". It was followed by Dental Examination and Chest X-ray with a weighted mean of 3.79 and 3.75 respectively. As shown on the result, Ishihara Test and Chest X-ray were ranked 1st and 3rd respectively because of the fact that these are the most recent medical examination that they had taken, while having Dental Examination is common to everyone. Audiometry and Urinalysis

has the same mean score of 3.70, being ranked as 4th and 5th respectively. On the other hand, Electrocardiography (ECG) got the lowest rank with a weighted mean of 2.83, followed by Spirometry and SnellenTest with a weighted mean of 2.92 and 3.13 respectively. These tests are not being administered in the academy and are seldom encountered by students, which may be the sole reason why these tests were ranked low.

Table 2. Importance of Medical Examinations to Maritime Students

| Importance of Medical Examination | WM | VI | Rank |
|--|-------------|-----------------------|------|
| 1. Determine if the students is capable of pursuing the course through Medical Examinations. | 3.84 | Very Important | 1 |
| 2. Determine if a student is medically fit. | 3.77 | Very Important | 3 |
| 3. Determine if seafarers can do their duties efficiently on-board. | 3.72 | Very Important | 4 |
| 4. The avoidance of certain communicable diseases on-board. | 3.54 | Very Important | 12 |
| 5. Preventing casualty (e.g. loss of life) due to the unfit seafarer. | 3.52 | Very Important | 13.5 |
| 6. Prepare the student to what life at sea is. | 3.55 | Very Important | 11 |
| 7. Help the students face different psychological effects that he will soon encounter on-board. | 3.57 | Very Important | 8 |
| 8. Molds the student in to a future competent seafarer. | 3.56 | Very Important | 9.5 |
| 9. Stay physically fit, the student will engage in different physical exercises in order to be physically fit. | 3.58 | Very Important | 7 |
| 10. Visit a medical practitioner for monitoring of health status. | 3.56 | Very Important | 9.5 |
| 11. Make the student aware of the diseases a seafarer should not have. | 3.60 | Very Important | 5.5 |
| 12. Motivate the student not to do unhealthy habits such as smoking and drinking. | 3.82 | Very Important | 2 |
| 13. Promote students' self-confidence. | 3.33 | Important | 15 |
| 14. Help the student not to doubt to being rejected if they will apply for a certain company. | 3.52 | Very Important | 13.5 |
| 15. Encourage the students to be health conscious. | 3.60 | Very Important | 5.5 |
| Composite Mean | 3.60 | Very Important | |

Scale: Very Important: 3.5-4.00; Important:2.50-3.49; Less Important: 1.50-2.49; Not Important:1.00-1.49

Table 2 presents the importance of medical examinations to maritime students. It can be inferred from the table that the maritime students considered the following medical examination procedures as very important with a weighted mean of 3.60.

The result shows that the students considered medical examinations as very important to determine if the student is capable of pursuing the course and has the highest rank with a weighted mean of 3.84. Having a good health condition and staying physically fit is one of the requirements needed to pursue this course and with this kind of result, the researchers could conclude that passing the required medical examinations are very important to pursue their chosen profession. Thinking of the need to pass these examinations, the respondents considered these very important examinations that motivate them not to do unhealthy habits such as smoking and drinking liquors, having a weighted mean of 3.82 and ranked 2nd.

Furthermore, from the perspective of the respondents on the importance of medical examinations in promoting student's self-confidence in being an efficient seafarer in the near future, it seems that they considered it important but still obtained the lowest rank with a mean of 3.33. Following this is the importance of medical examinations in preventing casualty (e.g. loss of life) due to unfitness of the seafarer that tied up with item number fourteen (14) which is the assurance that they will not be rejected in applying for companies due to medical matters, both having a mean of 3.52. From this result, the researchers concluded that the respondents agree that there may be times that casualties on board may be caused by the action of an unfit seafarer. Furthermore, they believe that if a seafarer is physically fit for the job, the company will

not reject him easily when it comes with good health condition.

In this result, there are various items that tied, having the same weighted mean and rank. Items number eleven (11), it makes the students aware of the diseases a seafarer should not have, and fifteen (15), it encourages the students to be health conscious, share the 5th rank having a weighted mean of 3.60. Also, sharing the 9th rank and having 3.56 weighted mean are items number eight (8), it molds the students into a future competent seafarer, and ten (10), visiting medical practitioner for monitoring of health status. Lastly, sharing the 13th spot with a weighted mean of 3.52 are items number five (5), it is important in preventing casualty such as loss of life due to unfit seafarer, and fourteen (14), it helps the students not to doubt to being rejected if they will apply for a certain company.

CONCLUSION AND RECOMMENDATION

The students of LIMA are aware of the medical examinations given to seafarers. Medical Examinations are very important to maritime students in determining if the student is capable of pursuing the course. The researchers produced a proposed program to further enhance the level of awareness of maritime students on the medical examinations given to seafarers.

It is recommended that the academy may add other medical examinations to be taken by the students to ensure further that they are well fit for the chosen course. Annual health monitoring maybe conducted in order to ensure student's medical fitness. The academy may initiate more programs for physical fitness such as exercise to encourage students to do healthy living. Utilization of gymnasium and other facilities for activities that will boost medical fitness.

Table 3. Proposed Program to Enhance the Level of Awareness of Maritime Students on the Medical Examinations given to Seafarers

| Key Results Area | Programs/Strategies | Persons Involved |
|------------------------------|--|--|
| 1. Electrocardiography (ECG) | Having seminars about the different medical examinations taken by seafarers | Faculty, Administrative Staff and University Physician |
| 2. Spirometry | Having a specific subject or course about health wherein the medical examinations for seafarers would be discussed | |
| 3. Snellen Test | Requiring the students to do some research about the medical examinations for seafarers | |

REFERENCES

- Bauer, Russell. (2000). Psychological Test. Retrieved from <https://www.valueoptions.com/mc/eMember/whatIsPsychologicalTesting.do>
- Bedinghaus, Troy. (2014). Ishihara Color Test. Retrieved from http://vision.about.com/od/eyeexamequipment/g/Ishihara_Test.htm
- Hansen, H.L., Tuchsén, F. & Hannerz, H. (2005). Hospitalisations Among Seafarers on Merchant Ships. Retrieved from <http://oem.bmj.com/content/62/3/145.full.pdf+html>
- Ibach, Steve. (2010). What Does It Mean To Be Physically Fit?. Retrieved from <http://massageadvancer.com/what-does-it-mean-to-be-physically-fit/306>
- International Labour Organization (ILO). (2013). Guidelines on The Medical Examinations of Seafarers. Geneva: ILO. Retrieved from http://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/normativeinstrument/wcms_174794.pdf
- Krans, Brian. (2012). Physical Examination. Retrieved from <http://www.healthline.com/health/physical-examination>
- McPherson, R.A., Ben-Ezra, J. Basic examination of urine. In: McPherson RA, Pincus MR, eds. *Henry's Clinical Diagnosis and Management by Laboratory Methods*. 22nd ed. Philadelphia, PA: Elsevier Saunders; 2011: chap 28. Retrieved from <http://www.nlm.nih.gov/medlineplus/ency/article/003579.htm>
- Petrick, Joseph. (n.d.). Importance of a Medical Examination in a Job Selection Process. Retrieved from <http://work.chron.com/importance-medical-examination-job-selection-process-23404.html>
- Prentice, W.E. (1996). *Get Fit Stay Fit*. United States of America: WCB/McGraw-Hill
- Procter & Gamble Company. (n.d.). The Importance Of Regular Dental Visits. Retrieved from <http://www.oralb.com/topics/importance-of-regular-dental-visits.aspx>
- Saarni, H. (2003). Medical Examinations of Seafarers, Who is Fit for Work at Sea?. Retrieved from http://scholar.googleusercontent.com/scholar?q=cache:VgksZzxvSewJ:scholar.google.com/&hl=en&as_sdt=0,5
- Shuttleworth, Martyn. (2008). Descriptive Research Design. Retrieved from <https://explorable.com/descriptive-research-design>
- Synergy Group. (2013). Guidelines on The Medical Examination of Seafarers. Retrieved from <http://www.synergymarinegroup.com/archives/998>
- Tidy, Collin. (2012). Electrocardiography. Retrieved from <http://www.patient.co.uk/health/electrocardiogram-ecg>
- World Health Organization. (2014). Tuberculosis. Retrieved from <http://www.who.int/topics/tuberculosis/en/>