A QUALITATIVE STUDY ON NUTRITION OF TURKISH SEAFARERS

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Timur BOŞNAK

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I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last name: TİMUR BOŞNAK
Signature:
Date:

To my Wife and my Kid…

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ABSTRACT

There is no doubt that Seafareres working conditions are more much more diffcult than any other occupation. Especially 7/24 in certain periods (usually 3/6/10 months) the basic needs of seafarers working and living on board (housing and feeding conditions) is a crucial matter to be met. Health problems they might encounter in the lack of proper nutrition have been mentioned. Everything that is needed to be done in terms of right dieting, and suggestions have been made to be healthy and to live healthy. For this reason, Seamen Health Guide is published by WHO. The purpose of this research is to determine the dietary habits of the Turkish seamen on board. So whether it is in accordance with international standards and how nutritional conditions can be improved on board has been considered. To carry out these objectives a questionnaire survey has been prepared and applied to 60 Turkish seafarers who work in different tasks. Considering the results obtained by the survey, generally, it was found that Turkish Seafarers pay attention to the food and drink they eat in order to be healthy, and stay healthy. The data obtained demonstrates that they are trying to stay away from harmful foods and drinks as much as they can.

Keywords: Eating Habits of Turkish Seafarers; Turkish Seafarers; Nutrition on Board; Healthy Eating; Health Problems Seafarers Experience

ÖZET

Diğer meslek gruplarına göre gemi adamlarının çalışma şartları daha ağırdır. Özellikle 7/24 ve belirli periyotlarda (genellikle 3/6/10 ay) bizzat gemi üzerinde çalışan ve yaşayan gemi adamlarının temel gereksinimlerinin (barınma ve beslenme şartları) karşılanması önem arz eder. Doğru beslenmenin sonucunda yaşayabilecekleri sağlık sorunlarına değinilmiştir. Doğru beslenme adına yapılması gereken her şey sırasıyla belirtilmiş, sağlıklı olmak ve sağlıklı yaşamak için önerilerde bulunulmuştur. Bu sebepten WHO tarafından Gemi adamlarının Sağlık Rehberi yayınlanmıştır. Bu araştırmanın amacı Türk Gemi adamlarının gemide beslenme alışkanlıklarının belirlenmesidir. Böylece Uluslararası standartlara uygun olup olmadığı ve gemide beslenme şartlarının iyileştirilmesi hedeflenmiştir. Bu hedefleri gerçekleştirmek üzere anket hazırlanmış ve gemide farklı görev yapan 60 Türk Gemi adamına uygulanmıştır. Anket survey'ine göre elde edilen sonuçlar incelendiğinde genel olarak Türk Gemi adamlarının sağlıklı beslendikleri yiyecek ve içeceklerine dikkat ettikleri saptanmıştır. Verilerden elde edilen bulgulara göre kendilerine zararlı olabileceklerini düşündükleri yiyecek ve içeceklerden uzak durdukları veya olabildiğince uzak durmaya çalıştıkları görülmüştür.

Anahtar Sözcükler: Türk Gemi Adamlarının Gemide Sağlıklı beslenmeleri; Türk Gemi Adamları; Türk Gemi Adamlarının yeme alışkanlıkları; Sağlıklı Yeme; Gemi Adamlarının Yaşadığı Sağlık Sorunları

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LIST OF ABBREVIATIONS

BMI: Body Mass Index

CHD: Coronary Heart Disease

HDL: High Density LipoProtein

LDL: Low Density LipoProtein

SIRC: Seafarers Internatıonal Research Center

WHO: World Health Organization

MNIO: Mass Nutrition Institutional Organizations

MNS: Mass Nutrition Systems

CHAPTER 1
INTRODUCTION

There are many types of nutrition and more specifically, this study is going to try to describe how Turkish seafarers should be feeding on board. Nutrition is the right use of nutrients for sustaining health, growth and protecting the health. The purpose of nutrition is to provide a sufficient amount of each nutrient by considering the individual"s age, gender, work and the need of energy. Since these nutrients are met with food; The appropriate selection of food, preparation, cooking, storage and consumption in accordance with certain rules to bring harmful products to healthy status, and to provide protection and reduce the cost are some of the other objectives. Diet for these purposes in short are defined as; balanced, healthy and economical nutrition (Güler and Özçelik, 2002).

Nutrition forms the basis of health at every stage of life; growth, nutrients that will allow each of a sufficient amount of required energy and nutrients to live long healthy and efficiently, without losing nutritional value to get the most economical way to bring harmful products to health status and use of the body (Yücecan, 1999). The purpose of nutrition is to find the right and sufficient amount of nutritients according to the individual"s age, gender, work and special situations and types of energy (Baysal, 1992).

Nutrition is a science which affects both physic and behavior; which begins before birth, affects life until death. For healthy life individuals primary concern should be gaining the habit of eating adequately and following a balanced diet (Driskell, 2000). There are peculiar eating habits of every society with different traditions and customs, facilities, practices and nutrition culture. Eating habit is acquired early in life through various socio-economic, cultural and educational events (Açık et al., 2003). Eating habits include behavioral services such as; person"s diet, the main meals and snacks in the types and amounts of foods consumed, food purchasing, food preparation, and cooking (Sürücüoğlu and Özçelik, 2003).

As it is obvious to anyone the working conditions are not easy for these people, and while they are on board they experience so many difficulties that may result in serious health problems. A fit body is more likely to stay in better condition and than a body that is not fit and tonned. This can also affect and change the mood of the person, and as it has already been mentioned the health conditions of the person. However, being aware of these and doing everything to avoid these, and knowing when and how to eat on the ship can

immensely improve the way people look, feel and think. There is no doubt that all seamen would like to know the tips of nutrition and dieting for their health.

Furthermore, various factors are involved in the choice of foods, and dietary habits that occur. The eating habits of individuals and communities occur and develop slowly with the effects of these various factors. Living in the city or in rural areas, geographic, climatic and agricultural conditions, beliefs, traditions, socio-economic conditions, the level of nutrition knowledge has led to the emergence and development of eating habits. Therefore, eating habits are affected by genetic, gender, social, cultural, religious, ethnic, economic, emotional and psychological factors (Driskell, 2000).

Despite the rapid development on the science of nutrition in recent years, better understanding of the nutritional status, problems, and detailed information about the eating habits must be obtained. Food selection and factors that play a role in the occurrance of eating habits are various. The eating habits of individuals and communities with the effects of these various factors occurs slowly and thrive. Geographical location, climate and agricultural status, beliefs, traditions and the emergence of socio-economic conditions of women"s work cause the emergence and development of eating habits (Çakıroğlu and Vashfam, 2007). Generally, when assessing the nutritional status of individuals, total daily consumption of food, energy and nutrients is sought to find out if they meet the requirements. However, researches show that types of nutrients consumed in meals, skipping meals, long or short length of time between meals, more than enough meal consumption in meals, such as eating habits of the metabolism consequently shows that it is important to human health. The number of daily meals, skipped meals and the causes of skipping meals, eating balanced or unbalanced nutritions, the status of food consumption between meals and psychological conditions that affect eating reflects the nature of eating habits (Arslan et al., 1993).

Providing information about the effects of nutrition on health or obtaining food choice can direct individuals to act consciously and regularly during food consumption (Uyar, 1997). Nutrition and health are inseparable concepts. When people are fed according to the rules stipulated by the people of nutritional science, healthy and productive, and when fed as desired can be faced with health problems. In this case, the situation can be explained as "nutrition is the basis of health". Unless improving the nutritional status of individuals and society, and protecting their health, treatment of illnesses in a short time is almost impossible (Gündüz, 2001). Disorganized nutrition consumption can affect the health

either negatively or positively. Nutrition in the direction indicated by the science of nutrition can effect the health positively and extend the productive life (Baysal, 1992). The most important way to protect health is through a balanced and adequate nutrition consumption. Consuming certain foods insufficiently or excessively can cause various diseases (Sezer, 1998).

Obesity is one of the most encountered illnesses on board. Obesity reveals the unhealthy eating habits of living individuals. In this inactive life the excessive energy taken are stored under the skin or in the internal organs as fat. To find out more about the obesity of seafarers one study has been found related to the topic. Hansel et al. (2011) has carried out a study, at the university of Southern Denmark on Danish sailors. Approximately in the merchant marine fleet 70.8% of male seafarers, 73.8% of the fishing BMI (Body Mass Index) reference is identified as overweight (Hansel et al., 2011). Whereas 52% of male sailors were identified as overweight. However, when obesity of sailors in Turkey is examined not much has been found. Despite this there is a requested medical report that the crew has to submit to the Turkey Border General Directorate of Coastal Health regarding the values of their weight and height in every two years (Nas and Okşayan, 2013).

Another illness that is most seen among sailors is scurvy. Scurvy is a disease caused by the deficiency of vitamin C (absorbic acid). Feeling weak, easy bleeding and receding of the gums, bruising of the skin, tumbling hair, and pain in the joints are the symptoms of this disease. When the vitamin C deficiency continued for a long time weakness felt by the person, decrease in the appetite, delay in the healing of the wound, drying and cracking skin, mist in the joints decrease in the body resistance resulted in death years and years ago. In March 1741 HMS Centurion (Its the name of the British Warship), who lost his way had become desperate after going around for 3 months in the big ocean and out of 521 sailors 237 of them his sailors died due to the same illness (Carrington, 1967). Later on James Cook (1768-1779) discovered that this illness could be prevented if vegetables and fruits were eaten. For this reason, for their second sailing he added cabbage pickles to sailors bags, and it worked.

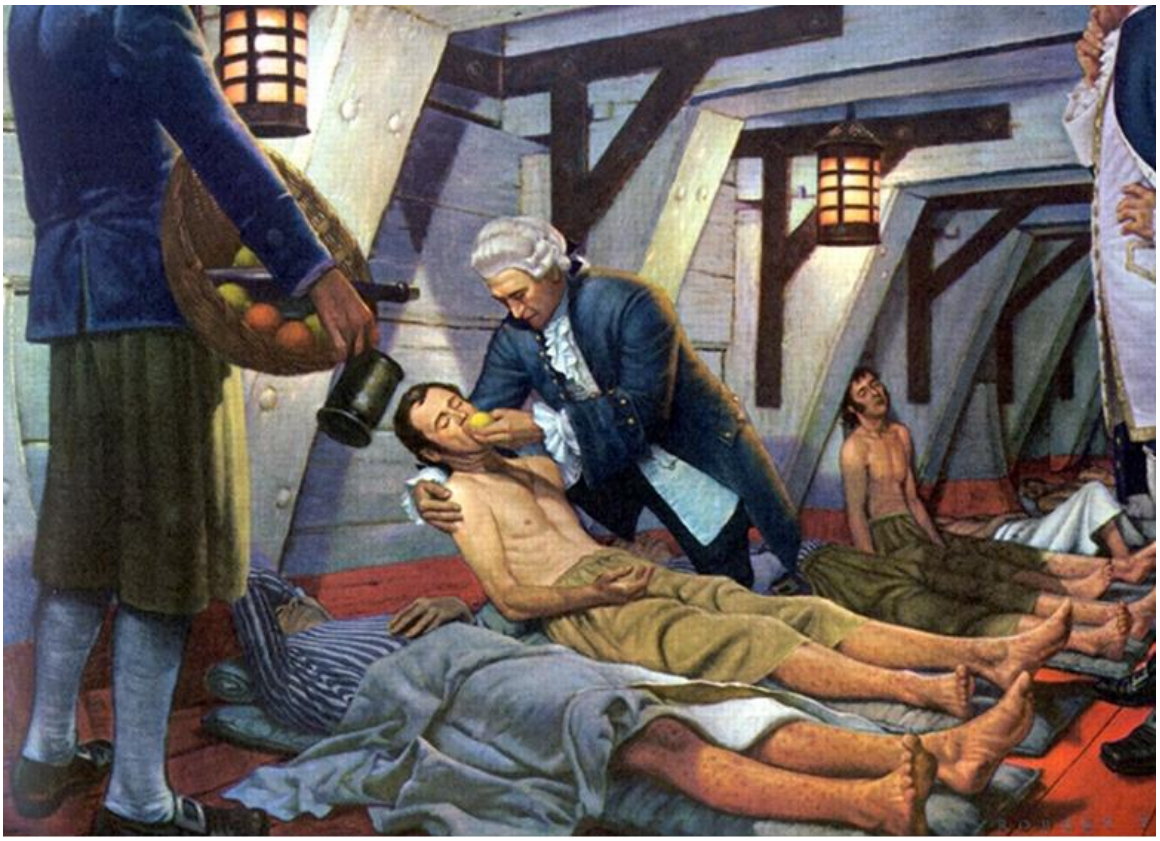

Figure 1.1: Photo showing lemon usage in the treatment of scurvy (Rooney et al., 2004)

In recent years, not just nutrition and health conditions of seafarers are being considered, but generally looking at the death rates and unexpected deaths overall in the world, this issue has been very important to be considered and concerned by everyone. There are many problems in the life of seamen such as; pay, workload, poor working and living conditions. All these conditions also include food in terms of what these people eat, and accommodation; place where they stay on board. All these change from ship to ship and from company to company, and these standards are not known for sure before the recruitment starts. SIRC (Seafarers International Research Center) ships registered under the national flag of Turkey may have the worst record for maintaining acceptable standards of food and accommodation (SIRC 1999; 125) . So, the question that this paper aims to find is what is needed to eat on the ship and what would be the best dieting?

Apart from the food we should consider eating on the ship, there is another important aspect we need to focus on. Due to the fact that ships carry lots of things and people, it is obvious that they can carry diseases that are infectious and that can effect other people. Ships like this can contain very serious health risks and have serious role effecting the health of public health. Rooney (2004) stated that historically ships have played an

important role in transmitting infectious diseases around the world. The spread of cholera pandemics in the 19th century was thought to be linked to trade routes and facilitated by merchant shipping. Efforts to control the movement of human disease on ships can be traced back to the Middle Ages, when, in 1377, Venice and Rhodes denied access to ships carrying passengers infected with the plague, giving rise to the term "quarantine". On arrival, travellers were detained in isolation for 40 days before they were allowed to proceed to their final destination. Overcrowding on ships, filth and lack of personal hygiene were often associated with epidemics of rickettsial typhus fever. Preventive measures, such as quarantine, delousing and maintaining personal cleanliness by use of soap, were gradually adopted, and the incidence of typhus decreased. More than 100 outbreaks of infectious diseases associated with ships were reported between 1970 and 2003 (Rooney et al., 2004).

By looking at this information given in the article mentioned above, it can be seen that strick control and necessary precautions are needed to be taken in order to avoid and minimize this risk. Therefore, the food and water and other materials including the people who are on board should be very safe and should be checked constantly and throughly. Crew should be trained well to overcome all these difficulties and the possible health risks must be taken into consideration, and should have everything needed in terms of equipment, materials and other supplies to maintain and keep the healthy envionment on board. Due to not having enough hygenic conditions and enough nutrients illnesses are likely to occur.

1.1 Nutrition

Nutrition helps to the growth by sustaining nutrients to protect the life and health. Adequate and balanced nutrition; Nutrition is what body needs to provide the initial amount of energy, protein, carbohydrate, vitamins and minerals. Types of nutritions a person needs to survive are divided into 6 groups in terms of 50 different nutrients, their chemical structure, and how they work in the body. These are; a) Protein b) Carbohydrates c) Fats d) Vitamins e) Minerals and f) Water (Baysal and Kutluay, 2009). To be fed adequately and balanced, these should be consumed in certain and sufficient amounts from each group. In many parts of the world, inadequate food consumption is known to result in low operating capacity and these people who are not careful about their diets drop down in terms of energy and this affects their working conditions. Therefore, to be healthy and to

avoid these, it is important to have everything in balance and a diet plan should be created to meet the nutrient. What is more important is, when business companies start preparing their daily menu, they should start considering the consumption of some food groups that are needed to be taken by individuals. Because day by day individuals are becoming more aware and conscious of what is needed to be done for a balanced diet and are becoming more interested in products that contain energy and nutrients as well as lifestyle products for appropriate health that should taken daily. It is claimed that "about 55 to 60 percent of a person's total daily calories should come from carbohydrate, about 10 to 12 percent should come from protein, and about 25-30 percent of total daily calories should come from fat" (Hanson, 2014).

Catering system that has been implemented since the Middle Ages urbanization and has become an important part of the advanced and modern life in parallel to urbanization and industrialization. The amount of nutrition and energy that is needed to be taken daily changes depending on the type of the job done and these when done correctly improves the efficiency of the job. As medical treatment facilities are limited on ships, seamen must take extra precautions to keep their health and well-being. Therefore, eating what is right is important. As part of their job, seamen spend a long time on board at the sea, they can catch any disease and illness while visiting other regions and lands. Not having enough nutrition, too much smoking, drinking, and not having enough sleep and exercise can effect seamen"s health at a greater level. Therefore, a seaman should avoid eating junk food, and every other thing that can affect his health and eat as much fresh and healthy food as possible such as; fruit, vegetables, and balanced of grains, carbohydrates and protein. One should not also forget that if a person chooses to eat only one type of food, this can also lead to serious nutritional deficiencies in a person"s body. Menu management and control of the ship usually remains totally to the head chef, partially located in the 2nd exchange of views with the captain, but this is mostly related to the supply of stores. All operators should consider the amount of food that should be taken in daily by individuals. Also, according to the international rules and regulations the number of individuals who are becoming more conscious and more concerned with products that contain energy and nutrients that are needed to be taken daily are increasing, and people now are choosing these products appropriately to have a healthier life. For the same subject food and drink companies are being very selective. A balanced menu should consist of 55-60% energy

from carbohydrates, 12-20% from protein, it is recommended to provide 25-30% of the oil (Hanson, 2014).

Today catering places can be considered and counted as; schools, hospitals, factories, prisons, military establishments, hotels, restaurants, restaurants, and fast-food restaurants. Each service is provided by an organization of consumers (students, patients, workers, etc.) are obliged to provide affordable and quality services to the properties (Bilici, 2008). In this study, how an application for the determination of diet and nutrition and menu planning should be carried on board by a seamen is being searched. The decline in the yield of a seafarer affects the others. In this respect, this issue is becoming more important and seeking ways of living a healthier life is becoming more compelling. The amount of energy and nutrients to be taken, the type of work, providing sufficient energy and nutrients, improves the efficiency of the business (Cekal, 2013).

The health of the employees who do not eat a balanced food and adequately becomes broken decreases in resistance to disease, their attention drops, become slow in movements, absenteeism increases and can not be desired to fulfill the level of efficiency and production required. The problems found and identified at working places can be seen as a result of not being given a suitable food due to economic weaknesses, not having enough education and wrong eating habits come as the most important leading causes of nutritional problem (Sözen et al., 2009).

1.1.1 Energy Food Items and It"s Components

The states that physical strength and working capacity that is required for production decrease when necessary food that provides energy and nutrients are not being consumpted (Bekar and Ersoy, 2011). Moreover, another article states that besides energy, deficiency of protein, vitamins and minerals blocks the energy production in the body, reduces the resistance to diseases, and thus increases the frequency of absenteeism (Yükselir, 2014). In addition, due to energy and nutrient deficiency, blood sugar not flowing to the brain sufficiently, consumption of more than enough carbohydrate before work and as a result of these reductions in care and attention, lack of dysfunction due to vitamin deficiency, nervous system disorder caused by deficiency of B vitamins are all the factors affecting the workers in a negative way. It is stated that "Due to the high energy requirement and in parallel to this the use of physical force the need for protein increases due to the nitrogen lost as a result of heavy sweating working under heavy conditions." (Kayalı, 2013).

In order to ensure the strengthening of the body"s antioxidant defense system and fluid-electroly for workers working in heavy and dangerous conditions, it is extremely important to take enough minerals in the diet. As it has been mentioned in the article it should be ensured that the body"s increased fluid requirements should be considered for workers, and for those who work under heavy phsyical activities as a result of working in a very warm atmosphere, and without waiting to be thirsty first clean and safe drinking water consumption should be made 1 litre liquid for per 1000 calories for every individual (Beyhan, 2012). Nutrients are also increased according to the energy intake that is needed to be taken heavy workers and depending on the type of job they do 600-1000 calories are added. The amount of proteins, vitamins and minerals required for every 1000 calories (Baysal and Kutluay, 2009).

Protein : 24-37 gr
Calcium : 300-350 mg
Iron : 5-10 mg
Zinc : 5-10 mg
Vitamin A : 2000-2500
Vitamin B1 : 0.4-0.5 mg
Niacin : 6-7 mg
Vitamin C : 35-40 mg
Vitamin E : 5-10 mg
Iodine : 40-50 mg

Generally, 3.500 calories to fulfill the daily energy requirement are needed for a worker working 8 hours by standing. This amount of energy should be supplied by using at least one kind of food from each food group and 3 or 4 course meal plus bread must be eaten. Protein ratio due to dining energy must meet the vitamins and minerals (Bilge, 2009).
In the study done in the United States, it was determined that workers pulp consumption is less than 5% . "In the study on workers in the industry; 74.9%"s of the protein, all (100%) was found to be more of carbohydrate consumption. In a study conducted in the Bank"s employees; all male employees, and 26.1% of women"s energy intake was just found enough. More than half of the employees of dietary vitamin A, vitamin C,

phosphorus, and zinc was found to be sufficient and vitamin B1, vitamin B2, vitamin B6, calcium, magnesium and iron was determined to be inadequate" (Akdevelioğlu, 2012).

1.1.2 Carbohydrate

There are three types of carbohydrate in food and these are; starches (also known as complex carbohydrates), sugars, and fiber. The type of carbohydrates that are being consumpted are important in the diet. Whole grain products are much better to be eaten than highly refined bread which has more calories in it, and French fries, pasta and rice lot frequently. Foods high in carbohydrates are an important part of a healthy diet. Carbohydrates provide the body with glucose, which is converted to energy used to support bodily functions and physical activity. But carbohydrate quality is important; some types of carbohydrate-rich foods are better than others:The healthiest sources of carbohydrates, unprocessed or minimally processed whole grains, vegetables, fruits and beans, promote good health by delivering vitamins, minerals, fiber, and a host of important phytonutrients (Mozaffarian et al., 2011).

Unhealthier sources of carbohydrates include white bread, pastries, sodas, and other highly processed or refined foods. These items contain easily digested carbohydrates that may contribute to weight gain, interfere with weight loss, and promote diabetes and heart disease (Mozaffarian et al., 2011). Therefore, for a healthy seamen it is important to choose food with healthy carbohydrates to eat, and avoid eating too much of the unhealthy ones that would put weight on their body. For a seaman it is not advisable to consume milk products that are high in fat before they involve in sports that requires a lot of energy.

1.1.3 Proteins

Protein is what body needs. Proteins are mistaken when it is thought that it can only be found in the meat we eat. All proteins that a body needs to have contains in amino acids. Our bodies need 20 different amino acids that can be found naturally for body functions to operate successfully. They help the immune system by giving energy to eat. From these 20 different amino acids, more than half is created by the body itself, but 8 of them cannot be created by the body. The eight essential amino acids that a human needs to have but bodies cannot produce are: leucine, isoleucine, valine, threonine, methionine, phenylalanine, tryptophan, and lysine. For children, histidine is also considered to be an essential amino acid.

Protein is important for the growth and repair. The construction of musles, the transmisson of the nerves, the operation of the metabolism, and the protection of the immune are all dependant on proteins. Moreover, one should not under estimate the energy it gives to the body. Different foods contain different proteins, they all have their own unique amino acid composition. This means not everything we consume is healthy. Choosing soya products, nuts and seeds can be healthy type of protein a body needs to take. The right proportions of important amino acids in foods may change due to the proportions required by the body to make proteins. The proportion of each of the needed amino acids in foods containing protein determines the quality of that protein. However, excessive consumption of protein can stay in the body and turn into fat.

1.1.4 Fats

As known generally, fat has the most calories among all the other nutirents. However, in a healthy diet, 25-30% of total daily calories should come from fat (Hanson, 2014). Moreover, according to the same information presented on the internet, this means eating "about 50 to 80 grams of fat each day. Fat gives the body energy, too, but the body changes only about 10% of fat into glucose. By itself, fat doesn"t have much impact on blood sugar. But when you eat fat along with a carbohydrate, it can slow the rise in blood sugar. Since fat also slows down digestion, once your blood sugar does rise, it can keep your blood sugar levels higher for a longer period of time. There are various types of fat, and some types are better for you than others. Choose mono-unsaturated or poly-unsaturated fat. These fats are liquid at room temperature. Mono-unsaturated fats are especially healthy because they lower the bad cholesterol Low Density LipoProtein (LDL) in your blood. These fats include olive, canola, avocado, and nut oils. Limit saturated and trans-fats. Saturated fats are found in foods that come from animals, such as meat and dairy products. These kinds of fats are solid at room temperature. Hardened fats, such as coconut or palm kernel oils as well as oils that have been hydrogenated, also contain saturated fat. These can damage your heart and arteries.Trans-fats are found in most processed foods and many fried fast foods, such as French fries. They help food stay fresher longer, but they are just as bad for you as saturated fat (Hanson, 2014).

1.1.5 Vitamins and Minerals

The most important thing at all times is to keep in mind that a balanced diet is what is needed to keep the body healthy and functioning well. Therefore, giving importance to vegetables is important step to take in a life time. It is known that a high take of vegetables into the body can give sufficient amount of carbohydrate, protein and calcium into the body. There is another advantage of high amount of vegetable intake, it does not affect the health of the person, nor the seamen"s health as it helps the person to be healthier, and to keep his/her weight under control. Some examples can be given for vegetables which are high in minerals, calcium, and vitamins such as spinach, lettuce, leeks, broccoli, asparagus, peas, cabbage and beans. These do not only ensure proper circulation of oxygen all through the body, but also ensure the production of new blood cells, keeping the system healthy, and helping it to function properly.

"A vitamin is an organic compound and a vital nutrient that an organism requires in limited amounts. An organic chemical compound (or related set of compounds) is called a vitamin when the organism cannot synthesize the compound in sufficient quantities, and must be obtained through diet; thus, the term "vitamin" is conditional upon the circumstances and the particular organism. For example, ascorbic acid (vitamin C) is a vitamin for humans, but not for most other animal organisms. Supplementation is important for the treatment of certain health problems, but there is little evidence of nutritional benefit when used by otherwise healthy people" (Lieberman and Bruning, 1990). Like ordinary people, if a seaman eat healthy food and follows a balanced diet does not need to take vitamins as a supplement. However, taking extra vitamin can avoid and prevent other illnesses and diseases such as; cancer, heart disease and other types of diseases. All types of vitamins work hand in hand with each other and they are all related to one another. One needs to be at present for the other to work function properly. For example; Vitamin A is needed to be taken for Vitamin B to exist.

A seaman must be aware of the fact that there are 13 different types of vitamins (Lieberman and Bruning, 1990) and therefore, 13 compounds are grouped as vitamins. Vitamins A, D, E, and K, the four fat-soluble vitamin which tend to accumulate in the body, and Vitamin C and the eight B vitamins-biotin, folate, niacin, pantothenic acid, riboflavin, thiamin, vitamin B6, and vitamin B12-dissolve in water. There are also letter grades attached to every vitamin and these are;

- Vitamin A = retinol, retinaldehyde, retinoic acid
- Vitamin B1 = thiamin Vitamin
- Vitamin B6 = pyridoxine, pyridoxal, pyridoxamine rol
- Vitamin B12 = cobalamin
- Vitamin C = ascorbic acid
- Vitamin D = calcife B2 = riboflavin
- Vitamin E = tocopherol, tocotrienol
- Vitamin K = phylloquinone

Medical condition of the seafarer is very important. If they are not fit, they can experience illnesses that can affect their works and this may result with serious problems in their lives. Working at sea is a challenging and demanding process that one needs to learn how to deal with. It is physically challenging, and also mentally challenging because a seafarer needs to cope with too many problems as well as high level of stress that they need to go through on board. To be able to deal with all these, a seafarer must be able to keep their mental and physical health together at once. If they loose one, the other one is likely to go. Apart from the protein, carbohyrate and vitamins and minerals a seafarer need to take into consideration water, which is another important source of health and life that one cannot live without. Water help to remove the toxins from the body, and helps to the oxygen flow around the body by providing the necessary minerals. The impact of diet on performance and health table stated in the Medical Centres article published on the internet (Kleiven, 2011).

A varied diet is important and as general advice, hot and cold meals onboard should primarily be based on the following basic ingredients. All seafarers should know the benefits of drinking plenty of water at sea. For people to be healthy, everybody needs to drink as much water as they can. Dehydration is very dangerous and if it is to occur, it can affect health seriously. Every adult should drink at least 1.5 litres of water every day. Water is what the body and the organs need.

Table 1.1: Basic ingredients for healthy food options

Breakfast cereals low in fat and sugar, but high in fibre	Wholemeal breads
Vegetable oil based products, e.g. for sandwich spreads	Brown rice and wholemeapasta
Fish, shellfish, poultry and other low fat meat and cold cuts	Nuts and seeds
Low fat dairy products (milk, cheese, yoghurt, etc.)	Fruit, vegetables and berries
Low fat salad dressings and sauces	Fruit juices without added sugar
Cold and clean drinking water should be readily available onboard	

There are 5 different reasons why a body and the organs needs water. These are; 1) cell life (Water is a carrier, distributing essential nutrients to cells, such as minerals, vitamins and glucose), 2) Chemical and metabolic reactions (Water removes waste products including toxins that the organs" cells reject, and removes them through urines and faeces), 3) Transport of nutrients (Water participates in the biochemical break-down of what we eat), 4) Body temperature regulation (Water has a large heat capacity which helps limit changes in body temperature in a warm or a cold environment. Water allows the body to release heat when ambient temperature is higher than body temperature. The body begins to sweat, and the evaporation of water from the skin surface very efficiently cools the body), 5) elimination of water (Water is an effective lubricant around joints. It also acts as a shock absorber for eyes, brain, spinal cord and even for the foetus through amniotic fluid) (Montain, 1999).

It is also a known fact that water is what keeps the body together and without drinking water nobody can live more than 3-5 days. Therefore, doing these things insufficiently can lead to poor health on duty. If a seafarer becomes ill and experiences some health problems and becomes unable to perform his job adequately may cause absenteesim from the vessel for a long time. It is also important to be aware that any illness and disconcentration as well as tiredness and communication problems can affect the performance of the tasks on board. All crew members on board should look after their bodies carefully to avoid any health problems, to reduce the illnesses and to promote safety on board. All crew members should be taught and trained on healthy eating habits and on the healthy nutrition of themselves.

1.2 Calorie

This part of the study will show the amount of calories needed to be taken from some products shown in the Meditterrenean food pyramid. A calorie measures the standard unit for measuring energy released from energy-yielding nutrients, such as fat, protein, and carbohydrate. Although it is important to watch both calories and fat grams, it"s best to focus on the total number of calories consumed, which often seems to be forgotten. Therefore, unused energy is converted and stored as excess body fat. The amount of calories a person needs is based on body weight, age, gender and physical activity level (Baysal, 1992). For this reason, the amount of food to be eaten daily must be chosen carefully. The reason why the food pyramid is given (Figure 1.2) and calorie Table (1.2) is to show the right amount of food to sustain healthy life for all people and especially, for Turkish seafarers.

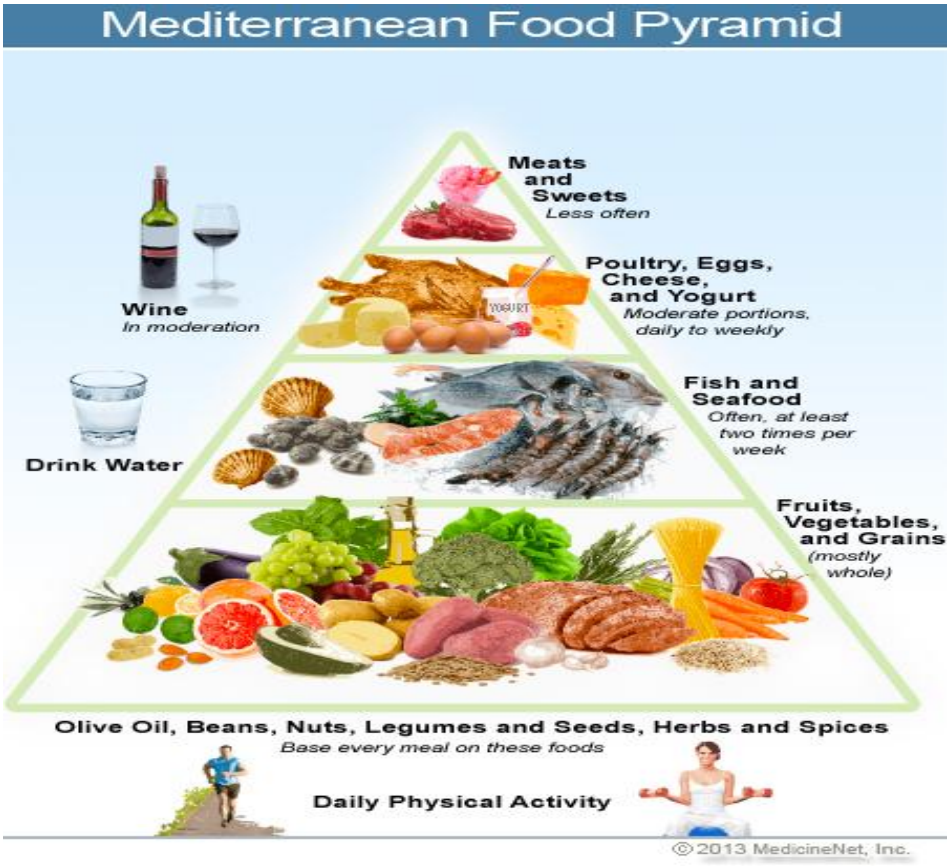

Figure 1.2: Mediterranean food pyramid (Greenstein, 2015)

Table 1.2 is given with its quantities and portions, and the amount of calorie one may take by consuming one of the listed products. If a seafarer eats according to the list and according to the right amounts, theres no doubt that he/she will have a healthy life.

Table 1.2: Calorie Table

Type	Quantity	Calories (Kcal)
3.1.1 Milk & Milk Products		
Full-fat milk	1 cup	150
Low fat milk (1%)	1 cup	102
Cow"s milk	1 cup	157
Goat milk	1 cup	264
Sweetened Condensed Milk "cans"	28 gram	123
Full cream milk powder	Half a cup	635
Skim milk powder	Half a cup	435
Full-fat chocolate milk	1 cup	208
Strawberry Milk	1 cup	244
Cheddar cheese slices	Slice, 28 gram	114
Feta cheese	28 gram	75
Finuta cheese	25 gram	110
Gouda cheese	28 gram	101
Mozzarella cheese	28 gram	80
Kraft Cheese "cups"	28 gram	80
Edam cheese	28 gram	98
Blue cheese	28 gram	104
Harafati cheese	28 gram	116
Mascarpone cheese	28 gram	128
Ricotta cheese "whole milk"	Half a cup	216
Ricotta cheese, partly skim milk	Half a cup	171
Parmesan cheese	28 gram	130
Camembert cheese	28 gram	86
Cottage cheese	100 gram	99
Akkawi cheese	100 gram	289
Kashkaval cheese	100 gram	404
Halloumi cheese	100 gram	363
Cream focused	1 spoon	52
Cream Medium	1 spoon	37
Rob "yogurt" full-fat	1 spoon	141
Rob "yogurt" skim	1 spoon	114
Brick	155 gram	105

Clabber	1 cup	99
Vanilla ice cream 10% fat	Half a cup	135
Ice Cream		
Vanilla	1 ball	240
Cocoa	1 ball	280
Strawberries	1 ball	220
3.1.2 Drinks & Juices		
Apple juice	Half a cup	60
Apricot juice, canned	Half a cup	72
Grape juice, canned	Half a cup	78
Lemon juice canned	Spoon to eat	3
Fresh orange juice	Half a cup	59
Canned orange juice	Half a cup	52
Grapefruit juice, canned local	Half a cup	58
Grapefruit juice, unsweetened	Half a cup	47
Canned peach juice	Half a cup	67
Canned pear juice	Half a cup	75
Canned pineapple juice	Half a cup	70
Canned tomato juice	Half a cup	21
Canned juice Islands	Half a cup	49
Guava juice	One cup	175
Mango juice	One cup	110
Hot Drinks		
Nescafe coffee without sugar	Teaspoon	5
Instant coffee without caffeine	Teaspoon	5
Tea without sugar	One cup	1
American coffee	One cup	5
Soft Drinks		
Pepsi-Cola	240 ml cup	100
Diet Pepsi-Cola	240 ml cup	0.00
Seven Up	240 ml cup	90
Sprite	240 ml cup	96
Fanta	240 ml cup	119
Coca-Cola	240 ml cup	97
Diet Coca-Cola	240 ml cup	1.00
3.1.3 Luncheon and Sausage Meat		
Beef	Approx. 42 gram	142
Pastrami – turkey	28 gram	40
Salami – turkey	28 gram	56
Salami – beef	28 gram	72

3.1.4 Bologna sausage		
Turkey	28 gram	57
Beef	28 gram	88
3.1.5 Frankfurter		
Turkey	42 gram	102
Chicken meat	42 gram	116
3.1.6 Eggs		
Egg whites, (fresh or iced)	One, big	17
Fresh egg yolk	One, big	59
Full cook boiled eggs	One, big	79
Fried eggs	One, big	91
Omelet	One, big	92
Omelet with cheese and vegetables	113 gram	252
3.1.7 Nuts & Legumes		
Nuts	Half a cup, 60 gram	380
Almonds, dry	Quarter a cup	209
Nuts, roasted, dry	28 gram	170
Hazelnut, roasted, oily	28 gram	176
3.1.8 Oils & Fats		
Margarine	1 Tablespoon	105
Olive oil	1 Tablespoon	120
Sunflower oil	1 Tablespoon	120
Sheep fat	1 Tablespoon	114
Vegetable oil	1 Tablespoon	126
Beef fat	1 Tablespoon	125
Butter	1 Tablespoon	36
Corn oil	1 Tablespoon	120
3.1.9 Fresh Fruits		
Apples	Medium, 140 gram	81
Apricot	Medium, 30 gram	17
Banana	Medium, 100 gram	105
Fig	One, 40 gram	37
Grapefruit	Half	38
Cherries	10 beads	49
Avocado	Half	162
Grapes	Half a cup	53
Guava	One, 85 gram	45
Kiwi	One, 76 gram	46
Mango	Half, 85 gram	68
Orange	One, 110 gram	62
Papaya	Medium	117

Peach	One, 85 g	37
Pear	Medium, 170 gram	98
Pineapple	Slice, 82 gram	42
Plum	One, 60 gram	36
Pomegranate	Medium, 150 gram	110
Nectarine	Medium, 142 gram	67
Watermelon	Piece, 100 gram	26
Melon	Piece, 100 gram	33
Strawberries	Half a cup	23
Tangerine	One, 85 gram	37
Blueberry	One cup	122
Rutab/ripe dates	10 beads	150
Loquat	100 gram	49
Lemon	One, 60 gram	17
Sweet Lemon	Fruit size	53
Black berry	One cup	117
Quince	Medium	60
Tamarind	Half a cup	82
3.1.10 Canned Fruits		
Canned apricots (with sugar syrup)	Half a cup	111
Fruit salad (with sugar syrup)	Half a cup	94
Canned cherry (with thick sugar syrup)	Half a cup	107
Canned peaches (with sugar syrup)	Half a cup	95
Canned pear with (with sugar syrup)	Half a cup	94
Canned pineapple (with sugar syrup)	Half a cup	100
3.1.11 Dried Fruits		
Raisins	Half a cup	109
Dried plum	Half a cup	113
Dried Apricots	Half a cup	169
3.1.12 Spices		
Cardamom	1 teaspoon	7
Dried hot red pepper	3 teaspoons	13
Cinnamon	1 teaspoon	7
Cloves	1 teaspoon	6
Ginger “powder”	1 teaspoon	1
Ginger root	One, medium	20
Nutmeg “powder”	1 teaspoon	9
Black pepper	1 teaspoon	8
3.1.13 Red Meat		
Lamb shoulder, cooked with fat	63 gram	220
Lamb shoulder, cooked without fat	48 gram	135

Lamb thigh, roasted with fat	85 gram	205
Lamb thigh, roasted without fat	73 gram	140
Lamb rib, grilled without fat	85 gram	200
Lamb rib, grilled with fat	85 gram	307
Beef, chest, cooked	85 gram	189
Beef shoulder, without fat	85 gram	183
Beef, minced and cooked	85 gram	245
Beef steak without fat	85 gram	174
Kebab	85 gram	226
Cow heart, cooked	85 gram	148
Cow kidney, cooked	85 gram	122
Cow tongue, cooked	85 gram	241
3.1.14 Vegetables		
Carrot	Medium, 60 gram	31
Cauliflower, uncooked	Half a cup	12
Cucumbers, chopped	Half a cup	7
Fried eggplant	Half a cup	100
Eggplant, cooked	Half a cup	13
Green beans, cooked	Half a cup	20
Green beans, canned	Half a cup	25
Cabbage, uncooked	Half a cup	8
Celery	Half a cup	10
Corn	One, medium	77
Mushrooms, fresh	Half a cup	9
Mushroom, canned	Half a cup	19
Lettuce	Half a cup	4
Mixed vegetables (a variety of vegetables cooked together)	Half a cup	54
Okra, cooked and chopped	Half a cup	25
Fresh onions, chopped	Half a cup	27
Green onions, chopped	Half a cup	16
Peppers, chopped	Half a cup	12
Hot pepper	One, 30 gram	18
Baked potato, with the peel	195 gram	220
Baked potato, without the peel	195 gram	162
Shalgam kale, boiled	Half a cup	14
Watercress	Half a cup	2
Squash	Half a cup	41
Red rweid radish	10 grains, 40 gram	7
Chopped spinach	Half a cup	6
Zucchini, chopped and cooked	Half a cup	18

Sweet potatoes, mashed	Half a cup	111
Red tomatoes	One, medium	26
Green beans	One cup	73
Beet	One cup	46
Leek	1 Spoon, minced	1
Coriander	1 package	97
Fenugreek, leaves	1 package	25
Garlic	5 pieces of garlic peeled	7
Grape leaves	1 cup	146
Mint	Package, medium	84
Black olives	10 grains, medium	95
Green olives	10 grains, medium	66
Parsley	1 cup, minced	34
Parsley	Package, medium	25
White rweid radishes	Package, medium	58
Spinach	1 Cup, chopped	14
Basil	100 gram	50
Sugar-cane	100 gram	82
3.1.15 Grains		
Bread, cereals	100 gram	17
Lebanese bread	Quarter of a loaf	70
Oven bread, Iranian	Quarter of a loaf	79
Whole wheat bread	One, 50 gram	130
Manaqich (bread with thyme)	One, 75 gram	208
Rusk (cake)	50 gram	150
Pasta with sauce	Small, 130 gram	190
Corn flakes	Cup, 25 gram	95
French bread	Quarter of a loaf, 115 gram	333
Plain biscuits	4 pieces, 55 gram	178
White rice, cooked (long grain)	Half a cup	131
Brown toast	A slice	61
Plain white toast	A slice	64
Spaghetti, cooked or pasta	Half a cup	99
Spaghetti, cooked with minced meat and tomato	Half a cup	110
Lasagna with meat sauce	Half a cup	154
Barley	One cup	672
Pasta	One cup	344
Cornstarch	One cup	471
Rice, uncooked	One cup	675
Rice powder	One cup	354

Vermicelli (balaleet)	One cup	99
Bulgur (groats, crushed)	One cup	613
Wheat	One cup	485
3.1.16 Meat & Chicken		
Chicken leg (hip), without skin, grilled	85 gram	167
Chicken leg (hip), with skin, grilled	85 gram	223
Chicken breast, without skin, grilled	Half a breast	142
Chicken breast, with skin, grilled	Half a breast	193
Chicken breast, without skin, fried	Half a breast	161
Chicken wings, with skin, grilled	1 wing “35.5 g”	99
Chicken pieces, vacuum, fried	6 pieces “104 g”	290
Chicken livers, cooked	85 gram	135
3.1.17 Fish and Shellfish		
Sardines, canned in oil	28 gram	58
Anchovies, canned in oil	21 gram	42
Tuna, canned in water	85 gram	104
Tuna, canned in oil	85 gram	169
Smoked salmon	85 gram	99
Grilled Fish	85 gram	136
Fish fried with rusk	3 pieces, 85 gram	228
Shrimp fried with rusk	85 gram	206
Crab, canned	85 gram	84
Shrimp, cooked	85 gram	83
Oyster, uncooked	28 gram	23
Oysters, fried	28 gram	46
Oysters, fried with rusk	85 gram	84
Caviar, black or red	1 tablespoon	40
3.1.18 Legumes		
Beans, boiled	One cup	187
Dry beans	One cup	349
Beans	Half a cup	37
Chickpeas, boiled	Half a cup	269
Flour	One cup	339
Lentil	Half a cup	192
Peanut butter	Spoon 16 gram	95
Coconut	28 gram	100
Sesame	28 gram	174.16
Pine	28 gram	172.7
3.1.19 Meat Dishes		
Seasoned meatball	250 gram	231
Meatballs in seasoned tomato sauce	250 gram	343

Grilled meatballs	160 gram	309
Meatballs with rice dipped in egg batter and fried	200 gram	417
Goulash	220 gram	348
Gardener”s kebap (summer)	250 gram	339
Gardener”s kebap (winter)	250 gram	326
Casserole with vermicelli	250 gram	461
Roast beaf with french fries	160 gram	348
Roast beaf with boiled potato	160 gram	311
boiled meat served cold with tomato sauce	150 gram	237
boiled meat served cold with mashed potatoes	160 gram	339
Roast mutton in the oven	200 gram	293
aubergines with meatballs on skewers	250 gram	406
Boiled chicken	250 gram	259
3.1.20 Salads		
Mediterranean salad	1 Portion	130
Russian salad	1 Portion	276
Yogurt with cucumber	1 Portion	131
Iceberg lettuce with corn	1 Portion	182
Carrots salads	1 Portion	144
Mixed salads (summer salads)	1 Portion	123
Mixed pickles	1 Portion	70
Burghul salads	1 Portion	374
Mushroom salads	1 Portion	93
Seasonal salad	1 Portion	179
Purslane salad	1 Portion	218
Sliced tomato and cucumber served with no dressing	1 Portion	218
Chicken salad	1 Portion	140
3.1.21 Rice-Pasta-Pastry		
Rice and vermicelli	1 Portion	342
White cheese pasta	1 Portion	413
Rice with green peas	1 Portion	480
Spagetti bolognese	1 Portion	560
Rice of wheat grains	1 Portion	291
Spaghetti with tomato sauce	1 Portion	360
Rice with tomato sauce	1 Portion	408
Baked Maccaroni	1 Portion	400
Pasta with adam cheese	1 Portion	425
Rolled pastry with minced meat	1 Portion	520

Rolled pastry with cheese	1 Portion	420
Rice of wheat grains with lentil	1 Portion	416
Rice	1 Portion	326
Pasta with chesee	1 Portion	354
Rice with fried aubergine cubes	1 Portion	450
Deep fried water thin dough with cheese filling	1 Portion	717
Deep fried water thin dough with minced meat filling	1 Portion	518
Deep fried rolls with cheese filing	1 Portion	430
Pastry	1 Portion	421
3.1.22 Olive Oil Dishes		
Borlotti beans in olive oil	1 Portion	460
Stuffed green pepper	1 Portion	608
Globe Artichoke	1 Portion	321
Bean salad	1 Portion	469
Fried carrots	1 Portion	691
Split aubergines with tomatoes and onions	1 Portion	194
Fried zucchini	1 Portion	671
Stuffed eggplant	1 Portion	618
Leek	1 Portion	390
Green beans	1 Portion	324
Stuffed grape leaves	1 Portion	723
Mixed vegetable pot summer	1 Portion	221
Horse bean	1 Portion	266
3.1.23 Desserts		
Noah”s pudding	1 Portion	554
Oven baked quince in thick syrup	1 Portion	406
Chocolate pudding	1 Portion	163
Lip shape sweet pastry	1 Portion	815
Eclairs	1 Portion	237
Stewed apple compote	1 Portion	193
Stewed plum compote	1 Portion	178
Doughnut in syrup	1 Portion	421
Semoline dessert	1 Portion	528
Oven baked pumpkin in syrup	1 Portion	409
Stewed apricot compote	1 Portion	115
Sponge pastry rolls in syrup	1 Portion	666
Creme caramel	1 Portion	265
Cream of chocolate	1 Portion	346
Milk pudding	1 Portion	313

Banana pudding	1 Portion	371
Peach melba	1 Portion	340
Samolina dessert with fresh cheese	1 Portion	110

1.3 Food Storage onboard for a Healthy Life

Food is carried on the vessel for months from one place to another. Therefore, the ship can be exposed with intense weather conditions. For this reason, it is important to have sufficient and adequate food storage and food on board. Sufficient food must be on board at all times.

In order for a seafarer to conduct healthy life, it is important to do regular exercise and control weight gain. Thus, most of the seafarer"s know the fact that obesity, heart diseases and diabetes can be very dangerous, they choose to change their eating habits and exercise regularly. Not only these, but seafarers also need to overcome long working hours, poor weather conditions, access to food at all times on board and dealing with these all the time. Some exercises on board are adviced such as strengthening muscles, cardiovascular fitness or fat-burning Core Muscle. The same advice has been given to all seafarers of all ages to keep themselves fit and look after themselves as good as they can. There are some advantages of having a fit body such as; it looks good, it helps to overcome some illnesses easier like colds and colds, and when a person gets older fit body stays in a better condition despite the age. These changes in life can result in better living conditions and a healthier life. The frequency of exercises are important and it is generally advised 3 times a week.

CHAPTER 2
PORTIONS OF THE MEALS

2.1 Seafarer's Daily Portion

No one can expect to eat the same amount of food as they eat at home and especially, when you are at the sea it is obvious that you will eat differently and in different amounts. Most seafarer"s come home after months missing the taste of the food cooked at home by their partners or mothers. So, sometimes when they come to the shore they put on weight until they go back, and sometimes they loose weight while they are on board. If the amounts of portions are followed carefully health is guranteed to be protected. The amount of food they need to eat to stay healthy is; 1 portion of meat, mix legumes, 1 portion of rice, pasta or pastry, yoghurt, 1 portion of fruit salad or fruit, 2-5 slices of bread (Baysal, 1992).

2.2 Nutrition of Workers at Work

Insufficient and malnutrition lowers the roduction rate of workers. When food needed to provide sufficient energy is not taken for the required job, physical strength and energy expenditure decreases for the production. Also failing to take required amount of protein, vitamins, and minerals sufficiently can prevents the formation of energy needed for the body, and reduces the resistance to diseases, and therefore, increases the absenteeism rate. Furthermore, it affects workers concentration and interest. This also rises accidents at work and occupational diseases. This relationship between the production rate and nutrition, has been demonstrated by scientific research in many parts of the world. Daily nutritional requirements are taken in three courses. If the worker"s daily energy requirement is being considered as 3,500 calories, 1750 calories are needed to be taken at work. Therefore, menu planning should be done accordingly (Baysal, 1992). The examinations shows that in many countries it is beneficial to provide nutrition opportunities for workers at businesses. In addition, in industrialized countries, when the number of workers exceed a certain level there is a legal obligation to have nutritional services. The cost of the nutrition service is paid by workers and employers (Bilge, 2009). Providing the daily food needed for the workers is the responsibility of the workplace. Providing individual nutrition education and lifestyle changes that are regulated by the choice of food increases the nutritional quality for the employees (Geaney et al., 2013). Moreover, Sozen (2009) states that "education on nutrition is an important issue for

employees and businesses, and reaching out to employees can change their approach" (Sözen et al., 2009). To provide adult health promotion education businesses are ideal. World Health Organization (WHO); A primary goal for health interventions in the region have declared their workplaces.

2.3 Menu Planning

When planning the menu on board, equipment that you have to work with staff should be carefully chosen to work. Welch pointed out in Mccafree"s article that " if you want to put anything on the menu, and to provide food and products, it does not mean that you have enough cooking area and sufficient staff. However, Wakeen stated that "to add frying dish on the menu, it is important to find out whether there is a fryer in the kitchen or not.". In another article, Douglas examined the role of social relations in the British labor and food for a wide range of food-based on a trio of primary structures regarding the social system. This structure is presented in the form of a warm service that is known as a proper meal, usually potatoes, including meat and two vegetables main course options. In the research, food combinations and the compatibility of menu items chosen score points were examined and analyzed, preference for food and food components or complete menus and overall acceptability of the individual components were examined and compared, and it was determined that the number is limited (Marshall and Bell, 2003).

In a study done on the nutritional status of workers in a textile factory; it was found that workers mostly consume products that are rich in carbohydrate for breakfast, lunch and dinner, protein the least and vitamins and mineral substances (Akdevelioğlu, 2012). For businesses located on land and for workers standing on their body 8 hours daily energy requirement is considered as 3,500 calories, half of it (1750 calories) will be covered with food given in the workplace as it has been calculated.

At home: 1/5 breakfast

At workplace: 2.5 / 5 in the workplace as lunch and snacks

At home: 1.5 / 5 will still be given at home as dinner.

The amount of energy should be given to using at least one kind of food from each food group should contain 3 or 4 course meal and bread. Dining energy as protein ratio must meet the necssary vitamins and minerals (Bilge, 2009). Furthermore, on the ship all the food must be provided on board and paid by the business and this will be costly. Too eat good and good quality of food the cost will be high. For Example; A serving of meat - a

mixture of vegetables or legumes food, a serving of rice or pasta, and eating a serving of vegetables or salad juice units, yogurt. Just like some days tea or lemonade with sugar is used, some days rice is given instead of a dessert. When potato is used as a vegetable for a dish, rice can be replaced by pasta. This kind of food can meet the necessary energy as well as protein, vitamins and minerals (Bilge, 2009). Ediz and Yağdıran (2009) states that menu planning is the basis for the work done in catering. Menu planning is a complicated process as it is done considering many factors, and it is a time consuming process. One of the most important factors affecting the productivity of workers is sufficient and balanced nutrition. If the number of workers are high, there should be food service in the workplace and about half of the nutritional needs of the workers should be provided. Workers; age, gender and weight, depending on their work, energy and nutrient needs should be calculated and based on these calculations, the diet plan should be prepared by a dietician (Bahriyeli, 2014). Çekal believes that individuals, families and communities knowledge is among the factors influencing the eating habits of nutrition. Sometimes survey should be administered to the workers on the food provided in their workplace. The kitchen staff should be trained and supervised. Training on nutrition should be given to workers (Çekal, 2008).

The following table shows the amount of energy that is given daily for 18-60 years depending on the extent of work required. (Kcal / day)

Table 2.1: Amount of energy based on the quality of work in calories

Quality of Work	**Men**	**Women**
LIGHT	2500	2100
MEDIUM	3000	2300
MEDIUM-HEAVY	3500	2600
HEAVY	4000	3000

Obesity has become a major problem with the spread of Western-style diet, and laziness that has been brought by modern life within the last decade. One out of every two men and one out of every five women smoke. In our country there are 16 million hypertensives with high blood pressure and only 40% are aware of this. High Density Lipoprotein (HDL) known as (good cholestrol) high cholesterol levels and triglyceride elevation is thought to be a risk in our society. CHD (Coronary Heart Disease) incidence between 1990-2005

showed an increase of 5-6% per year. This increase will rise to 7% between 2005-2015 period. Within the next 10 years annual growth rate is expected to decrease 2% and death from cardiovascular disease is expected to drop 30% according to Turkish Society of Cardiology. For Kultursay (2011) changes in the diet and lifestyle in developing and developed countries has led to an increase in the heart and vascular diseases. Yurttagul (1995) claims that faulty nutrition knowledge and habits is one of the most important causes of obesity that disrupts the quality of life of an individual and ruins it. Obesity develops when total energy intake is more than the amount spend in a long term process. Genetic predisposition, the ratio of the energy of the constituent nutrients, not eating correct portions at the right time, consumption of high fat carbohydrate foods, fast food, and not knowing how to cook, how to store the food, alcohol consumption, inappropriate feeding behaviors, such as inadequate water and fiber consumption are effective in the formation of obesit. However, as Çekal (2008) points out, changes in society lead to the changes in the eating habits. The rise in economic status of individuals often increases a tendency to prefer lower purified food instead of traditional high energy value of foods, and nutritional value of food. Martens et al. (2005) stated that the habit of nutrition that should be gained at an early age in the food selection is an important determinant in improving the quality of life and protecting health in later times.

2.4 Mass Feeding System and Its Importance

Nutrition is using the nutrients for the protection of health and growth to sustain a good life. Maslow (1943) theory claims that "nutrition is one of human needs", Mass Nutrition is defined outside people"s homes and food by the organizations providing such services, and service providing companies is called "Mass Nutrition Institutional Organizations" (MNIO) or "Mass Nutrition Systems" (MNS). Today, catering system is becoming an important sector in the number of service beneficiaries and any negative result that could lead to distruptions that may occur at any point in the service level (food poisoning, deaths, economic losses, customer dissatisfaction) plays an important role. When developed countries are being considered, it can be seen that all the quality and safety precautions in terms of the catering system are taken and this is leading to social and economic liability issues as a public health issue on the grounds is approached strongly. In Turkey, TBS appears as an important issue in public health and many uncertanities in some legal level as well as in industry and problems are being experienced. Hygiene can be defined as

something that can protect us from the environment that can damage the health, and all applications that are received to measure hygiene (Çekal, 2008).

2.5 Purchasing and Storing Food

Purchasing food from safe places create food safety and economic benefits when they are bought from safe places in accordance with the principles. Preserving the natural structure of food and maintaining their natural conditions by using suitable materials and techniques through this process is called storage. After the purchase of food, if the food is not stored properly loss of nutrients may occur and foods health may become distruptive. When food storage is inappropriate; physical changes, bacteria may become disrupted due to changes caused by molds and enzyme. Nutrients should be stored in appropriate containers, packaging, time and temperature. In this way, these nutrients which are stored and consumed at the right time retain both the nutritional value and the hygenic quality. Dry Storage is a storage for foods that are not potentially hazardous. There should be a very good ventilation in dry storage. For maximum shelf life foods should be stored in 10° C (McCurdy, 2009). Therefore, humidity for dry storage should be around 60-70% and should be done with humidity control and hygrometer. To ensure insect and rodent control, and to avoid cross-contamination; crumbs in food storage, garbage, debris should not be left like ruins, if anything is spilled, it should be cleaned immediately. Food should not touch the floor of the warehouse, and must be placed at least 15 cm above the ground. Racks should be placed at 5 cm from the wall. Chemical materials such as cleaning tools and detergent should definitely not take part in the storage area. Such materials should be stored in a remote location of the food labeling area. Cold storage is keeping the temperature of the cold storage below 4°C. This temperature is suitable for fresh meats, poultry, meat, fish, seafood, milk, dairy products, many fresh vegetables, fruits, and chilled food. The shelf life of many of these products which are among perishable foods can increase by cold storage because the cold slows or stops the growth of bacteria. If the food is in the cold environment, it means that food is trustable. Containers that are used in the stores must be made of non-absorbent material, must have a lid and must be clean. Due to odor absorbing properties dairy products have; onions, fish and other sea food should be stored separately. In order to prevent cross-contamination, foods should be stored separately. Animal meat, fish or other meat must not come into contact with dripping water.

2.6 Healthy Eating Index

Recently in developed and developing countries, in the perspective of over-nutrition and over the outcome of some nutrients and nutrient deficiency as well as in the identification of over-nutrition diet quality comprehensive approach has occured. Generally, traditional nutritional epidemiological studies examines the relationship between diet and the risk of chronic diseases, and focuses on one food or food group. However, this approach remains inadequate because of the complex nature of the diet and it should not be considered that to be consumed in the form of completely isolated from any food (Weinstein et al., 2004). Total diet quality, has been proposed as an alternative method for the detection of diet-disease relationships. Measurement of diet quality was the most important influence on health protection and disease prevention since it required a focus on nutrients. One of the methodological approach for measuring the total diet quality is to use a simple index score by separating the food components or building blocks (Newby et al., 2003).

Table 2.2: WHO's recommendations on nutrient intake levels (WHO, 2003)

	Lower Limit	**Upper Limit**
Total Fat	**15% of the Energy**	**30% of the Energy**
Saturated Fat	0% of the Energy	10% of the Energy
Polyunsaturated Fatty Acids	6% of the Energy	10% of the Energy
Dietary cholesterol	0 mg / day	300 mg / day
Total Carbohydrates	55% of the Energy	75% of the Energy
Complex carbohydrates	50% of the Energy	70% of the Energy
Diet pulp (as non-starch polissakkarit)	16 gr/day	24 gr/day
Total diet as pulp	27 gr/day	40 gr/day
Refined sugars	0% of the Energy	10% of the Energy
Protein	**0% of the Energy**	**15% of the Energy**
Salt		**5gr/day**
Vegetables and Fruits		**400gr/day**

WHO, developed a group of universal principles that regulate nutrient intake for the prevention of diseases linked to diet. In these principles, total fat, saturated fatty acids, polyunsaturated fatty acids, protein, total carbohydrates, complex carbohydrates and refined lower for the main nutrients including sugars and upper limits are determined. In

these proposals expressed as a percentage of total energy intake; lower limit, nutrient deficiency diseases that will create a minimum purchase amount represents the maximum amount of the upper limit of intake should not be exceeded in the prevention of chronic diseases.

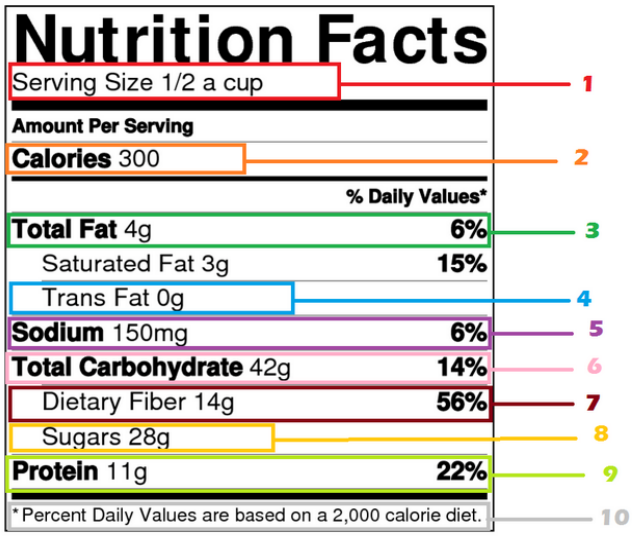

Figure 2.1: Food nutrition facts (WHO, 2003)

CHAPTER 3
QUESTIONNAIRE SURVEY

3.1 Data Collection Method

The research data were collected through a questionnaire using face to face interview and internet by sending questions survey to ships and companies. Research data questionnaire was used to collect in Appendix 1.

3.2 Preparation and Implementation of the Questionnaire

The questions on the paper were prepared in such a way that would help Turkish seafarers see if they are eating healthy and their style of choosing food. After obtaining the necessary permissions to perform the survey by questionnaire, the questionnares were collected one by one, and returned from shipping companies and ships. Approximately, it took 30 minutes for each participant to fill in the questionnaire for the face to face interview.

3.3 Reliability of Questionnaire

The questionnaire included multiple aspects of seafarer"s nutrition and status of the stores and it consisted of; the demographic items (such as age, sea and experience, education level, what people eat, the frequency of what they eat, and etc.), the assessment of variables to cause healthy life. It was also finalised by comments, remarks and thanks to the participants.

Seafarers should evaluate all variables related to their tasks based on affecting to increase their health and healthy living style by using A, B, C, and D. "(1) Never" through to "(5) Always". Herein, it is assumed that when the questionnaire score increased, the effect on health is increased. The questionnaire was analysed by using SPSS v.13.0.

Reliability of the questionnaire items was tested by Cronbach's Alpha. In the reliability analysis, "Cronbach's Alpha if item deleted" was used to determine items" effects and also to increase the reliability of the questionnaire. It was determined that all items had a powerful internal consistency, due to none of the items" alpha value was higher than total scale of the questionnaire. The questionnaire reliability was determined as $\alpha = .872$ and a few items in the questionnaire correlated with the total scale to a low degree (less than

0.30). The result of F Test (ANOVA) also revealed the questionnaire scale was significant [$\chi 2(70) = 12.57$, $p = .00$]. Reliability Statistics

Table 3.1: Reliability statistics

Cronbach"s Alpha	N of Items
,872	71

3.4 Demographics of Respondents

The results in Table 3.2 indicate the outcome of the questionnaires in terms of age. When the age distribution of 60 seafarers are examined, it can be understood that 33.3% are in the 19-29 age range, 21.7% is in the range of 30-39, and 45% those above 40. According to these the cumulative result of participants is under the age of below 50 (60%).

Table 3.2: Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	19-29	20	33,3	33,3	33,3
	30-39	13	21,7	21,7	55,0
	40-49	3	5,0	5,0	60,0
	50 and over	24	40,0	40,0	100,0
	Total	60	100,0	100,0	

Table 3.3: Duty on board

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Other	20	33,3	34,5	34,5
	3rd Eng	3	5,0	5,2	39,7
	Officer	7	11,7	12,1	51,7
	2nd Eng	3	5,0	5,2	56,9
	Chief Officer	7	11,7	12,1	69,0
	Chief Engineer	2	3,3	3,4	72,4
	Master	16	26,7	27,6	100,0
	Total	58	96,7	100,0	
Missing	9	2	3,3		
Total		60	100,0		

Duty; the participants were also asked to mark their duty on board and in table 3.3, 33.3% marked their duty as others, 26.7% of the participants were Captain, 11.7% were shift officer which was equal to the percentage of 1st Officer.

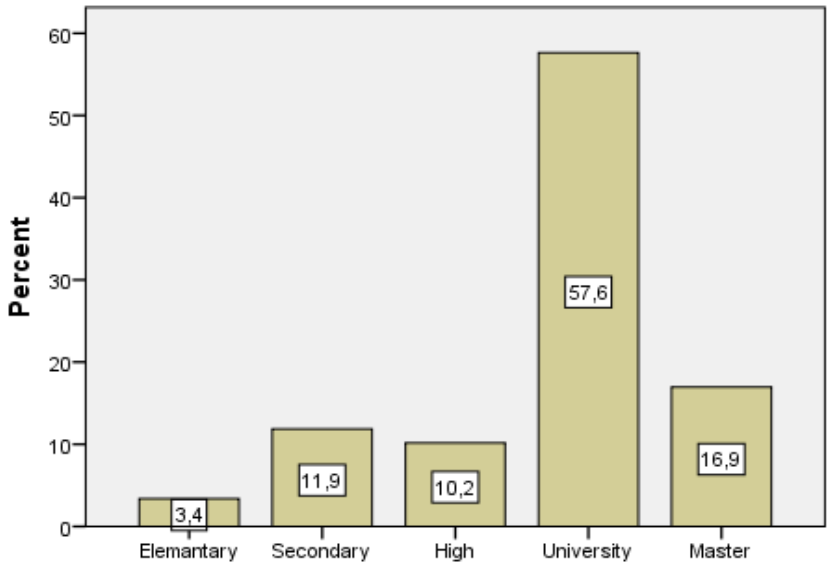

Figure 3.1: Education Level

Figure 3.1 shows that the educational status of the participants were high because 56.7% of the participants were a university graduate, 16.7% of them were university graduates with a master degree, 11.7% were secondary school graduate, 10.0% were high school graduate, and only 3.3% of the participants were primary school graduate. This shows that the education level of the people who involved in the survey were high according to general results.

Table 3.4: Alcohol Consumption

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	17	28,3	31,5	31,5
	1	4	6,7	7,4	38,9
	2	29	48,3	53,7	92,6
	4	3	5,0	5,6	98,1
	6	1	1,7	1,9	100,0
	Total	54	90,0	100,0	
Missing	9	6	10,0		
Total		60	100,0		

The above results shown in Table 3.4 points out the frequency of the participants drinking alcohol. Out of 60 participants only 54 participated answered this question (10%) . 2 of the participants said sometimes and had the highest percentage equal to 48.3 % in terms of the frequency of not drinking alcohol and the given answer was "NO" (28.3%) .

3.5 The amount of Water drank daily

Considering the responses given by the participants to the question " How much water do you drink every day?" only 18.3% of the participants were found to drink 15 cups of water a day, whereas 13.3% were drinking 10 cups a day, and 11.7% were drinking 8 cups a day, and this amount was decreasing for the other participants.

Table 3.5 shows the results of the frequency of fast food consumption. In other words how often these people (participants) eat fast food. As a result of the survey it has been found that 38.3 % of the participants were choosing to eat fast food once a week, 26.7 % of them once a month, 10.0% once in 2 months, 8.3 % 2-3 times a week, and 6.7 % of them 4-5 times a week.

Table 3.5: Fast Food

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	5	8,3	8,5	8,5
	1 time in 2 moths	6	10,0	10,2	18,6
	1 time in 1 month	16	26,7	27,1	45,8
	4-5 times in a week	4	6,7	6,8	52,5
	2-3 times in a week	5	8,3	8,5	61,0
	1 time in a week	23	38,3	39,0	100,0
	Total	59	98,3	100,0	
Missing	9	1	1,7		
Total		60	100,0		

Table 3.6 shows what people pay attention to on labels. A very high percentage of people which is 68.3% of the participants pay attention to expiration date, 11.7% of the participants said they dont pay attention to anything, and 10.0% of them indicated all which meant they look at the necessary permissions, expiration date, ingredients, and to the amount of energy and nutrients.

Table 3.6: What is paid attention to on labels

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	7	11,7	12,1	12,1
	expiry date	41	68,3	70,7	82,8
	permission of product	1	1,7	1,7	84,5
	contents	1	1,7	1,7	86,2
	energy, amount of food	2	3,3	3,4	89,7
	all	6	10,0	10,3	100,0
	Total	58	96,7	100,0	
Missing	9	2	3,3		
Total		60	100,0		

Table 3.7: Using diet products

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	33	55,0	55,9	55,9
	yes	25	41,7	42,4	98,3
	2	1	1,7	1,7	100,0
	Total	59	98,3	100,0	
Missing	9	1	1,7		
Total		60	100,0		

When the answers given by the participants are examined 55.0% of them gave the answer "No" for the diet products, whereas 41.7 % of them said "Yes", and only 1.7 % of them did not say anything at all.

Snack; 71.7% of the participants are having snacks, 5.0% has snack once, 11.7% of the participants twice, and 11.7% of the participants have snacks consume snacks three times or more a day.

The results show that 35.0% of the participants did not skip any meals in between, %40 stated as sometimes, and 25% never skipped any meals. With a percentage of 35% the generally skipped meal is at lunch time, 25% in the morning, and the results showed that no meals were skipped in the evening. With a percentage of 31.7% the main reason for skipping meal was stated as lack of time. Moreover, the other reasons were; with 31.7% anorexia, 3.3% waking up late, 3.3% not being ready on time, and 8.3% is lacking as a habit. Among the reasons mentioned above there is no place for economic concern.

Table 3.8 shows the results on the frequency of diet products usage. 40.0% of the participants answers were “No”, 31.7% of the participants said “sometimes”, 8% often, and 5% of them said “everyday”.

Table 3.8: Frequency of Dietary Products Usage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	24	40,0	44,4	44,4
	sometimes	19	31,7	35,2	79,6
	often	8	13,3	14,8	94,4
	everyday	3	5,0	5,6	100,0
	Total	54	90,0	100,0	
Missing	9	6	10,0		
Total		60	100,0		

38.3% of the participants gave the answer “yes” which meant they do exercise, and same percentage of people (25.0%) answered this as “no” and “sometimes” which showed they were not really engaging in it.

Table 3.9: Engaging in any physical activity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	15	25,0	28,3	28,3
	yes	23	38,3	43,4	71,7
	sometimes	15	25,0	28,3	100,0
	Total	53	88,3	100,0	
Missing	9	7	11,7		
Total		60	100,0		

Table 3.10: Type of activity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	walking	15	25,0	48,4	48,4
	running	8	13,3	25,8	74,2
	treadmill	2	3,3	6,5	80,6
	swimming	4	6,7	12,9	93,5
	other	2	3,3	6,5	100,0
	Total	31	51,7	100,0	
Missing	9	29	48,3		
Total		60	100,0		

Table 3.10 shows that 25% of the participants were highly doing walking, 13.3% of them were running, 6.7 % of them were engaging in the activity of swimming, and the same percentage of participants (3.3 %) were using a treadmill and other type of activities.

Table 3.11: Frequency of the activity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 day in a week	13	21,7	33,3	33,3
	2 days in a week	5	8,3	12,8	46,2
	3 days in a week	10	16,7	25,6	71,8
	4 days in a week	3	5,0	7,7	79,5
	5 days in a week	3	5,0	7,7	87,2
	everyday	5	8,3	12,8	100,0
	Total	39	65,0	100,0	
Missing	9	21	35,0		
Total		60	100,0		

Table 3.11 shows that out of 60 participants 51 participants replied. Therefore, the above results show that 21.7% of the participants do activity once a week, 16.7% of them do activity 3 times a week, 8.3% of the participants do activity 2 times a week, and the same percentage of people said everyday.

Table 3.12: Duration of the activity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	30 minutes	5	8,3	12,8	12,8
	45 minutes	8	13,3	20,5	33,3
	1 hour	18	30,0	46,2	79,5
	1.5 hours	4	6,7	10,3	89,7
	2 hours	3	5,0	7,7	97,4
	3 hours and over	1	1,7	2,6	100,0
	Total	39	65,0	100,0	
Missing	9	21	35,0		
Total		60	100,0		

Table 3.12 reflects the duration of action performed by participants every time they engage in any activity. As the table points out 30% of the participants do an hour exercise, 13.3% of the participants do 45 minutes exercise, 8.3% of them engage in 30 minutes exercise,

6.7% of them do 1.5 hours exercise, 5.0% do for 2 hours, and 1.7% of them do exercise for 3 hours or even more. Moreover, these people also listed the number of days, months, and years they have been doing sports. Amazingly although some of them said, they have been doing it for years, according to the results, most of them had newly started and it wasnt that long since they engaged in any type of sport could be seen.

Table 3.13 : Milk drunk

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	11	18,3	18,6	18,6
	once a month	7	11,7	11,9	30,5
	1 in 15 days	5	8,3	8,5	39,0
	1-2 times in a week	10	16,7	16,9	55,9
	3-4 times in a week	3	5,0	5,1	61,0
	every other day	7	11,7	11,9	72,9
	everyday	16	26,7	27,1	100,0
	Total	59	98,3	100,0	
Missing	9	1	1,7		
Total		60	100,0		

Table 3.13 shows the amount of milk drank by the participants and the frequencies. As understood 26.7% of the participants are drinking milk everyday, 18.3% of the participants do not drink milk, 16.7 % of them drink milk 1-2 times a week, 8.3% once in 15 days, and 5% stated as 3-4 times a week.

Table 3.14: Yoghurt eaten

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	3	5,0	5,0	5,0
	once a month	2	3,3	3,3	8,3
	1 in 15 days	1	1,7	1,7	10,0
	1-2 times in a week	17	28,3	28,3	38,3
	3-4 times in a week	12	20,0	20,0	58,3
	every other day	11	18,3	18,3	76,7
	everyday	14	23,3	23,3	100,0
	Total	60	100,0	100,0	

There were different frequencies written on the questionnare which were asked to be marked by the participants taken part in the survey. 28.3% of the participants stated that they eat yogurt at least 1-2 times a week, 23.3% of the participants said everyday, 20.0% at least 3-4 times a week, 18.3% once in every two days, 1.7% once in 15 days, 5.0% said they dont eat yogurt, and 3.3% of them pointed out as once a month.

Table 3.15: Cheese consumption

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	2	3,3	3,3	3,3
	once a month	2	3,3	3,3	6,7
	1-2 times in a week	5	8,3	8,3	15,0
	3-4 times in a week	3	5,0	5,0	20,0
	every other day	5	8,3	8,3	28,3
	everyday	43	71,7	71,7	100,0
	Total	60	100,0	100,0	

Results in Table 3.15 shows that a very high percentage of participants (71.1%) consume cheese everyday. 8.3% of the participants gave the answer 1-2 times a week, and every other day, 5.0% 3-4 times a week, and 3.3 % of participants are seen that thet do not consume cheese, or the same percentage of people said once a month.

Table 3.16: Red meat consumption

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 in 15 days	3	5,0	5,0	5,0
	1-2 times in a week	19	31,7	31,7	36,7
	3-4 times in a week	21	35,0	35,0	71,7
	every other day	13	21,7	21,7	93,3
	everyday	4	6,7	6,7	100,0
	Total	60	100,0	100,0	

Table 3.16 shows that 35.0% of people consume red meat at least 3-4 times a week, 31.7% of them 1-2 times a week, 21.7% every other day, 6.7% every day, and 5.0% once in 15 days.

Table 3.17: Fish consumption

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	1	1,7	1,7	1,7
	once a month	9	15,0	15,0	16,7
	1 in 15 days	18	30,0	30,0	46,7
	1-2 times in a week	25	41,7	41,7	88,3
	3-4 times in a week	2	3,3	3,3	91,7
	every other day	5	8,3	8,3	100,0
	Total	60	100,0	100,0	

The frequency of fish consumption consumed by participants is shown in Table 3.17. As it is obvious from the results 41.7% of the participants can be seen consuming fish 1-2 times a week, 30.0% once in 15 days, 8.3% every other day, 3.3% 3-4 times a week, and 1.7% of them said they dont eat fish.

Table 3.18: Meat products

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	10	16,7	16,7	16,7
	once a month	5	8,3	8,3	25,0
	1 in 15 days	10	16,7	16,7	41,7
	1-2 times in a week	24	40,0	40,0	81,7
	3-4 times in a week	3	5,0	5,0	86,7
	every other day	4	6,7	6,7	93,3
	everyday	4	6,7	6,7	100,0
	Total	60	100,0	100,0	

The results (Table 3.18) provided above 40.0% of the participants consume unhealthy meat products 1-2 times a day, same percentage of people (16.7%) answered as they do not eat unhealthy meat products, and once in 15 days. 6.7% of them stated as every other day, and every day. 5% of them said 3-4 times a week.

Table 3.19 shows the results of the frequency of people consuming egg. 46.7% have stated that they consume egg 1-2 times a week, 18.3% of the participants consume egg every other day, 11.7% of them 3-4 times a week, 6.7% said once in 15 days, and 3.3% of the participants have said they don”t consume or they consume once in a month.

Table 3.19: Egg consumption

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	2	3,3	3,3	3,3
	once a month	2	3,3	3,3	6,7
	1 in 15 days	4	6,7	6,7	13,3
	1-2 times in a week	28	46,7	46,7	60,0
	3-4 times in a week	7	11,7	11,7	71,7
	every other day	11	18,3	18,3	90,0
	everyday	6	10,0	10,0	100,0
	Total	60	100,0	100,0	

Legumes; 43.3% of the participants consume legumes once or twice a week, 21.7% consume 3-4 times a week, 10% every other day, 8.3% everyday, and 1.7% consume once a month.

Bread; 78.3% of the participants have stated that they consume bread everyday, 6.7% of the participants have said every other day, and same percentage of them said they dont eat bread.

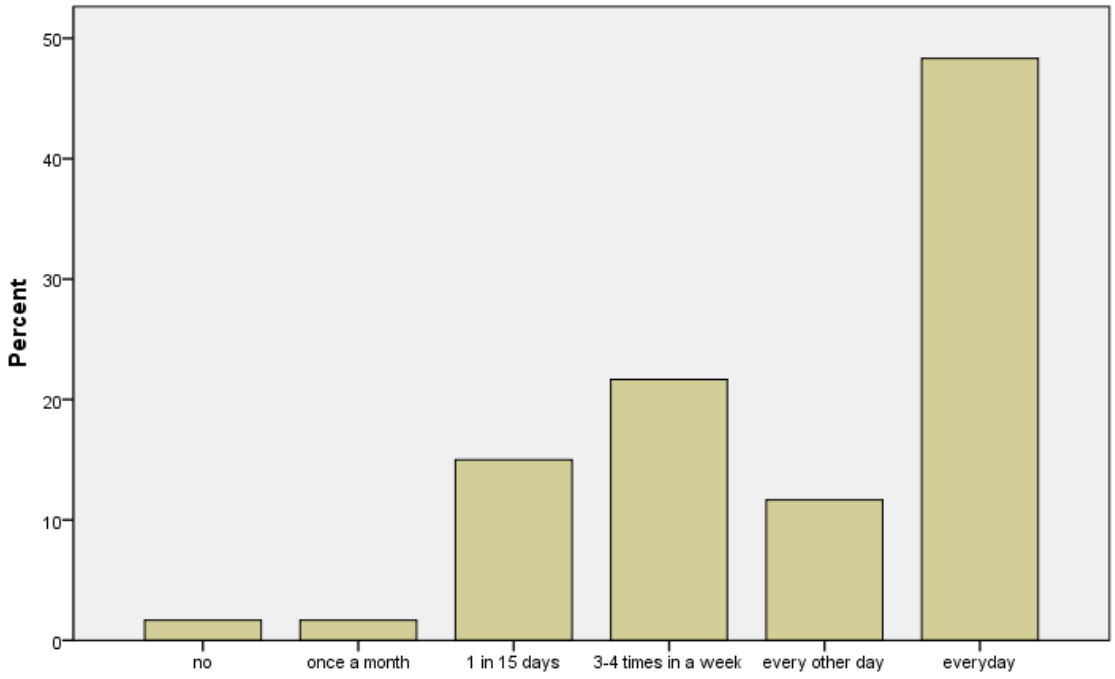

Figure 3.2: Vegetable consumption

In Figure 3.2, it can be seen that almost 50% of the participants consume vegetables everyday. About 23.0% of them consume 3-4 times a week, 15.0% 1-2 times a week, 12.0% every other day,and 2 percent of the participants have said once a month or they dont. Besides consuming vegetables, participants were also asked to give the frequency of their fruit consumption, and 51.7% of the participants have stated that they eat fruit everyday, 16.7% 1-2 times a week, 10.0% 3-4 times a week, 8.3% once in 15 days, 3.3% once in a month, and 1.7% have said that they dont eat fruit at all.

Chocolate, Waffles, Confectionery consumption; 25% of the participants do not eat at all, 21.7% consume these once in 15 days, 15% every day, 13.3% 3-4 times a week, 11.7% 1-2 times a week, and 5.0% consume once a month.

Desserts (dairy desserts, pastry); according to the given responses 35 % of the participants consume desserts 1-2 times a week, 26.7% consume once in 15 days, 16.7% once in a month, 10% of the participants do not consume desserts, 8.3% every other day, and 1.7% of the participants said they consume every day and 3-4 times a day.

Pastry, cakes, cookies and etc.; 33.3% of the participants eat pastry, cakes and cookies 1-2 times a week, 25% eat once in 15 days, 16.7% once a month, 10.0% do not eat these, 6.7% eat 3-4 times a week, 5.0% every day, and 3.3 % eat every other day.

Fast food (hamburger, and etc); 28.3% of the participants eat 1-2 times a week, 26.7% once in 15 days, 25.0% of the participants eat every day, 8.3% stated their views by saying they dont eat these, 6.7 % of them said they eat 3-4 times a week, and 5.0% eat every other day (Table 5.19).

Table 3.20: Fast food

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	5	8,3	8,3	8,3
	once a month	15	25,0	25,0	33,3
	1 in 15 days	16	26,7	26,7	60,0
	1-2 times in a week	17	28,3	28,3	88,3
	3-4 times in a week	4	6,7	6,7	95,0
	Total	3	5,0	5,0	100,0
	everyday	60	100,0	100,0	

Acidy drinks (coke, and soda); 30.0% of the participants said they dont drink any of these drink types, 21.7% said they drink 1-2 times a week, 15.0% once in 15 days, 13.3% once a month, 8.3% drink every day, 6.7% of the participants drink 3-4 times a week, 5.0% of the participants drink one every other day.

Energy drinks; 56.7% of the participants do not consume energy drink, 20.0% consume these types of drinks once in 15 days, 16.7% once a month. The other participants have the low percentage.

Other participants who participated in the survey gave their responses to reflect their views of the satisfaction they had for breakfast on board. 53.3% of the participants were happy about the breakfast they received on board, 18.3% of the participants strongly agreed and stated that they were happy, 11.3% were uninflected and did not know what to say, 5.0% of them said strongly disagreed and disagreed and found breakfast unpleasant. The results reflect that regarding their lunch 64.3% of the participants were satisfied and they agreed that the given lunch was pleasing, 19.6% of them strongly agreed, 8.9% did not state their views, 5.4% disagree about the given lunch as they probably not found it satisfying, and 1.8% of them strongly disagreed about the given food. 53.6% of the participants were happy with the dinner, 28.6% strongly agreed that the dinner given was satisfying, 12.5% did not state an answer, 3,6% of the participants did not agree with this, and 1.7 of the participants strongly disagreed.

Table 3.21: Satisfaction of stores and planning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completely disagree	2	3,3	3,6	3,6
	disagree	3	5,0	5,4	8,9
	uncommitted	8	13,3	14,3	23,2
	agree	31	51,7	55,4	78,6
	Completely dagree	12	20,0	21,4	100,0
	Total	56	93,3	100,0	
Missing	9	4	6,7		
Total		60	100,0		

51.7 % of the participants were found to be happy with the planning and the supply of the stores, and only 3.3% of the participants were displeased and the others were in between agreeing and disagreeing in different percentages.

More than 50% of the participants replied to the question; “Are you pleased with the food products you get on holidays or at weekends?” by saying “Yes”, aqnd only about 3% of them have said “they dont agree with it”. Moreover, they were mostly happy with the food they were given on special days, and mostly they were happy about the variety of food products given to them.

General thoughts on how the food should be stored on board; When food products are chosen and are bought for the ship, firstly, seafarer”s should be careful about the hygenic and health issues of the products. Secondly, they should consider the quality of the products and they should order, and eat the products according to their expiry dates. Therefore, the first ones that will go should be eaten first because approximate date to eat fresh fruit and vegetables is between 15-20 days. Since then, it faces with distortion. To avoid this situation making a careful plan is very crucial matter to be considered.

CHAPTER 4

RESULTS AND DISCUSSION

According to the questionnaire and the responses given by the partcipants, it seems that in general, Turkish Seafarers are living a healthy life on board. They are trying to keep themselves away from the unhealthy meals and drinks. Despite the fact that the questionnaires were mostly filled in by participants who were 50 and above, their education status was high, and mostly married, they were having 3 courses of meal a day. Due to some reasons such as; not having enough time, waking up late, not having an appetite, not being ready they were missing some part of the courses either in the morning or in the evening, but surprisingly not in the evening according to the general responses given. However, among these; losing weight, and economic factors were not among the reasons as to why they missed some courses during the day. The good thing among their answers was in general, they stated that they don”t get up late at night time to eat anything, only a low percentage of them have said they do and this is only sometimes. Nearly half of the participants were smoking a cigarette and less than the half wasnt, and a low percentage has stated that they used to but they gave it up. Despite the fact the participants were smoking mostly, they werent consuming alcahol which was something good for their health. The most amount of water they drank a day was 20 cups, but a lot of people have stated 15 and some said that they do not even drink water. Nearly all of the participants have stated that they drink tea, and mostly they said they drink black tea, not green tea which is even healthier. They also stated that they drink turkish coffee as much as normal coffee. Fast food was also among their preferences and the frequency they eat shows they tend to like it. Moreover, the given responses show they dont prefer diet products and they are trying to stay away from salt. About 45% of the participants said they are taking part in the physical activities such as; running, walking, swimming, and etc. However, the frequency of how ofthen they do was not very pleasing as they should have been doing more frequently to be healthy and to live a healthy life. Milk, yoghurt, and cheese were mostly eaten daily by most of the participants, as well as turkey, chicken, red meat, and fish. However, sausages and bacons werent mostly preferred by them. In general, they were trying to keep themselves away from desserts, chocolates, waffles, pastries, cakes, fast food, acidy drinks, and alcohol, and they were trying to consume more fruit, vegetables, and other healthy products instead of the unhealthy ones.

CHAPTER 5

CONCLUSIONS

It is the first attempt to understand Turkish Seafarer"s feeding style. For this reason, question survey which has a high reliability was created and sent to the ship. With this in mind, some information have been obtained to help them gain better eating habits. In order to do this, how they fed and whether they are fed in accordance to international rules has been understood, and fitness has been advised them to do regularly as part of their health requirement. As part of healthy life this thesis shows us anyone who is willing to live healthy on board should start first by gaining the habit of eating adequately which means; right nutritions, at the right time, and in the right amount. However, the working conditions and the fact that they are on board and may not have the right type of food to eat have not been denied, and all the suggestions have been made accordingly, by thinking all these difficulties as well. As a result of the studies done, it was also determined that eating habits are affected by genetic, gender, social, cultural, religious, ethnic, economic, emotional and psychological factors. So, it is believed that if a person has a good guide and knows what and when to eat this can enable them choose the right type of food. The question that this thesis aims to find is what is needed to eat on the ship and what would be the best dieting? Since we live in the world in which day by day individuals are becoming more aware and conscious of what is needed to be done for a balanced diet and are becoming more interested in products that contain energy and nutrients as well as lifestyle products for appropriate health that should taken daily. Seamen must take extra precautions to keep their health and well-being.

Therefore, healthy seamen should choose a balanced menu which consists of right amount of protein, carbonhydrates, and oil to eat, instead of eating unhealthy ones such as; alcohol, pastries, cakes, sausages, cigarette, drinks with too much cafein in it, and etc. that would make them put weight on their body. Besides, choosing the right meal they should also take all vitamins necessary for their bodies. These can be seen from the questionnaire that would be handed in with this paper to support my point of view.

I strongly believe that this thesis would be a good guide to all seafarers as to how they should live their lives to be healthy and to stay healthy.

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APPENDIX

QUESTIONNAIRE SURVEY

TÜRK GEMİADAMLARININ BESLENME ALIŞKANLARININ İNCELENMESİ ÜZERİNE NİTEL BİR ARAŞTIRMA

Sayın Katılımcı,

Bu anket, Yakın Doğu Üniversitesi Deniz Ulaştırma İşletme Mühendisliği Yüksek Lisans Tezinde kullanılmak üzere planlanmıştır. Bu amaca yönelik olarak hazırlanan sorulara vereceğiniz doğru ve samimi cevaplar; tezin daha güvenilir ve doğru sonuçlara ulaşmasını sağlayacaktır. Vereceğiniz bilgiler gizlidir, tez dışında hiçbir yerde kullanılmayacaktır. İlginizden dolayı şimdiden teşekkür ederim.

Uz.Yol.Kpt. Timur BOŞNAK

Öğretim Görevlisi, Denizcilik Fakültesi

Yakın Doğu Üniversitesi

A. GENEL BİLGİLER:

1. Yaşınız (yıl): a.19-29 b.30-39 c.40-49 d.50 ve üzeri

2. Gemiadamı Yeterliliğiniz: ……..……..

3. Gemideki Göreviniz: ……..…….

4. Eğitim Durumunuz: a. İlkokul b. Ortaokul c. Lise d. Üniversite e. Lisansüstü

5. Medeni Durumunuz: a. Bekar b. Evli c. Eşinden boşanmış/Eşi vefat etmiş

B. BESLENME ALIŞKANLIKLARI:

6. Günde kaç öğün yemek yersiniz? a. Ana öğün ( ) b. Ara Öğün ( )

7. Öğün atlar mısınız? a. Evet ( ) b. Hayır ( ) c. Bazen ( )

““Evet”“ veya ““Bazen”“ ise genelde hangi öğünü atlarsınız?

a. Sabah ( ) b. Öğle ( ) c. Akşam ( )

8. Öğün atlama nedeniniz nedir? (En fazla 3 seçenek işaretleyiniz)

a. Zaman yetersizliği b. Canı istemiyor,iştahsız c. Geç kalıyor d. Hazırlanmadığı için

e. Zayıflamak istiyor f.Alışkanlığı yok g.Ekonomik nedenler h. Atıştırma ı. Öğün düzensizliği

7.Gece kalkıp bir şeyler yer misiniz?
1.Hayır 2.Evet 3.Bazen

11. Sigara kullanıyor musunuz ?

a. Hayır, hiç içmedim ( ) b. İçtim ve bıraktım ( ) c. Evet, içiyorum ( )

12. Cevabınız ““Evet”“ ise ne sıklıkla tükettiğinizi belirtiniz.

a. Her gün b. Gün Aşırı c. Haftada 1-2 d. Haftada 3-4 e. 15 günde bir f. Ayda 1

21. Düzenli olarak alkol kullanıyor musunuz ?

1) Hayır 2) Evet …… kez /hafta …….. kez / ay c. Bazen( )

13.Günde kaç bardak su içiyorsunuz?

Miktar: …… su bardağı

14. Çay içer misiniz? a. Evet **b.** Hayır

15. Cevabınız ““Evet”“ ise hangi tür çayları tüketirsiniz. (birden fazla şık işaretlenebilir)

a. Siyah Çay **b.** Yeşil çay **c.** Bitkisel Çay

Miktar: a. ……Çay bardağı b. ……Su bardağı c. ……Kupa/gün

16. Kahve içer misiniz? a. Evet **b.** Hayır

17. Cevabınız ““Evet”“ ise hangi kahve türlerini tüketirsiniz. (birden fazla şık işaretlenebilir)

a. Türk Kahvesi **b.** Neskafe **c.** Diğer(……..)

Miktar: a. ……Çay bardağı b. ……Su bardağı c. ……Kupa/gün

18.Fast-food tüketim sıklığınızı işaretleyiniz.

a. Hiç **b.** Haftada 1 **c**. Haftada 2-3 **d**. Haftada 4-5

e. Her gün **f**. Ayda 1 **g**. 2 ayda 1

19.Genellikle fast -food olarak ne tüketirsiniz?

1. Döner ( ) 2. Kentacky/ patates ( ) 3.Lahmacun/pide çeĢitleri ( ) 4. Pizza ( )

5. Köfte/ hamburger ( ) 6. Salamlı/ Sucuklu sandüviç ( )

20.Sofrada yemeklerin tadına bakmadan tuz serpme alışkanlığınız var mıdır?

a. Evet b. Hayır

21.Besin etiketlerini okur musunuz?

1. Evet 2. Hayır

22.Cevabınız evet ise etikette nelere dikkat edersiniz?

a.Son kullanma tarihi **b**.Tarım ve Köy İşleri Bakanlığı”nın izni **c**.İçindekiler kısmı

d.Enerji ve besin öğesi miktarı **e.**Hepsi

23.Diyet Ürünleri (yağı, şekeri-enerjisi, tuzu azaltılmış) kullanır mısınız?

a.Evet **b**. Hayır

24.Cevabınız evet ise diyet ürün kullanım miktarınızı belirtirmisiniz?

a.Arasıra **b.** Sıksık **c.** Hergün

C. FİZİKSEL AKTİVİTE DURUMU

25. Düzenli olarak fiziksel aktivite yapıyor musunuz ? 1) Evet 2) Hayır

26. Cevabınız evet ise düzenli yaptığınız aktivite türü :

□ yürüyüş

□ koşma (açık havada)

□ aerobik / step

□ koşu bandı, bisiklet gibi aletlerle yapılan aktiviteler

□ yüzme

□ diğer (belirtiniz) .....

27. Yaptığınız aktivitenin sıklığı :

□ haftada 1 gün □ haftada 2 gün □ haftada 3 gün

□ haftada 4 gün □ haftada 5 gün □ haftada 6 gün □ her gün

28. Bir kerede yaptığınız aktivite süresi :

□ 30 dk □ 45 dk □ 1 saat □ 1 buçuk saat

□ 2 saat □ 2 buçuk saat □ 3 saat ve üzeri

29. Ne kadar süredir bu aktivite veya aktiviteleri yapıyorsunuz?

….……ay ….……yıl

D. BESİN TÜKETİM SIKLIĞI FORMU

Besinler	Her gün	Gün aşırı	Haftada 1-2 kez	Haftada 3-4 kez	15 günde bir	Ayda 1	Tüketmiyorum
Süt							
Yoğurt							
Peynir							
Kırmızı et							
Tavuk – hindi							
Balık							
Et ürünleri (salam, sucuk, vb.)							
Yumurta							
Kurubaklagiller							
Ekmek							
Pirinç, bulgur, makarna							
Sebze							
Meyve							

Şekerli besinler (bal, pekmez, reçel, vb.)							
Çikolata, gofret, Şekerleme							
Tatlılar (sütlü tatlı, hamur tatlıları)							
Poğaça, kek, kurabiye, vb.							
Fast-food (hamburger, lahmacun, döner)							
Gazlı içecekler (kola, gazoz, vb.)							
Enerji içecekleri							
Alkollü içecekler							
Diğer							

E. Gemideki Kumanya ve Yemeklere İlişkin Görüşler

		Kesinlikle katılmıyorum (1)	**Katılmıyorum (2)**	**Çekimser (3)**	**Katılıyorum (4)**	**Kesinlikle katılıyorum (5)**
1	Gemideki kahvahtı öğününden memnunum.					
2	Gemideki öğle öğününden memnunum.					
3	Gemideki akşam öğününden memnunum.					
4	Gemideki ara öğünlerden memnunum.					
5	Gemideki ana yemek çeşitliliğinden memnunum.					
6	Haftasonu ve tatil günlerinde çıkan yemek ürünlerinden memnunum.					
7	Özel günlerde hazırlanan yemek ürünlerinden memnunum.					
8	Beslenme ürün ve maddelerin tazeliğinden memnunum.					
9	Beslenme ürün ve maddelerin çeşitliliğinden memnunum.					
10	Kumanya planlaması ve tedariğinden memnunum.					
11	Kumanyanın kullanımından memnunum.					
12	Kumanyanın saklanmasından memnunum.					
13	Kumanyanın hijyen durumundan memnunum.					
14	Gemideki yemek, beslenme ürün ve maddelerinin hijyenik sunuluşundan memnunum.					
15	Gemideki yemek, beslenme ürün ve maddelerinin doyuruculuğundan (servis miktarından) memnunum.					

F. Kumanya Planlama, Tedarik, Kullanma ve Saklanması ile İlgili Görüşler (lütfen sadece ilgili personel doldursun).

1. Kumanya planlamasında dikkat ettiğiniz hususları maddeler halinde özet ifade edebilir misiniz?

-
-
-
-
-

2. Kumanyanın alımı ve gemiye yüklenmesi ve kumanyalığa yerleşimine kadar size göre en önemli unsurlar nelerdir?

-
-
-
-
-

3. Kumanyanın kullanımı ile ilgili olarak nelere dikkat edersiniz, size göre en önemlileri nelerdir?

-
-
-
-
-

4. Kumanyın saklanması/depolanması ile ilgili dikkat edilmesi gereken en önemli unsurlar nelerdir?

-
-
-
-
-

G. Genel olarak bu konu ile ilgili görüşleriniz nelerdir, veya ankete eklemek/bize iletmek istediğiniz görüşleriniz nelerdir.

-