DETERMINATION OF NURSE'S KNOWLEDGE ABOUT ESOPHAGEAL CANCER AND RISK FACTORS IN SOMALI AND TURKEY

Zahra SALAD NAGEYE

2021
MASTER THESIS
NURSING SCIENCE

Thesis Advisor
Assoc.Prof.Dr.Işıl IŞIK ANDSOY
Assoc.Prof. Dr. Ayfer BAYINDIR ÇEVİK

DETERMINATION OF NURSE'S KNOWLEDGE ABOUT ESOPHAGEAL CANCER AND RISK FACTORS IN SOMALI AND TURKEY

Zahra SALAD NAGEYE

T.C.
Karabuk University
Institute of Graduate Programs
Department of Nursing Science
Prepared as
Master Thesis

Thesis Advisor
Assoc.Prof.Dr.Işıl IŞIK ANDSOY
Assoc.Prof. Dr. Ayfer BAYINDIR ÇEVİK

KARABUK
July 2021

I certify that in my opinion the thesis submitted by Zahra SALAD NAGEYE titled "DETERMINATION OF NURSE'S KNOWLEDGE ABOUT ESOPHAGEAL CANCER AND RISK FACTORS IN SOMALI AND TURKEY" is fully adequate in scope and in quality as a thesis for the degree of Master of Science.

Assoc.Prof.Dr.Işıl IŞIK ANDSOY .....
Thesis Advisor, Department of Nursing

This thesis is accepted by the examining committee with a unanimous vote in the Department of Nursing as a Master of Sciencethesis. July, 2021

Examining Committee Members (Institutions)	Signature
Chairman : Prof. Dr. Asiye GÜL (Istanbul Kültür Uni)	.....
Member : Assoc. Prof. Dr. Işıl IŞIK ANDSOY(KBU)	.....
Member : Assoc. Prof. Dr. Ayfer BAYINDIR ÇEVİK (BU)	.....
Member : Assist. Prof. Dr. Gulcan KAR ŞEN (KBU)	.....
Member :Assist. Prof. Dr. Hale TOSUN (Sağlık Bilimleri Üni)	……..

The degree of Master of Scienceby the thesis submitted is approved by the Administrative Board of the Institute of Graduate Programs, Karabuk University.

Prof. Dr. Hasan SOLMAZ .....
Director of the Institute of Graduate Programs

“I declare that all the information within this thesis has been gathered and presented in accordance with academic regulations and ethical principles and I have according to the requirements of these regulations and principles cited all those which do not originate in this work as well.”

Zahra SALAD NAGEYE

ABSTRACT

M. Sc. Thesis

DETERMINATION OF NURSE'S KNOWLEDGE ABOUT ESOPHAGEAL CANCER AND RISK FACTORS IN SOMALI AND TURKEY

Zahra SALAD NAGEYE

Karabuk University
Institute of Graduate Programs
The Department of Nursing Science

Thesis Advisor:
Assoc.Prof.Dr.Işıl IŞIK ANDSOY
Assoc.Prof. Dr. Ayfer BAYINDIR ÇEVİK
June 2021, 82 pages

Esophageal cancer remains an important public health problem worldwide. There is a gap in the literature about esophageal cancer in Somalia and Turkey. A descriptive cross sectional explanatory study was carried to evaluate the determination of nurse's knowledge about esophageal cancer and risk factors in Somali and Turkey. The study was carried out at Banadir Government Hospital in Mogadishu- Somalia and Karabuk University Research and Training Hospital in Karabük- Turkey from 3rd February to the 28th September 2020. Data were collected using the self-designed questionnaire. The data were analyzed by using the IBM SPSS 20 program (SPSS Inc., Chicago, IL, USA). A total of 293 nurses (146 Turkish and 147 Somalian nurses) were included. In this study, it was found that a differences between the education levels of nurses working in Turkey and in Somalia ($p<0.001$). The study revealed that there was a statistically significant differences between the nutrition habits of Turkish nurses and Somalian nurses ($p<0.01$). 2.1% of Turkish nurses had esophageal cancer in their first-degree relatives, and 25.9% of Somalian nurses had esophageal cancer in their first-degree relatives ($p<0.001$). Addition, it was found

that a difference between the esphageal cancer risk factors, treatment and total knowledge scores in Turkish and Somalian nurses ($p<0.001$). However, there was no statistical differences between two groups in items of diagnosis and screening knowlege scores ($p=0.755$). Somalian nurses knowledge scores about risk factors and treatment was higher than the Turkish nurses ($p<0.001$). Considering the increasing prevalence of esophageal cancer in the world, we recommend organizing training programs to nurses in regard to increase the knowledge on esophageal cancer risk factors, diagnosis, screening and treatment modalities.

Key Words : Esophageal cancer, Nurses knowledge, Risk factor.
Science Code : 1032.08

ÖZET

Yüksek Lisans Tezi

HEMŞİRELERİN ÖZAFAGUS KANSERİ VE RİSK FAKTÖRLERİNE YÖNELİK BİLGİ DURUMLARININ BELİRLENMESİ: TÜRKİYE- SOMALİ ÖRNEĞI

Zahra SALAD NAGEYE

Karabük Üniversitesi
Lisansüstü Eğitim Enstitüsü
Hemşirelik Anabilim Dalı

Tez Danışmanı:
Doç.Dr. Işıl IŞIK ANDSOY
Doç.Dr Ayfer BAYINDIR ÇEVİK
June 2021, 82 sayfa

Özofagus kanseri dünya çapında önemli bir halk sağlığı sorunu olmaya devam etmektedir. Özofagus kanseri ile ilgili literatürde Somali ve Türkiye'de bir boşluk bulunmaktadır. Çalışma, Somali ve Türkiye'de hemşirelerin özofagus kanseri ve risk faktörlerine yönelik bilgilerinin değerlendirilmesi amacıyla tanımlayıcı kesitsel olarak yapıldı. Çalışma, Somali'de Mogadişu'daki Banadir Devlet Hastanesi'nde ve Türkiye'de Karabük Üniversitesi Araştırma ve Eğitim Hastanesi'nde 3 Şubat-28 Eylül 2020 tarihleri arasında gerçekleştirildi. Veriler anket kullanılarak toplandı. Veriler, IBM SPSS 20 programı (SPSS Inc., Chicago, IL, ABD) kullanılarak analiz edildi. Çalışmaya 146 Türk ve 147 Somalili hemşire olmak üzere toplam 293 hemşire dahil edildi. Çalışmada Türkiye'de ve Somali'de çalışan hemşirelerin eğitim düzeyleri arasında fark bulundu ($p<0,001$).

Araştırmada Türk hemşirelerin beslenme alışkanlıkları ile Somalili hemşirelerin beslenme alışkanlıkları arasında istatistiksel olarak anlamlı bir fark olduğu saptandı ($p<0.01$). Türk hemşirelerin %2.1'inin birinci derece akrabalarında, Somalili

hemşirelerin %25.9'unun birinci derece akrabalarında özofagus kanseri bulunmaktaydı (p<0,001). Türk ve Somalili hemşirelerin özagafus kanseri risk faktörleri, tedavi, toplam bilgi puanları arasında fark olduğu belirlendi (p<0,001). Ancak özafagus kanseri tanı ve tarama bilgisi puanları açısından iki grup arasında istatistiksel olarak fark yoktu (p=0,755). Somalili hemşirelerin özagafus kanseri risk faktörleri ve tedavi konusundaki bilgi puanları Türk hemşirelerden daha yüksekti (p<0,001). Özofagus kanserinin dünyada artan prevalansı göz önünde bulundurularak hemşirelere özofagus kanseri risk faktörleri, tanı, tarama ve tedavi yöntemlerine yönelik eğitim programları düzenlenmesini öneriyoruz.

Anahtar Sözcükler : Yemek borusu kanseri, Hemşirelerin Bilgisi, Risk faktörü.
Bilim Kodu **:** 1032.08

ACKNOWLEDGMENT

First and foremost, I would like to express my deepest gratitude to my supervisor Assoc. Prof. Dr. Işıl IŞIK ANDSOY and Assoc.Prof. Dr. Ayfer BAYIRDIR for thesis guidance, motivation, and continuous support throughout this academic journey of mine. This work would have been an impossible task for me without her mentoring and moral support.

Also, I'd like to express my gratitude to all of the teachers who have taught and supported me during my study.

I also wishto apreciatemy brother Dr. Abdulhakin Salad NAGEYE for his valuable guidance throughout my studies. You provided me with tools that I needed to become whom I am today. It would not have been possible for me to figure out the better version of myself without your great help and support. I will always thank you for believing in me.

I would also like to thank my family. They deserve all the credits for this work. Without my parents, I would have never made it this far. A huge thanks to my mother Mrs. Deko Moalim, who has always cared for me and backed me in all my endeavors. Thanks to my source of inspiration - my father, Mr. Salad Nageye, for always staying beside me and supporting me wholeheartedly, especially during hard times. I want to thank my brothers, sisters, and entire family members for their love and support. I want to gratefully thank Karabük University for the support.

CONTENTS

Page

APPROVAL ii
ABSTRACT iv
ÖZET vi
ACKNOWLEDGMENT viii
CONTENTS ix
LIST OF FIGURES xi
LIST OF TABLES xii
SYMBOLS AND ABBREVITIONS INDEX xiii
PART 1 1
INTRODUCTION 1
PART 2 5
LITERATURE REVIEW 5
2.1. EPIDEMIOLOGY OF ESOPHAGEAL CANCER 5
2.2. HISTOLOGY AND PATHOGENESIS 6
2.2.1. Stages of Esophageal Cancer 7
2.2.2. Diagnosis of Esophageal Cancer 8
2.2.3. Risk Factors of Esophageal Cancer 9
2.2.4. Age and Gender 9
2.2.5. Smoking 9
2.2.6. Alcohol 9
2.2.7. Obesity 10
2.2.8. Diet and Nutrients 10
2.2.9. Genetic and Family History 10
2.2.10. Barrett's Esophagus 11
2.2.11. Gastroesophageal Reflux Disease 11
2.2.12. Human papillomavirus 11
2.2.13. Importance of Topic and Nursing Approach 11
PART 3 15
METHODS 15
3.1. RESEARCH DESIGN 15
3.2. SETTING OF THE STUDY 15
3.3. STUDY SAMPLES 15

3.4. DATA COLLECTION 16
3.5. MEASUREMENTS 16
3.6. STATISTICAL ANALYSIS 17
3.7. ETHICAL CONSIDERATION 18
3.8. LIMITATION OF THE STUDY 18
PART 4 19
RESULTS 19
PART 5 46
DISCUSSION 46
PART 6 51
CONCLUSION 51
APPENDIX A. 58
KARABUK UNIVERSITY ETHICAL COMMITTEE APPROVAL FORM 58
APPENDIX B. 59
KARABUK UNIVERSITY TRAINING AND RESEARCH HOSPITAL ADMINISTRATIVE PERMISSION 59
APPENDIX C. 60
MOGADISHO BANADIR HOSPITAL DIRECTORATE OF HEALTH FORMAL ADMINISTRATIVE PERMISSION 60
QUESTIONNAIRES FORM 61
RESUME 67

LIST OF FIGURES

Page

Figure 2.1. Steps of esophageal cancer 8

LIST OF TABLES

Page

Table 4.1. Demographic characteristics of Turkish and Somalian nurses. 20

Table 4.2. Nutrition, health checks and esophageal cancer screening characteristics of Turkish and Somalian nurses. 21

Table 4.3. Comparison of socio-demographic characteristics of nurses in Turkey and Somalia. 23

Table 4.4. Distribution of Turkish nurses' answers to questions on risk factors diagnosis /screening and treatment for esophageal cancer..... 25

Table 4.5. Distribution of Somalian nurses' answers to questions about esophageal cancer risk factors, diagnosis and screening methods, and treatment methods. 27

Table 4.6. Comparison of nutrition, health checks and esophageal cancer screening characteristics of nurses working in Turkey and nurses working in Somalia. 29

Table 4.7. Comparison of Turkish and Somalian nurses about esophageal cancer risk factors, diagnosis/screening and treatment knowledge scores. 30

Table 4.8. Comparison of Turkish nurses' scores about esophageal cancer risk factors with independent variables. 31

Table 4.9. Comparison of Turkish nurses' scores for esophageal cancer diagnosis and screening methods with independent variables. 32

Table 4.10. Comparison of Turkish nurses' scores for esophageal cancer treatment with independent variables. 34

Table 4.11. Comparison of Somalian nurses' esophageal cancer risk factors knowledge score with independent variables. 36

Table 4.12. Comparison of Somalian Nurses' scores for esophageal cancer diagnosis and screening methods knowledge scures and independent variables. 38

Table 4.13. Comparison of Somalian Nurses' scores for esophageal cancer treatment methods with independent variables. 40

Table 4.14. Multiple regression analysis for Turkish and Somalian nurses knowlege scores of risk factors. 42

Table 4.15. Multiple Regression Analysis for Diagnosis/Screening Methods Scores of Turkish and Somalian Nurses. 43

Table 4.16. Multiple Regression Analysis for Treatment Methods Scores of Turkish and Somalian Nurses. 44

Page

Table 4.17. Multiple Regression Analysis for the total knowledge scores of Turkish and Somalian Nurses. 45

SYMBOLS AND ABBREVITIONS INDEX

SYMBOLS

% : Percentage

F : Frequency

> : Greater than

< : Less than

≥ : Greater than or equal to

≤ : Less than or equal to

B : Regression coefficient.

ABBREVITIONS

ES : Esophageal cancer

SCS : Squamous cell carcınoma

BMI : Body mass index

EC : Adenocarcınoma

ECC : Esophageal cell carcınoma

BE : Barrett's esophageal

GERD : Gastroesophageal reflux disease

HPV : Human papillomavirus

RR : Relative risk

CT : Computerized tomography

PET : Position emission tomography

MRI : Magnetic resonance imaging

EPHS : Essential packages of health service

NGOs : Nongovernmental organization

WHO : World Health Organization

PART 1

INTRODUCTION

Cancer is counted as a leading cause of morbidity and mortality in recent years. The mortality rate of cancer in low-medium income countries is high, approximating 70% (WHO, 2021; GLOBOCAN, 2020). Moreover, it estimated that the number of new cases in 2020 was 19.3 million and cancer deaths about 10 million worldwide. Cancer in Africa's estimated cancer burden in African countries is mainly attributed to breast cancer, representing 27.7% of the total cancer cases, followed by cervical cancer, representing 19.6% of the real possibilities. Taken together, this means the most common in African females. Meanwhile, prostate cancer (18.1% of total cases), followed by liver cancer (9.7% of confirmed cases), and colorectal cancers (6.9% of confirmed cases) were the most common in African males (Bahnassy, 2020).

Esophageal cancer is one of the eighth most common cancer diagnosed globally and the sixth deadliest cancer of the digestive tract. It is ranked sixth among all cancers worldwide and is estimated about 5-7% of all cancers (Siegel et al., 2015, GLOBOCAN, 2020; WHO, 2021). Additionally, its longitudinal spread, the tumor may spread from the esophageal mucosa towards the submucosa. It can reach the mediastinal region and abdominal lymph nodes by draining through the peripheral lymph nodes via perforating lymph vessels. These new estimates are for over 50 million people. Live within five years after a previous cancer diagnosis. Aging populations globally and socio-economic risk factors remain among the primary factors driving this increase. There are two main histological types of esophageal cancer, squamous cell carcinoma, and adenocarcinoma. Squamous cell carcinoma occurs mainly in the upper and middle parts of the esophagus and is strongly associated with smoking and chronic alcohol consumption. Adenocarcinoma most often occurs in the lower part of the esophagus, near where it meets the stomach (Chen W, 2015; Harris et al., 2017). Incidence In 2018, a total of 572,034 new cases of esophageal cancer (all types) were recorded, and the ASR of incidence was 6.3 per 100,000 persons, showing about thirteen-fold similarity globally. The highest rates were observed in Eastern Asia (ASR 12.2), Eastern Africa (ASR 8.3), Southern

Africa (ASR 7.4), and Northern Europe (ASR 5.5). In contrast, the lowest rates were found in Central America (ASR 0.96), Western Africa (ASR 1.2), Northern Africa (ASR 1.5), and Western Asia (ASR 1.7). This geographical difference was more prominent among males than females. The incidence rates were higher in males than in females in all regions (J. Huang et al., 2021).

However, there is no national cancer registry system in Somalia, and the population-based cancer incidence is unknown. Due to lack of ministry of health been not effectively working or sometimes not at all. The cancer incidence in Somalia, especially in the capital Mogadishu and its surroundings, due to the limited number of patients, the results were not sufficient to reflect the actual situation for the whole population (Baş et al., 2017).Somalia is one of the most vulnerable and vulnerable countries in Africa and has experienced protracted conflicts, years of war and political instability, all of which have weakened the health system in the country. Somalia has different and sometimes complex political entities, which brings a different layer of complexity and work environment into the work of the WHO. According to the latest (World Life Expectancy, 2021). There are many types of cancer in Somalia data published by the World Health Organization (WHO) on the number of people diagnosed with cancer and the most common type of cancer in the Somali community. Shows the number of new cases in 2020, both sexes, all ages that breast cancer is number one, up to 2 261 419 (11.7%). Followed by Lung 2 206 771 (11.4%). Third comes Colorectum 1 931 590 (10%). The esophagus comes in the 8th with new cases up to 604 100 (3.1%). This shows that the risk of disease position (Globocan, 2020).

However, the incidence rates for esophageal cancer have increased worldwide. While there is no exact incidence rate determined for Turkey, it has mainly been observed in the east of Turkey. Upper gastrointestinal system tumors are more frequent in the country's eastern region for both males and females. Esophageal cancer was the 2nd most commonly diagnosed cancer in the east of the area, according to (Alıcı S Izmirli M, 2006). The esophageal cancer incidence varies widely by geographical location. "Asian Esophageal Cancer Belt" is a region that begins from Turkey, Iraq, Iran, and Kazakhstan, extending up to northern China. Most of the esophageal cancers in this

region are squamous cell carcinoma (SCC), and it is the apart from the highest incidence of esophageal cancer in the world (Okten I, 2003).

In Turkey, esophageal cell carcinoma (SCC) is commonly seen in the Eastern Anatolia Region (Kamangar et al., 2006). While SCC is the most common histologic type, the incidence of adenocarcinoma is increasing and dominant over time, especially in the western country (Cook et al., 2009). And in Somalia, Esophageal Cancer was found to be the most common type of cancer in Somalia for the comprehensive data and both genders. It was detected equally in both genders (male/female ratio: 1:1). Although EC was seen in all decades, it was mostly observed to peak in the fifth and sixth decades. GLOBOCAN 2018 data show that 5% (n = 28,494/ 572,034) of EC cases worldwide are seen in Africa (Pan et al., 2019).

Esophageal cancer, cancer cells arise from the inner lining of the esophagus (GLOBOCAN, 2020). It is characterizing by its high mortality rate, poor prognosis at the time of diagnosis, and variability based on geographic location (Uhlenhopp et al., 2020). Established risk factors for esophageal cancer are gastroesophageal reflux symptoms, obesity, diet, increasing age, and tobacco smoking. In addition, squamous cell carcinoma is mainly associated with heavy tobacco smoking, excessive alcohol intake, and frequent scorching drinks. (Huang & Yu, 2018; Uhlenhopp et al., 2020). Most patients with esophageal cancer presented with progressive dysphagia, weight loss, and metastatic disease (Baş et al., 2017).

Strategies to screen, survey, and prevent esophageal cancer must consider the changing epidemiology of the disease. Esophageal cancer is relatively uncommon. However, it is the second leading cancer in terms of its increasing incidence that continues to rise. When it occurs, esophageal cancer has one of the highest cancer mortality rates in Somalia Patients may not feel different until their esophageal cancer has progressed. Scanning can help doctors find the disease earlier, when treatment may work better. It may also find and remove precancerous tissue, which helps keep cancer from developing (Tomizawa&Wang, 2009).

Barriers include lack of knowledge, religious beliefs, fatalism, fear, shame, and lack of trust in interpreters. Identifying and simultaneously addressing individual, community, or health system barriers can increase cancer screening services among Somali women. Belief-based messages were found to reinforce the views of people who already tended to view the screening positively, explaining the participants' increased confidence in participating in the screening. There was feedback that belief-based messages significantly impacted their views (Journal of Immigrant and Minority Health, 2014).Esophageal cancer screening plays a vital role in the early detection and effective treatment of cancer. Several common key factors influence women's participation in EC screening, including cost and insurance, knowledge, emotion, sociodemographic characteristics, cultural factors, belief, pain and shame, fear, religious, psychological factors, communication, social support, and access. And time constraint (María José et al., 2015). The role of nursing care is essential for the patients receiving radiation therapy for esophageal cancer. Cancer of the esophagus, including cancer originating from the gastro-esophageal junction, is a challenging disease worldwide (Cuizhi Geng, 2015). Esophageal cancer is a rare but aggressive disease with the potential for early metastasis. Most patients will present with metastatic disease, and treatment is usually palliative. This affects the physical and psychosocial needs of the patient and his family. The nurse plays a significant role in the care of these individuals and therefore needs an up-to-date and in-depth understanding of the disease, treatment, nutritional management, and nursing management (Cuizhi Geng, 2015).Therefore, aimed to evaluate nurse's knowledge about esophageal cancer and risk factor in Somalia and Turkey, and there is a lack of studies about esophagus cancer in Somalia and Turkey. Research questions are following;

- What is the nurse's knowledge about esophageal cancer, risk factors, diagnosis, screening, and treatment methods in Somalia and Turkey?
- What are the differences between Somali and Turkish nurses about esophageal cancer knowledge?
- What are the predictors which affect Turkish and Somali nurse's knowledge about esophageal cancer?

PART 2

LITERATURE REVIEW

2.1. EPIDEMIOLOGY OF ESOPHAGEAL CANCER

The incidence of esophageal cancer (AC) varies by region and population. It is estimated that approximately 570,000 people were diagnosed with esophageal cancer in 2018, accounting for 3.2% of all cancer diagnoses (Bray et al., 2018b). Esophageal cancer is the eighth most common type of cancer worldwide and the sixth leading cause of cancer deaths. They have been diagnosed worldwide.

In Somalia (GLOBOCAN, 2020; WHO, 2021). Currently, the prevalence of esophageal cancer is in transition. Although esophageal squamous cell carcinoma remains the most common worldwide, esophageal adenocarcinoma is rapidly becoming the most common type in developed countries (Uhlenhopp et al., 2020). Although squamous cell carcinoma (SCC) is most common in Southeast and Central Asia (79% of total global SCC cases), the highest adenocarcinoma (AC) burden was found in Northern and Western Europe, North America, and Oceania. 46% of total global AC cases). Men had a significantly higher incidence than women, especially in adenocarcinoma (Arnold et al., 2014).The so-called “Asian Esophageal Cancer Belt” encompasses Turkey, Iran, Kazakhstan, and northern and central China, with an estimated esophageal squamous carcinoma of more than 100 cases/100000 person-years. Another area with a high incidence of squamous cell carcinoma is southeastern Africa, with similar rates to Eastern countries (Arnal, 2015). More than half of all esophageal cancer-related deaths occur in the Republic of China (Hongo et al., 2009).

2.2. HISTOLOGY AND PATHOGENESIS

Esophageal cancer remains a significant public health problem worldwide. Understanding and preventing the occurrence of this cancer is complex, as the two main histological types, squamous cell carcinoma (SCC) and adenocarcinoma (ACE), differ significantly in their underlying incidence patterns and key etiological factors.

The main characteristic that they share is a high mortality rate (Holmes & Vaughan, 2007). Squamous cell carcinoma is the most common type of esophageal cancer worldwide. The overall incidence increases with age, reaching a peak in the seventh decade. SCC occurs equally as often in the middle and lower esophagus, with an incidence that is three times higher in blacks than whites (Daly et al., 2000).

The esophageal mucosa consists of the submucosa tunica muscular (muscularis externa) and the adventitia/serosa. The mucosa consists of epithelium, lamina propria, and muscular is mucosa. In adults, the surface epithelium is a non-keratinized stratified squamous type. The lamina propria, which is loose connective tissue, has mucous glands called "esophageal heart glands" at the proximal and distal ends of the esophagus. The mucosa is a longitudinally arranged layer of smooth muscle. The submucosa, which is denser than the lamina propria, contains the appropriate mucous tubuloalveolar esophageal glands (Rice, 2015 & Eşrefoglu et al., 2018).

Nerve fibers and ganglion cells are formed from the submucosal plexus (Meissner's plexus). The tunica muscle is arranged as an inner circular muscle layer and an outer longitudinal muscle layer. The upper third consists of striated muscle, the middle third of striated and smooth muscle, and the lower third of smooth muscle only. Another nerve plexus, the myenteric plexus (Auerbach's plexus), is located between the outer and inner muscle layers (Rice, 2015 & Eşrefoglu et al., 2018).

2.2.1. Stages of Esophageal Cancer

Tumor staging of esophageal cancer focuses on identifying the depth of invasion of the primary tumor. Node this indicates has cancer spread nearby lymph nodes. Metastasis esophageal cancer is notoriously aggressive and invasive in nature. 20%-30% of patients with esophageal cancer will have distant metastasis at the time of initial diagnosis (Lam, 2021). The presence or absence of distant metastasis will be essential in guiding treatment options and in determining Operability. Common sites of distant metastasis include liver, lung, and bones (Rice, 2015; Maurie, 2021).

Stage 0 cancer is only in the epithelium (the top layer of cells lining the inside of the esophagus). It has not started growing into the deeper layers. This stage is also known as high-grade dysplasia. It has not spread to any lymph nodes or distant organs. Cancer it can be located anywhere in the esophagus. Stage (IA) grows into the lamina propria or muscularis mucosa (the tissue under the epithelium). It has not spread to any lymph nodes or distant organs. Stage (IB) cancer is growing into the lamina propria, muscularis mucosa (the tissue under the epithelium), submucosa, or the thick muscle layer (muscularis propria). It has not spread to nearby lymph nodes or distant organs (cancer.org, 2020).

Stage (IIA) The cancer is growing into the thick muscle layer (muscularis propria). It has not spread to nearby lymph nodes or distant organs. Cancer can be grade 2 or grade 3 or unknown and can be anywhere in the esophageal stage (IIB). It spreads to the thick muscle layer (muscularis propria) and to more than six nearby lymph nodes. Stage (IVA) extends to the pleura (the thin layer of tissue that covers the lungs), the pericardium (the thin sac surrounding the heart), or the diaphragm (the muscle in the lower part of the lungs that separates the chest from the chest). Chest). chest). inspiration).) and multiple sites. Six nearby lymph nodes. Stage (IVB) cancer has spread to distant lymph nodes or other organs such as the liver and lungs. Cancer can be of any degree and can be found anywhere in the esophagus (cancer.org, 2020)

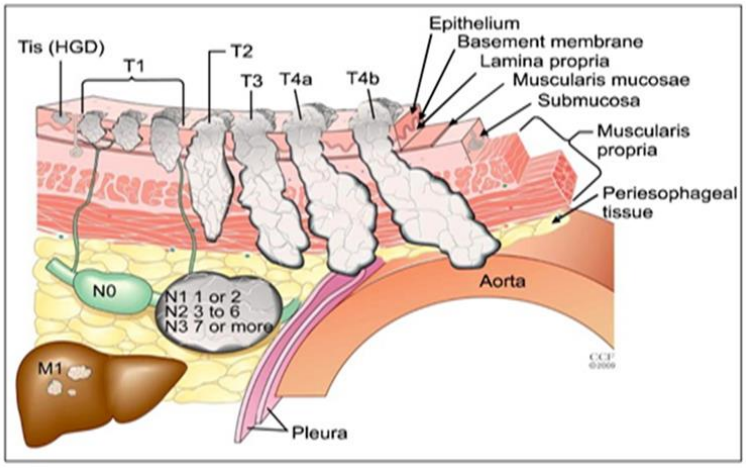


Figure 2.1. Steps of esophageal cancer (cancer.org, Accessed date:03 July 2020).

2.2.2. Diagnosis of Esophageal Cancer

Management of esophageal cancer is challenging in identifying patients at high risk and with an overall poor prognosis. Most esophageal cancers have diagnosed after you experience these symptoms pushing or swallowing, first for solid foods and then for liquids, as cancer expands into an obstructing mass in the esophagus. Other signs and symptoms include progressive weight loss, nausea, vomiting, weight loss, nausea, vomiting, chest pain, loss of appetite, and hoarseness (Meves et al., 2015 & Harris et al., 2017).

Initial investigations may involve imaging studies such as a barium swallow study. This requires ingestion of a liquid containing barium which lines the esophagus, and a subsequent series of X-ray images are taken so that the hollow passage within the esophagus can be visualized. For a definitive diagnosis, an endoscopy and biopsy procedure is carried out. This involves the insertion of a thin tubular instrument with a camera attached to the esophagus so that tissue can be removed and examined in the lab for the presence of cancer (Harris et al., 2017). Once diagnosed, further imaging tests and procedures are performed to determine whether cancer has spread to other parts of the body. These include CT (computerized tomography), PET (position emission tomography), MRI (magnetic resonance imaging), Endoscopy, upper endoscopy, endoscopic ultrasound, bronchoscopy, thoracoscopy, biopsy, and blood tests scans as well as surgical procedures which use thin tube-like instruments

to visualize and sample tissue from within the chest or abdomen (Harris et al., 2017).

2.2.3. Risk Factors of Esophageal Cancer

Esophageal cancer is often preceded by chronic inflammation in the esophagus, disrupting normal cell signaling and growth (Chen et al., 2015). Risk factors of esophageal cancer are slightly different between the two major subtypes.

2.2.4. Age and Gender

Esophageal cancer rates become more familiar with age, likely because this carcinoma takes decades to develop esophageal cancer most often diagnosed in people over age 50. The highest mortality rate was 25.0 per 100,000 for individuals aged 75 years and older. Esophageal cancer is more common in men than women. Men are two to eight times more effective than women (Bray et al., 2018).

2.2.5. Smoking

Smoking is a risk factor associated with both Barrett's esophagus and esophageal adenocarcinoma. It has been reported that current smokers have an increased risk of esophageal adenocarcinoma as compared to nonsmokers. Also, smoking is one of the significant risk factors for developing esophageal squamous carcinoma. However, there are parts of the world where smoking is not an important risk factor, and racial differences could account for these geographical differences. (Wheeler & Reed, 2012 & Hardikar et al., 2013).

2.2.6. Alcohol

Alcohol is an apparent risk factor for squamous carcinoma. The relative risk (RR) increases with the amount of alcohol intake. Alcohol affects the risk of the squamous cell type more than the risk of adenocarcinoma. The more alcohol someone drinks, the higher their chance of getting esophageal cancer (cancer.org, 2020).

2.2.7. Obesity

Obesity is a significant and consistent risk factor for the development of esophageal adenocarcinoma. It has become a severe pubic-related disease in developed countries.Obesity in esophageal cell carcinoma is associated with low socioeconomic status (Renehan et al., 2008 & Löfdahl et al., 2013). Both body mass index (BMI) and increased abdominal obesity are also associated with esophageal cancer risk Michael et al., 2014).

2.2.8. Diet and Nutrients

Conception hot tea, coffee, mate, poor oral health, low intake of fresh fruits and vegetables, and low socioeconomic status have been increased risk factors associated with esophageal cancer. Consumption of hot food and beverages has been proposed as a risk factor for esophageal cancer in several geographical locations (Chen et al., 2015). Food-rich nitrogenous components are historically related to the high incidence of squamous cell carcinoma in some areas of China (Wheeler & Reed, 2012c).

2.2.9. Genetic and Family History

There are conditions with a genetic basis, such as Tylosis, an autosomal dominant disease, that are clearly related to the development of esophageal squamous carcinoma. The genetic and molecular changes underlying the development Of esophageal cancer remain poorly understood. Genetic analysis of this cancers reveals frequent chromosomal losses. In the past decade, efforts have been made to use candidate gene approaches to identify genetic susceptibility factors for esophageal cell carcinoma (ECC). Previous epidemiological studies have consistently found a positive family history of esophageal cancer is associated with a significantly increased risk of the tumor (Jian, 2014). The rare autosomal recessive genetic syndrome, Franconia anemia, has shown a several hundred- to several thousand-fold higher risk for esophageal cancer due to their astonishing elevated risk of developing solid tumors (Jiang et al., 2014).

2.2.10. Barrett's Esophagus

Barrett's esophagus is a potentially severe complication. The increased incidence of (BE) in the last 30 years is correlated with an increased incidence of adenocarcinoma in the same period (Wheeler & Reed, 2012b). The incidence of Barrett's esophagus (BE) is two to three times higher in men than women and male is an independent risk factor for malignant transformation (de Jonge et al., 2010 & Bhat et al., 2011). the significant risk factorS for Barrett's esophagus (BE) is gastroesophageal reflux disease. (Conteduca et al., 2012).

2.2.11. Gastroesophageal Reflux Disease

Gastroesophageal reflux disease (GERD) is the most common condition for approximately 75% of all esophageal cancer. Gastroesophageal reflux disease is currently defined as a condition that develops when the reflux of stomach contents into the esophagus causes troublesome symptoms such as heartburn. Both Barrett's esophagus and esophageal adenocarcinoma. Approximately 10% of patients diagnosed with GERD will develop Barrett's esophagus (Shaheen et al. 2016).

2.2.12. Human papillomavirus

The infection status of human papillomavirus may be associated with the prognosis of esophageal cancer (Hardefeldt et al., 2014). The esophagus can be infected with HPV in the same way as the oral cavity, tonsils, and pharynx; it is assumed that the histological similarities between the head and neck squamous epithelia and esophagus suggest a similar association and clinical characteristics (Zhang et al., 2015).

2.2.13. Importance of Topic and Nursing Approach

Esophageal cancer was the eighth most common cancer diagnosed globally and the sixth cause of cancer death in Somalia in 2020 (GLOBOCAN, 2020; WHO, 2021). Esophageal cancer (EC) was the most common type of cancer in Somalia for the

comprehensive data and for both genders (Mohammad A, Gedi,2020). One of the many duties of a nurse's care is assessing and monitoring the patient's physical and emotional situation. Keeping track of laboratory, pathology, and imaging studies. Try to help the patients understand the disease they have and their treatment plan. Enabling them by translating the complex medical jargon and answering their questions. The nurse should collaborate with the patient's doctors and the other clinicians about the patient's treatment plan (Cancer Treatment Centers of America, 2020).

The nurses must have esophageal cancer knowledge, and clinical expertise of nursing program is necessary for many aspects, including coordinating various support services, patient and family education, clinical assessment, nutritional management, management of side effects, and palliative care. It's also physically, mentally, and emotionally (Cancer Treatment Centers of America, 2020). However, due to economic and cultural differences, nursing care and practice vary significantly in different regions and countries. Exchange and communication of the nursing research among other countries and cultures could enhance the improvement and standardization of nursing care protocols and systems to improve the quality of patient life (Zhao, 2016).

As we know, nurse practitioners always play a significant role in helping patients. In Somalia, the health care system was almost wrecked by more than twenty years of civil war and conflicts, during which time there was no legitimate central government. During those civil war times, the Non-Government Organizations, the United Nations, and private sector practitioners managed the healthcare sector. In May 2014, the Federal Government established the Essential Package of Health Services (EPHS) within the Health Sector Strategic Plans framework. The EPHS was initially being designed in 2008 by the Somali Ministry of Health, to establish standards for national health services governmental and non-governmental organization (NGOs) the progress and also the setbacks of the health sector has been obscured by lack of reliable data at regional and national level (Gele, 2020). Strategies to screen, survey, and prevent esophageal cancer must consider the changing epidemiology of the disease. Esophageal cancer is relatively uncommon;

however, it is the second leading cancer in its increasing incidence that continues to rise. When it occurs, esophageal cancer has one of the highest cancer mortality rates in Somalia patients might not feel any different until esophageal cancer is advanced. Screening may help doctors find the disease earlier, when treatment may work better. It may also find and remove precancerous tissue, which helps keep cancer from developing (Tomizawa & Wang, 2009).

Obstacles included lack of knowledge, religious beliefs, fatalism, fear, embarrassment, and lack of trust in the interpreters. Identifying individual, community, or health system barriers and addressing them concurrently may increase use of cancer screening services among Somali women Both Somali women and men had an overwhelmingly positive response to the faith-based messages promoting esophageal cancer screening. The faith-based messages appeared to reinforce the views of those who were already inclined to see screening positively, with participants describing increased confidence to engage in screening. For those who had reservations about screening, there was feedback that the faith-based messages had meaningfully influenced their views (Journal of Immigrant and Minority Health, 2014).

Esophageal cancer screening plays a vital role in the early diagnosis of cancer and effective treatment. Various common critical factors affect women's participation in EC screening which involve cost and insurance, knowledge, feeling, sociodemographic characteristics, cultural factors, belief, pain, and embarrassment, fear, religious, psychological factors, communications, social support and access, and time constraint (María José et al.,2015) The role of nursing care is especially significant for patients receiving radiation therapy for esophageal cancer. Esophageal cancer, including cancer arising from the gastro-esophageal junction, is a challenging disease worldwide (Cuizhi Geng, 2015). Esophageal cancer is an uncommon but aggressive disease with the potential for early metastasis. The majority of patients will present with metastatic disease, and treatment is usually palliative. This affects the physical, psychosocial needs of the patient and family. The nurse plays a crucial role in the care of these individuals and, therefore, needs a current and in-depth

understanding of the disease, treatment, nutritional management, and nursing management (Cuizhi Geng, 2015).

PART 3

METHODS

3.1. RESEARCH DESIGN

A descriptive cross sectional explanatory study was conducted to evaluate determination of nurse's knowledge about esophageal cancer and risk factor in Somali and Turkey.

3.2. SETTING OF THE STUDY

The study was carried out at Banadir Government Hospital in Mogadishu- Somalia and Karabuk University Research and Training Hospital in Karabük-Turkey from 3rd February to the 28th September 2020. The Banadir Hospital is a teaching hospital in the Wadajir District of Mogadishu in Somalia. This hospital was chosen because these are the largest hospital in Somalia. It was built in 1977 as part of a Chinese development project. It became the connection to a humanitarian crisis in 2011. Karabuk Training and Research Hospital is affiliated with the Ministry of Health, which provides outpatient and inpatient treatment services.

3.3. STUDY SAMPLES

The population of the study consisted of a total of 600 nurses working at two hospitals in Somalia and Turkey from 3rd February to the 28th September 2020. The total number of nurses was 160 at Banadır Hospital in Somalia, and about 450 nurses were at Karabuk University Education and Training Hospital in Karabuk. The inclusion criteria were as follows: (1) to be the licensed nurses in the permanent position, (2) age between 18 to 65, (3) those freely willing to participate in this study. The criteria for exclusion were nurses' decision not to participate. A total of 300 questionnaires were collected in Somalia (n=150) and in Turkey (n=150), resulting in a response rate of 99.8% and 33.3%, respectively. The seven nurses were not included in the study because they did not fill out the questionnaire completely.

Therefore, the sample of the study consisted of 293 nurses, 146 Turkish and 147 Somalian nurses.

3.4. DATA COLLECTION

Data were collected using the self-designed questionnaire; each participant answered items of the questionnaires personally. All participants were informed by the researcher about the purpose of the study and questionnaire content. A pilot study was carried out on 5 nurses to determine the reliability of the questionnaire, and participants were excluded from the study sample. Each participant spends approximately 15-20 minutes responding to the questionnaires. All the questionnaires were made available in English and Turkish. A researcher translated the English materials into Turkish and checked the translations for accuracy.

3.5. MEASUREMENTS

The questionnaire was designed by the researcher according to literature (WHO, 2020; Chen et al., 2015 & Bray et al., 2018). This measurement was prepared in Turkish and in English. This instrument was controlled by three academicians in terms of content. The questionnaire consists of two sections. Overall items included in the questionnaire were 41 items.

Section 1. This part is created by relevant literature (Chen et al., 2015). The Socio-Demographic Characteristics of nurses survey was used to determine socio-demographic characteristics (e.g., age, gender, educational level, working state, marital state, alcohol, nutritional habits, esophageal cancer risk, diagnosis, and treatment, etc. This survey consisted of 16 items.

Section 2. This part is created by relevant literature (Meves et al., 2015 & Harris et al., 2017). This survey included a total of 25 items. The nurses knowledge about esophageal cancer risk factors consist of 14 items, diagnosis and screening method consist of 7 items and treatment of esophageal cancer consist of 4 items. This surveys Cronbach α value was found 0.698, 0.706 and 0.646, respectively.

3.6. STATISTICAL ANALYSIS

The data were analyzed by using the IBM SPSS 20 program (SPSS Inc., Chicago, IL, USA). Distribution of sociodemographic characteristics and data related to nurse's esophageal cancer were evaluated by descriptive statistics such as mean, standard deviation, median, minimum and maximum values, number and percentage. Kolmogorov Smirnov test was used to assess the compatibility of the continuous data with normal distribution. Independent-samples t-test was used to compare the continuous quantitative data and pain status, whereas Chi-Squared and Fisher's Exact tests were used to compare the categorical variables and pain status. In scoring the questions about esophageal cancer risk factors, diagnosis/screening and treatment methods, "1" was given to the true answer and "0" to the false and no idea answer. Since the answers to the questions in the data collection form were "1" true and "0" false, internal consistency was calculated by the Kuder-Richardson method (KR-20). (Bademci, 2011). Based on the studies (Kheshti et al., 2016; Andegiorgish et al., 2018) the number of correct answers was divided by the number of questions, and their percentages were calculated and the knowledge index was obtained. Lineer regression was performed to determine possible factors related to nurse's knowledge score, and p value $< .05$ is considered statistically significant.

3.7. ETHICAL CONSIDERATION

Ethical approval for the study was obtained from the ethical review committee of Karabuk University (No 77192405099-E50699)and institutional permission was obtained from the administration of the Mogadishu Banadir Government hospital(No 27105693-806.01.03-1697) and Karabuk University Training and research Hospital (98024045-799).The nurses were assured of anonymity and confidentiality, and they were informed that the completion of the questionnaire can be carried out in private and at the respondents' leisure. All data were stored in a secure, locked safe. The nurses were assured that they were not obligated to participate in the study, and they had the right to withdraw from the study at any time.

3.8. LIMITATION OF THE STUDY

Since the COVID-19 pandemic occurred between the starting and ending dates of the study, and the Karabuk Training and Education hospital was a pandemic hospital, the all clinics was turned into a COVID-19 service. Correspondingly, there were difficulties in communicating with nurses because of the virus risks. Due to the hard work of the Turkish nurses because of pandemic, and also the psychological problems caused by the Covid-19 may have affected the nurses' answers to the questionnaire. Also, the number calculated for the sample size could not be reached.

PART 4

RESULTS

A total of 293 nurses, 146 Turkish and 147 Somalian nurses, were included in the study. 46.1% of nurses were between the ages of 18-29, 70.3% were women while 29.7% were male. 62.1% were married while 37.9% were single. 47.1% of the nurses are undergraduate, 36.2% of them have a work experience was 0-5 years. 28.5% of the nurses are worked in the field of internal medicine, 26.4% were working in surgery department, 21.8% were working in intensive care unit, 12% were working in the operating room and 11.3% were working in the emergency room. 20.8% of the nurses stated that they used cigarettes and 5.8% used alcohol (Table 1).

Table 4.1. Demographic characteristics of Turkish and Somalian nurses.

Demographic features	n	%
Age		
18-29	135	46.1
30-40	94	32.1
41-50	54	18.4
≥ 50	10	3.4
Gender		
Female	206	70.3
Male	87	29.7
Marital status		
Single	111	37.9
Married	182	62.1
Educational status		
Associate degree	57	19.5
Undergraduate	138	47.1
Master degree	98	33.4
Work experience		
0-5 years	106	36.2
6-10 years	69	23.5
11-15 years	46	15.7
≥ 15 years	72	24.6
Clinics		
Internal medicine	85	28.5
Surgery	77	26.4
Intensive care	65	21.8
Operating room	34	12.0
Emergency	32	11.3
Smoking		
Yes	61	20.8
No	232	79.2
Alcohol use		
Yes	17	5.8
No	276	94.2

43.3% of the nurses stated that they had a low fiber diet-rich diet, 51.9% said that they went to the doctor 1.2 times, 55.3% had health check-ups, and 52.9% did well in general health fat. It was determined that 14% of the nurses had 1st-degree esophageal cancers. 76.8% of the nurses stated that they considered screening for esophageal cancers, and 3% stated that it would be considered a barrier to going to the esophagus. 75.4% of the nurses were informed about the risk of esophageal cancers, well-known and expert people (Table 4. 2).

Table 4.2. Nutrition, health checks and esophageal cancer screening characteristics of Turkish and Somalian nurses.

Nutrition habits	n	%
High fiber vegetables	86	29.4
Rich in low fiber protein and fat	127	43.3
Other	80	27.3
Frequency of visiting a doctor in the past year		
I never went	48	16.4
1-2 times	152	51.9
3-4 times	83	28.3
Other	10	3.4
Time for the last health check		
In the last year	162	55.3
In the last two years	82	28.0
When I'm sick	49	16.7
Esophageal cancer in first-degree relatives		
Yes	41	14.0
No	252	86.0
General health assessment		
Bad	8	2.7
Middle	76	25.9
Good	155	52.9
Excellent	54	18.5
Considering screening for esophageal cancer		
Yes	68	23.2
No	225	76.8
Barriers to screening for esophageal cancer		
I don't know	96	32.8
Nobody suggested	54	18.4
Fear of being diagnosed with cancer	46	15.7
Fear that the procedures	22	7.5
I have no complaints	75	25.6
Wanted training about esophageal cancer		
Yes	221	75.4
No	72	24.6

Table 4.3 indicates the comparison of sociodemographic characteristics of Turkish and Somalian nurses. It was determined that the rate of being 41 years and over in Turkish nurses and the rate of being between the ages of 18-29 in Somalian nurses was higher ($p<0.001$). The rate of male nurses was higher in Somalian nurses and the rate of being married in Turkish nurses was higher ($p<0.001$). In the study, it was reported that there was a significant differences between the education levels of

nurses working in Turkey and in Somalia ($p<0.001$). While the rate of having a bachelor's degree is higher in Turkish nurses, the rate of having a graduate degree is higher in Somalian nurses, the rate of working for 15 years is longer in Turkish nurses, and the rate of working 0-5 years and 6-10 years in Somalian nurses is higher ($p<0.001$). There was a difference in smoking rates between Turkish nurses and Somalian nurses ($p<0.001$). It was determined that the rate of smoking was higher in Turkish nurses and the rate of alcohol use was higher in Turkish nurses ($p<0.05$).

Table 4.3. Comparison of socio-demographic characteristics of nurses in Turkey and Somalia.

Variable	Turkish nurses		Somalian nurses		Statistics	P value
Age	n	%	n	%		
18-29	51	34.9	84	57.1	χ^2 =24.064	0.000
30-40	47	32.2	47	32		
≥ 41	48	32.9	16	10.9		
Gender						
Female	133	91.1	73	49.7	χ^2 =60.243	0.000
Male	13	8.9	74	50.3		
Marital status						
Single	39	26.7	72	49	χ^2 =15.434	0.000
Married	107	73.3	75	51		
Educational status						
Associate degree	35	24	22	15	χ^2 =75.687	0.000
Undergraduate	97	66.4	41	27.9		
Master degree	14	9.6	84	57.1		
Work experience						
0-5 years	38	26	68	46.3	χ^2 =43.633	0.000
6-10 years	29	19.9	40	27.2		
11-15 years	19	13	27	18.4		
≥ 15 years	60	41.1	12	8.2		
Clinics						
Internal medicine	41	29.3	40	27.8	χ^2 =4.984	0.289
Surgery	42	30	33	22.9		
Intensive care	32	22.8	30	20.8		
Operating room	13	9.3	21	14.6		
Emergency	12	8.6	20	13.9		
Smoking						
Yes	48	32.9	13	8.8	χ^2 =25.665	0.000
No	98	67.1	134	91.2		
Alcohol use						
Yes	13	8.9	4	2.7	χ^2 =5.124	0.024
No	133	91.1	143	97.3		

Table 4.4 shows the distribution of Turkish nurses' answers to questions about esophageal cancer risk factors, diagnosis, screening and treatments. 75.4% of Turkish nurses said no idea for 'the susceptibility is higher in a white race than black race'. 71.9% of Turkish nurses answering no idea about "barret's esophageal disease increase the risk of esophageal cancer". 65.1% of Turkish nurses said yes for "the reflux complaints are more common in patients with esophageal cancer" , 89.7% of Turkish nurses said yes smoking increases the risk of cancer item while 84.2% of Turkish nurses said no idea for the "statins reduce the risk of esophageal cancer".

64.4% of Turkish nurses said no idea the use non-steroidal anti-inflammatory drugs increased the risk of cancer item, 46.6% Turkish nurses refused endoscopy method as a diagnostic method and that a little importance in the diagnosis of esophageal cancer item, 70.5% Turkish nurses said yes for the biopsy method is a definitive diagnosis of esophageal cancer item. 69.9% of Turkish nurses said yes that dysphagia, reflux, chest painare symptoms of esophageal cancer. 70.5% of Turkish nurses said yes cough and hoarseness are symptoms of esophageal cancer, 75.3% of Turkish nurses said yes that MRI, CT, PET CT and endoscopic ultrasound and other diagnostic methods are used in esophageal cancer.

Table 4.4. Distribution of Turkish nurses' answers to questions on risk factors diagnosis /screening and treatment for esophageal cancer.

Items	**Yes**		**No**		**No idea**	
Risk Factors	n	%	n	%	n	%
1. Men are at higher risk of esophageal cancers than women.	60	41.1	6	4.1	80	54.8
2. Esophageal cancers are more common over 55 years of age	69	47.3	4	2.7	73	50
3. The susceptibility is higher in a white race than in the black race	26	17.8	10	6.8	110	75.4
4.Barret's esophageal disease increases the risk of cancer	38	26	3	2.1	105	71.9
5. Reflux complaints are more common in patients with esophageal cancer.	95	65.1	6	4.1	45	30.8
6. Obesity is a significant risk factor for esophageal cancer.	82	56.2	7	4.8	57	39
7. Alcohol use is a significant risk factor for esophageal cancer.	109	74.7	4	2.7	33	22.6
8. Smoking increases the risk of cancer.	131	89.7	2	1.4	13	8.9
9. A diet rich in fiber, fruits and vegetables reduces the risk of esophageal cancer	106	72.6	7	4.8	33	22.6
10. Low socioeconomic status is not a risk factor for esophageal cancer.	27	18.5	65	44.5	54	37
11. Presence of FOXF1 and BARX1 genes increase the risk of esophageal cancer	23	15.8	3	2.1	120	82.2
12. The use of proton pump inhibitors and aspirin reduces the risk of cancer.	29	19.9	28	19.2	89	61.0
13. Statins reduce the risk of esophageal cancer.	11	7.5	12	8.2	123	84.2
14. The use of non-steroidal anti-inflammatory drugs increases the risk of cancer.	40	27.4	12	8.2	94	64.4
Diagnosis And Screening Methods						
15. Endoscopy method is a diagnostic method that has little importance in the diagnosis of esophageal cancer.	46	31.5	68	46.6	32	21.9
16. The biopsy method is the definitive diagnosis method in the diagnosis of esophageal cancer.	103	70.5	8	5.5	35	24.0
17. Dysphagia, reflux, chest inflammation or pressure sensation are symptoms of esophageal cancer.	102	69.9	5	3.4	39	26.7
18. Unexplained weight loss and indigestion are symptoms of esophageal cancer.	101	69.2	3	2.1	42	28.8
19. Cough and hoarseness are symptoms of esophageal cancer	103	70.5	9	6.2	34	23.3
20. Hematemesis is one of the late symptoms of esophageal cancer	76	52.1	9	6.2	61	41.8
21. MR, CT, PET CT and endoscopic ultrasound are other diagnostic methods used in esophageal cancer.	110	75.3	2	1.4	34	23.3
Treatment						
22. Neoadjuvant treatment method is the treatment method applied after surgery for cancer.	29	19.9	2	1.4	115	78.8
23. Esophagostomy is performed in esophageal cancer	60	41.1	6	4.1	80	54.8
24. Chemotherapy is applied after surgical treatment	78	53.4	5	3.4	63	43.2
25. In esophageal cancer, radiotherapy is applied together with neoadjuvant treatment.	49	33.6	1	0.6	96	65.8

Table 4.5 reports that distribution of Somalian nurses' answers to questions about esophageal cancer risk factors, diagnosis, and screening methods, and treatment methods. 68.7% of Somalian nurses said yes for "the Men are at higher risk of esophageal cancer". 30.6%of Somalian nurses said no for 'The susceptibility is higher in white race than black race. 85.0% Somalian nurse said yes for alcohol use is an important risk factor for esophageal cancer' item, 68.0% Somalian nurses said yes "smoking increases the risk of esophageal cancer", 74.8% said yes for " the biopsy method is the definitive diagnosis method in the diagnosis of esophageal cancer", 47.6% Somalian nurses said no "cough and hoarseness are symptoms of esophageal cancer", 71.4% Somalian nurses said yes "MR, CT, PET CT and endoscopic ultrasound are other diagnostic methods used in esophageal cancer", 63.3% for Somalian nurses said yes "esophagostectomy is perfomed in esophageal cancer".

Table 4.5. Distribution of Somalian nurses' answers to questions about esophageal cancer risk factors, diagnosis and screening methods, and treatment methods.

Items	**Yes**		**No**		**No idea**	
Risk factors	**n**	**%**	**n**	**%**	**n**	**%**
1. Men are at higher risk of esophageal cancers than women.	101	68.7	33	22.4	13	8.8
2. Esophageal cancers are more common over 55 years of age	93	63.2	47	32	7	4.8
3. The susceptibility is higher in white race than black race	71	48.3	45	30.6	31	21.1
4.Barret's esophageal disease increases the risk of cancer	103	70.1	30	20.4	14	9.5
5. Reflux complaints are more common in patients with esophageal cancer.	103	70.1	37	25.1	7	4.8
6. Obesity is a major risk factor for esophageal cancer.	45	30.6	81	55.1	21	14.3
7. Alcohol use is an important risk factor in esophageal cancer.	125	85.0	18	12.2	4	2.8
8.Smoking increases the risk of cancer	100	68.0	38	25.9	9	6.1
9. A diet rich in fiber, fruits and vegetables reduces the risk of esophageal cancer	79	53.7	44	29.9	24	16.4
10. Low socioeconomic status is not a risk factor for esophageal cancer	83	56.5	48	32.7	16	10.8
11. Presence of FOXF1 and BARX1 genes increases the risk of esophageal cancer	51	34.7	42	28.6	54	36.7
12. The use of proton pump inhibitors and aspirin reduces the risk of cancer.	69	46.9	41	27.9	37	25.2
13. Statins reduce the risk of esophageal cancer.	71	48.3	51	34.7	25	17
14. Non steroid anti inflammatuar kullanımı kanser riskini arttırır.	49	33.3	74	50.3	24	16.4
Diagnosis and Screening Methods						
15. Endoscopy method is a diagnostic method that has little importance in the diagnosis of esophageal cancer.	98	66.7	43	29.3	6	4.0
16. The biopsy method is the definitive diagnosis method in the diagnosis of esophageal cancer.	110	74.8	30	20.4	7	4.8
17. Dysphagia, reflux, chest inflammation or pressure sensation are symptoms of esophageal cancer.	99	67.3	31	21.1	17	11.6
18. Unexplained weight loss and indigestion are symptoms of esophageal cancer.	123	83.7	16	10.9	8	5.4
19. Cough and hoarseness are symptoms of esophageal cancer	66	44.9	70	47.6	11	7.5
20. Hematemesis is one of the late symptoms of esophageal cancer	86	58.5	33	22.4	28	19.1
21. MR, CT, PET CT and endoscopic ultrasound are other diagnostic methods used in esophageal cancer.	105	71.4	25	17	17	11.6
Treatment						
22. Neoadjuvant treatment method is the treatment method applied after surgery for cancer.	79	53.7	46	31.3	22	15
23. Esophagostomy is performed in esophageal cancer	93	63.3	44	29.9	10	6.8
24. In esophageal cancer, radiotherapy is applied together with neoadjuvant treatment.	88	59.8	37	25.2	22	15

Table 4.6 indicates the comparison of nutrition, health checks and esophageal cancer screening characteristics of nurses working in Turkey and in Somalia. According to the Table 6, it was found that there was differences between the nutrition habits of Turkish nurses and Somalian nurses ($p<0.01$).While the rate of other eating habits was higher in Turkish nurses, the rate of having a diet rich in low fiber protein and fat was higher in Somalian nurses. Also, it was found that the rate of visiting to the doctor 1.2 times in the last year was higher in Turkish nurses ($p<0.05$), and the rate of never visiting to the doctor was higher in Somalian nurses ($p<0.05$).

In the study, there was a difference between the time of the last health check of Turkish and Somalian nurses ($p<0.001$). While the rate of having the last health check in the last year was higher in Turkish nurses, the rate of having the last health check in the last two years was higher in Somalian nurses. There was a difference between Turkish nurses and Somalian nurses in terms of having esophageal cancer in their first degree relatives ($p<0.001$). It was reported that 2.1% of Turkish nurses had esophageal cancer in their first-degree relatives, and 25.9% of Somalian nurses had esophageal cancer in their first-degree relatives.

In the study, there was a differences between the general health status assessment levels of Turkish and Somalian nurses ($p<0.001$). While the rate of stating general health status as moderate and good was higher in Turkish nurses, the rate of stating it as excellent was higher in Somalian nurses. It was reported that there was a differences between the rates of Turkish and Somali nurses considering screening for esophageal cancer ($p<0.001$). It was determined that the rate of considering esophageal cancer screening was higher in Somalian nurses than Turkish nurses. There was a difference between Turkish and Somalian nurses' barriers to screening for esophageal cancer ($p<0.001$). While the rates of no one's advice and other obstacles were higher in Turkish nurses, the rates of ignorance and fear of diagnosis were higher in Somalian nurses. There was no difference between the rates of Turkish and Somalian nurses wanting to receive information about esophageal cancer risk diagnosis and treatment methods ($p>0.05$).

Table 4.6. Comparison of nutrition, health checks and esophageal cancer screening characteristics of nurses working in Turkey and nurses working in Somalia.

Variables	Turkish nurses		Somalian nurses		χ^2 Value	*P*
	n	%	n	%		
Nutrition habits						
High fiber vegetables	46	31.5	40	27.2	χ^2 =13.087	0.001
Rich in low fiber protein and fat	49	33.6	78	53.1		
Other	51	34.9	29	19.7		
Frequency of visiting a doctor in the past year						
I never went	15	10.3	33	22.4	χ^2 =7.995	0.046
1-2 times	82	52.6	70	47.6		
3-4 times	44	30.1	39	26.5		
Other	5	3.4	5	3.4		
Time for the last health check						
In the last year	104	71.2	58	39.5	χ^2 =32.322	0.000
In the last two years	22	15.1	60	40.8		
Other	20	13.7	29	19.7		
Esophageal cancer in first-degree relatives						
Yes	3	2.1	38	25.9	χ^2 =34.462	0.000
No	143	97.9	109	74.1		
General health assessment						
Bad	2	1.4	6	4.1	χ^2 =46.844	0.000
Middle	52	35.6	24	16.3		
Good	86	58.9	69	46.9		
Excellent	6	4.1	48	32.7		
Considering screening for esophageal cancer						
Yes	10	6.8	58	39.5	χ^2 =43.697	0.000
No	136	93.2	89	60.5		
Barriers to screening for esophageal cancer						
I don't know	39	26.7	57	38.8		
Nobody suggested	36	24.7	18	12.2	χ^2 =46.907	0.000
Fear of being diagnosed with cancer	8	5.5	38	25.9		
Fear that the procedures	8	5.5	14	9.5		
Other	55	37.7	20	13.6		
Wanted training about esophageal cancer						
Yes	103	70.5	118	80.3	χ^2 =3.737	0.053
No	43	29.5	29	19.7		

Table 4.7 shows the comparison of esophageal cancer risk factors, diagnosis/screening and treatment scores of Turkish and Somalian nurses. According to the Table 4.7, it was found that a difference between the risk factors knowledge scores, treatment, knowledge score and total knowledge scores ($p<0.001$). However,

there was no statistical differences between two groups in items of diagnosis and screening knowlege scores (p=0.755).

Table 4.7. Comparison of Turkish and Somalian nurses about esophageal cancer risk factors, diagnosis/screening and treatment knowledge scores.

	Turkish (n=146)	Somalian (n=147)	Test Statistics	p
	Mean ± SD Median (Min-Max)	Mean ± SD Median (Min-Max)		
Risk factors knowledge score	41.38±21.77 42.85 (0-92.86)	55.53±17.75 50 (0-100)	U=6872.0	0.000
Diagnosis/screening knowledge score	62.72±31.49 71.42 (0-100)	66.76±24.35 71.42 (0-100)	U=10508.5	0.755
Treatment knowledge score	36.98±35.86 25 (0-100)	62.75±27.03 75 (0-100)	U=6232.0	0.000
Total knowledge score	46.65±22.26 48 (0-92)	59.83±17.70 60 (0-100)	U=7264.5	0.000

Table 4.8 shows the comparison of Turkish nurses' esophageal cancer risk factors kowledge score with independent variables. According to the Table 8 in Turkish nurses; age groups, gender, marital status, education level, work experience, clinics, frequency of visiting to the doctor, status of having a last health check, presence of cancer in the first degree. There was no difference between the status of having esophageal cancer in relatives and risk factor knowledge scores ($p>0.05$). However, there was a differences between the risk factor knowledge scores of smokers and nonsmokers among Turkish nurses ($p<0.05$).

Table 4.8. Comparison of Turkish nurses' scores about esophageal cancer risk factors with independent variables.

Variables		Risk Factors Scores		Test statistics	P
	n	Mean ± SD	Median (Min-Max)		
Age					
18-29	51	44.39±20.41	50 (0-92.86)	KW=2.105	0.349
30-40	47	38.29±23.80	35.71 (0-85.71)		
≥ 41	48	41.22±21.10	42.85 (0-85.71)		
Gender					
Female	133	42.42±21.53	42.85 (0-92.86)	U=619.5	0.091
Male	13	30.76±22.28	36.71 (0-64.29)		
Marital status					
Single	39	44.87±22.82	50 (0-92.86)	U=1823.0	0.241
Married	107	40.12±21.35	42.85 (0-85.71)		
Educational status					
Associate degree	35	35.10±23.39	35.71 (0-78.57)	KW=3.944	0.139
License	97	43.74±20.95	50 (0-92.86)		
Graduate	14	40.81±21.59	35.71 (0-78.57)		
Work experience					
0-5 years	38	45.67±20.23	50 (0-92.86)		
6-10 years	29	42.36±23.99	42.85 (0-85.71)	KW=2.548	0.467
11-15 years	19	37.96±25.20	35.71 (0-85.71)		
≥ 15 years	60	39.28±20.52	35.71 (0-85.71)		
Clinics					
Internal medicine	41	43.55±20.37	50 (0-78.57)	KW=4.305	0.366
Surgery	42	38.09±22.78	35.71 (0-92.86)		
Intensive care	32	41.07±21.54	42.85 (0-78.57)		
Operating room	13	41.20±25.11	35.71 (7.14-85.71)		
Emergency	12	51.19±19.69	53.57 (14.29-78.57)		
Smoking					
Yes	48	35.71±22.05	35.71 (0-85.71)	U=1802.5	0.021
No	98	44.16±21.20	46.42 (0-92.86)		
Alcohol use					
Yes	13	38.46±22.31	35.71 (0-71.43)	U=806.5	0.689
No	133	41.67±21.78	42.85 (0-92.86)		
Nutrition habits					
High fiber vegetables	46	43.32±20.77	42.85 (0-85.71)	KW=1.238	0.538
Rich in low fiber protein and fat	49	38.77±21.27	35.71 (0-85.71)		
Other	51	42.15±23.26	42.85 (0-92.86)		
Frequency of visiting a doctor in the past year					
I never went	15	39.19±14.65	35.71 (7.14-64.29)	KW=2.718	0.437
1-2 times	82	40.59±21.96	42.85 (0-92.86)		
3-4 times	44	44.96±23.13	50 (0-85.71)		
Other	5	38.57±25.55	42.85 (0-71.43)		
Time for the last health check					

In the last year	104	43.68±22.06	50 (0-92.86)	KW=5.314	0.070
In the last two years	22	37.98±16.40	35.71 (7.14-71.43)		
Other	20	33.21±23.89	32.14 (0-85.71)		
Esophageal cancer in first-degree relatives					
Yes	3	61.90±10.91	64.28 (50-71.43)	U=85.0	0.072
No	143	40.95±21.76	42.85 (0-92.86)		
General health assessment					
Bad/Moderate	54	38.75±23.32	35.71 (0-85.71	U=2191.5	0.233
Good/Excellent	92	42.93±20.73	42.85 (0-92.86)		
Considering screening for esophageal cancer					
Yes	10	32.14±23.14	32.14 (0-64.29)	U=521.5	0.217
No	136	42.06±21.60	42.85 (0-92.86)		
Wanted training about esophageal cancer					
Yes	103	41.74±20.74	42.85 (0-85.71)	U=2150.0	0.781
No	43	41.19±24.33	36.71 (0-92.86)		

The comparison of Turkish nurses' esophageal cancer diagnosis and screening methods knowledge scores and independent variables is reported in Table 4.9. It was found that there was no statistical differences between Turkish nurses about esophageal cancer, diagnosis and screening knowledge scores and age, gender, marital status, educational status,work experience, clinics, smoking status, nutiritional habits, visiting doctor in the last year having check up ($p>0.05$).

Table 4.9. Comparison of Turkish nurses' scores for esophageal cancer diagnosis and screening methods with independent variables.

Variables	Diagnosis/Screening Score			Test statistics	P
	n	Mean ± SD	Median (Min-Max)		
Age					
18-29	51	61.62±30.16	71.42 (0-100)	KW=0.978	0.613
30-40	47	61.09±33.66	71.42 (0-100)		
≥ 41	48	65.47±31.16	71.42 (0-100)		
Gender					
Female	133	63.58±30.98	71.42 (0-100)	U=751.0	0.428
Male	13	53.84±36.49	42.85 (0-100)		
Marital status					
Single	39	65.20±30.00	71.42 (0-100)	U=1975.0	0.616
Married	107	61.81±32.11	71.42 (0-100)		
Educational status					
Associate degree	35	56.32±32.85	71.42 (0-100)	KW=1.932	0.381
Undergraduate	97	64.80±31.07	71.42 (0-100)		
Master degree	14	64.28±31.07	71.42 (0-100)		
Work experience					
0-5 years	38	64.28±26.72	71.42 (0-100)		

6-10 years	29	56.15±32.60	57.14 (0-100)	KW=2.476	0.480
11-15 years	19	60.90±39.51	71.42 (0-100)		
≥ 15 years	60	65.47±31.26	71.42 (0-100)		
Clinics					
Internal medicine	41	65.15±30.64	71.42 (0-100)	KW=2.575	0.631
Surgery	42	60.20±34.78	71.42 (0-100)		
Intensive care	32	62.05±31.17	71.42 (0-100)		
Operating room	13	58.24±30.56	51.14 (0-100)		
Emergency	12	77.38±12.86	85.71 (42.86-85.71)		
Smoking					
Yes	48	60.41±33.88	71.42 (0-100)	U=2281.0	0.764
No	98	63.84±30.37	71.42 (0-100)		
Alcohol use					
Yes	13	54.94±37.72	71.42 (0-100)	U=782.0	0.564
No	133	63.48±30.88	71.42 (0-100)		
Nutrition habits					
High fiber vegetables	46	67.70±30.48	71.42 (0-100)	KW=2.108	0.384
Rich in low fiber protein and fat	49	60.93±32.96	71.42 (0-100)		
Other	51	59.94±31.03	71.42 (0-100)		
Frequency of visiting a doctor in the past year					
I never went	15	70.47±21.23	71.42 (0-85.71)	KW=0.555	0.907
1-2 times	82	62.54±32.50	71.42 (0-100)		
3-4 times	44	60.38±32.29	71.42 (0-100)		
Other	5	62.85±38.59	71.42 (0-100)		
Time for the last health check					
In the last year	104	64.01±31.66	71.42 (0-100)	KW=2.849	0.241
In the last two years	22	66.88±27.31	71.42 (0-100)		
Other	20	51.42±33.86	57.14 (0-100)		
Esophageal cancer in first-degree relatives					
Yes	3	90.47±8.24	85.71 (85.71-100)	U=83.0	0.065
No	143	62.13±31.54	71.42 (0-100)		
General health assessment					
Bad/Moderate	54	57.14±33.64	71.42 (0-100)	U=2145.0	0.162
Good/Excellent	92	65.99±29.86	71.42 (0-100)		
Considering screening for esophageal cancer					
Yes	10	68.57±25.90	78.57 (14.29-85.71)	U=609.0	0.576
No	136	62.28±31.90	71.42 (0-100)		
Wanted training about esophageal cancer					
Yes	103	62.96±30.03	71.42 (0-100)	U=2161.5	0.814
No	43	62.12±35.11	71.42 (0-100)		

Table 4.10 shows the comparison of Turkish nurses' esophageal cancer treatment knowledge scores and independent variables. According to the Table 4.10, it was reported that there was no statistical differences between Turkish nurses about

esophageal cancer treatment knowledge scores and age, gender, marital status, educational status,work experience, clinis, smoking status, nutiritional habits, visiting doctor in the last year having check up ($p>0.05$).

Table 4.10. Comparison of Turkish nurses' scores for esophageal cancer treatment with independent variables.

Variables	**Treatment methods Score**			**Test statistics**	**p**
	n	Mean ± SD	Median (Min-Max)		
Age					
30-40	47	31.91±36.37	25 (0-100)		
≥ 41	48	37.50±36.46	25 (0-100)		
Gender					
Female	133	36.84±35.56	25 (0-100)		
Male	13	38.46±40.33	25 (0-100)	U=858.5	0.966
Marital status					
Single	39	42.94±34.86	25 (0-100)		
Married	107	34.81±36.13	25 (0-100)	U=858.5	0.966
Educational status					
Associate degree	35	39.28±34.45	25 (0-100)	KW=3.097	0.213
Undergraduate	97	34.02±35.20	25 (0-100)		
Master degree	14	51.78±42.13	37.5 (0-100)		
Work experience					
0-5 years	38	38.81±33.74	25 (0-100)		
6-10 years	29	39.65±39.25	25 (0-100)		
11-15 years	19	26.31±35.81	0 (0-100)	KW=2.437	0.213
≥ 15 years	60	37.91±35.79	25 (0-100)		
Clinics					
Internal medicine	41	35.97±34.02	25 (0-100)	KW=1.532	0.821
Surgery	42	33.92±38.18	25 (0-100)		
Intensive care	32	43.75±37.56	50 (0-100)		
Operating room	13	38.46±36.25	25 (0-100)		
Emergency	12	35.41±34.47	25 (0-100)		
Smoking					
Yes	48	36.97±37.54	25 (0-100)	U=2329.5	0.923
No	98	36.98±35.21	25 (0-100)		
Alcohol use					
Yes	13	32.68±37.33	25 (0-100)	U=801.0	0.562
No	133	37.40±35.83	25 (0-100)		

Nutrition habits					
High fiber vegetables	46	38.04±37.54	25 (0-100)	KW=0.284	0.868
Rich in low fiber protein and fat	49	34.18±33.73	25 (0-100)		
Other	51	38.72±36.84	25 (0-100)		
Frequency of visiting a doctor in the past year					
I never went	15	38.33±42.11	25 (0-100)	KW=1.153	0.764
1-2 times	82	36.28±35.60	25 (0-100)		
3-4 times	44	39.20±34.26	25 (0-100)		
Other	5	25.00±43.30	0 (0-100)		
Time for the last health check					
Last year	104	36.05±35.49	25 (0-100)	KW=0.380	0.827
Last two years	22	37.50±39.15	37.5 (0-100)		
Other	20	41.25±35.61	37.5 (0-100)		
Esophageal cancer in first-degree relatives					
Yes	3	83.33±14.43	75 (75-100)	U=65.0	0.033
No	143	36.01±35.55	25 (0-100)		
General health assessment					
Bad/Moderate	54	40.27±37.43	25 (0-100)	U=2297.5	0.434
Good/Excellent	92	35.05±34.97	25 (0-100)		
Considering screening for esophageal cancer					
Yes	10	35.00±33.74	25 (0-100)	U=673.5	0.958
No	136	37.13±36.13	25 (0-100)		
Wanted training about esophageal cancer					
Yes	103	36.16±36.16	25 (0-100)	U=2105.5	0.629
No	43	38.95±35.48	25 (0-100)		

Table 4. 11 shows the comparison of Somalian nurses's esophageal cancer risk factor score and independent variables. According to the Table 4.11, there was no differences between esophageal cancer risk factor scores and age, gender, marital status, educational status,work experience, clinis, smoking status, nutiritional habits, visiting doctor in the last year having check up among Somalian nurses ($p>0.05$).

On the other hand in Somalian nurses; there was a difference between the groups in frequency of seeing a doctor in the last year and their risk factors knowledge scores ($p<0.01$). As a result of the multiple comparison test, it was found that the risk factors scores of those who went to the doctor 3-4 times in the last year were lower than those who never went and those who went 1-2 times. In this study, there was a differences between the groups at the time of the last health check in terms of risk factors scores. ($p<0.01$). As a result of the multiple comparison test, it was determined that the risk factors scores of those who said when they got sick as the

time to have their last health checkup were higher than those who said in the last year and the last two years ($p<0.01$). In Somalian nurses; there was a difference between the risk factors scores of those who wanted to receive information about esophageal cancer risk diagnosis and treatment methods and those who did not ($p<0.01$). Those who wanted to get information about esophageal cancer risk diagnosis and treatment methods had higher risk factors scores.

Table 4.11. Comparison of Somalian nurses' esophageal cancer risk factors knowledge score with independent variables.

Variables		Risk Factors Scores		Test statistics	p
	n	Mean ± SD	Median (Min-Max)		
Age					
18-29	84	56.54±18.49	57.14 (0-100)	KW=1.626	0.443
30-40	47	53.95±16.09	50 (21.43-100)		
≥ 41	16	54.91±19.11	50 (32.71-100)		
Gender					
Female	73	54.69±17.46	50 (0-100)	U=2535.5	0.516
Male	74	56.37±18.10	53.57 (14.29-100)		
Marital status					
Single	72	54.56±17.30	50 (0-92.86)	U=2600.5	0.696
Married	75	56.47±18.23	50 (21.43-100)		
Educational status					
Associate degree	22	50.64±15.57	50 (0-85.71	KW=5.720	0.057
Undergraduate	41	61.32±17.34	57.14 (28.57-100)		
Master degree	84	53.99±17.95	50 (14.29-100)		
Work experience					
0-5 years	68	55.35±16.84	50 (0-100)		
6-10 years	40	57.50±17.71	53.57 (14.29-100)	KW=7.437	0.059
11-15 years	27	57.93±20.71	64.28 (21.43-100)		
≥ 15 years	12	44.64±12.96	42.85 (28.57-78.57)		
Clinics					
Internal medicine	40	60.00±18.07	64.28 (0-92.86)	KW=10.492	0.053
Surgery	33	53.03±14.40	50 (21.43-92.86)		
Intensive care	30	50.71±18.97	50 (14.29-100)		
Operating room	21	51.02±16.17	50 (21.43-78.5)		
Emergency	20	61.78±19.83	60.71 (28.57-100)		
Smoking					
Yes	13	53.29±20.51	50 (21.43-100)	U=770.5	0.488
No	134	55.75±17.52	50 (0-100)		
Alcohol Use					
Yes	4	73.62±22.47	85.71 (42.86-100)	U=256.0	0.718
No	143	66.09±24.50	71.42 (0-100)		
Nutrition habits					

High fiber vegetables	40	53.92±18.65	50 (14.29-100)	KW=1.077	0.584
Rich in low fiber protein and fat	78	55.40±18.06	50 (0-100)		
Other	29	58.12±15.82	57.14 (28.57-92.86)		
Frequency of visiting a doctor in the past year					
I never went	33	60.38±13.25	64.28 (35.71-92.86)	KW=12.802	0.005
1-2 times	70	56.32±17.85	53.57 (0-100)		
3-4 times	39	49.26±19.78	42.85 (21.43-100)		
Other	5	61.42±15.64	50 (50-78.57)		
Time for the last health check					
In the last year	58	54.06±18.97	50 (14.29-100)	KW=9.729	0.008
In the last two years	60	52.97±16.44	50 (0-92.86)		
Other	29	63.79±15.84	64.28 (21.43-100)		
Esophageal cancer in first-degree relatives					
Yes	38	50.75±21.44	50 (0-100)	U=1644.0	0.056
No	109	57.20±16.04	50 (14-29-100)		
General health assessment					
Bad/Moderate	30	52.85±12.94	50 (21.43-85.71)	U=1587.5	0.415
Good/Excellent	117	56.22±18.77	50 (0-100)		
Considering screening for esophageal cancer					
Yes	58	52.95±20.02	50 (0-100)	U=2149.5	0.084
No	89	57.22±15.98	57.14 (14.29-100)		
Wanted training about esophageal cancer					
Yes	118	57.44±18.40	57.14 (0-100)	U=1136.5	0.005
No	29	47.78±12.23	50 (14.29-71.43)		

Table 4.12 shows the comparison of Somalian nurses' scores for esophageal cancer diagnosis and screening methods knowledge scores and independent variables. In this study, it was reprted that there was no differences between age, gender, marital status, education level status, years of work experience, clinics work, smoking status, alcohol use, dietary habits, presence of cancer in first-degree relatives, the desire to have esophageal cancer screening and the diagnosis and screening methods scores of the nurses (p. >0.05). On the other hand, there was a difference in diagnosis and screening method knowledge scores between the groups in frequency of going to the doctor in the last year ($p<0.001$). According to the multiple comparison test, it was determined that the diagnosis and screening methods knowlege scores of those who went to the doctor 3-4 times in the last year were lower than those who never went and those who went 1-2 times.

In the study, a difference was found between the Somalian nurses' last health check-up time groups in terms of diagnosis and screening methods knowlege scores ($p<0.05$). According to the results of the multiple comparison test, it was determined that the diagnosis and screening methods scores of those who said they were sick as the time to have their last health checkup were higher than those of the groups who said they were sick in the last two years, and that the diagnosis and screening methods knowlege scores of Somalian nurses who had good/excellent general health status were higher ($p<0.05$). In Somalian nurses; a difference was found between the diagnosis and screening methods knowledge scores of those who wanted to receive information on esophageal cancer risk diagnosis and treatment methods and those who did not ($p<0.01$). Those who wanted to get information about esophageal cancer risk diagnosis and treatment methods had higher screening methods scores.

Table 4.12. Comparison of Somalian Nurses' scores for esophageal cancer diagnosis and screening methods knowledge scures and independent variables.

Variables		Diagnosis and screening methods score		Test statistics	P
	n	Ort ± SS	Median (Min-Max)		
Age					
18-29	84	68.87±23.48	71.42 (0-100)	KW=4.149	0.126
30-40	47	66.56±24.43	57.14 (28.57-100)		
≥ 41	16	56.25±27.33	42.85 (28.57-100)		
Gender					
Female	73	64.77±23.70	71.42 (0-100)	U=2444.0	0.309
Male	74	68.72±24.98	71.42 (0-100)		
Marital status					
Single	72	64.08±23.61	71.42 (0-100)	U=2396.0	0.229
Married	75	69.33±24.93	71.42 (28-57-100)		
Educational status					
Associate degree	22	64.28±25.61	64.28 (0-100)	KW=0.130	0.937
License	41	66.89±26.80	71.42 (0-100)		
Graduate	84	67.34±22.99	71.42 (28.57-100)		
Work experince					
0-5 years	68	66.80±24.85	71.42 (0-100)		
6-10 years	40	68.92±23.30	71.42 (42.86-100)	KW=7.124	0.068
11-15 years	27	70.89±25.51	85.71 (28.57-100)		
≥ 15 years	12	50.00±16.68	42.85 (28.57-85.71)		
Clinics					
Internal medicine	40	63.92±26.67	71.42 (0-100)	KW=4.600	0.331
Surgery	33	62.36±22.31	71.42 (42.86-100)		
Intensive care	30	66.66±23.82	51.14 (28.57-100)		
Operating room	21	63.26±26.17	57.14 (28.57-100)		
Emergency	20	77.14±22.42	85.71 (42.86-100)		

Smoking					
Yes	13	73.62±22.47	85.71 (42.86-100)	U=720.0	0.293
No	134	66.09±24.50	71.42 (0-100)		
Alcohol use					
Yes	4	60.71±17.97	57.14 (42.86-85.71)	U=244.0	0.610
No	143	66.93±24.53	71.42 (0-100)		
Nutrition habits					
High fiber vegetables	40	66.78±24.29	71.42 (28.57-100)	KW=4.161	0.125
Rich in low fiber protein and fat	78	63.73±25.50	57.14 (0-100)		
Other	29	74.87±19.71	71.42 (42.86-100)		
Frequency of visiting a doctor in the past year					
I never went	33	75.32±24.03	71.42 (0-100)	KW=21.876	0.000
1-2 times	70	70.20±23.54	71.42 (0-100)		
3-4 times	39	52.38±21.82	42.85 (28.57-100)		
Other	5	74.28±6.38	71.42 (71.43-85.71)		
Time for the last health check					
In the last year	58	67.24±25.66	71.42 (28.57-100)	KW=8.921	0.012
In the last two years	60	61.42±22.36	57.14 (0-100)		
Other	29	76.84±23.03	71.42 (0-100)		
Esophageal cancer in first-degree relatives					
Yes	38	61.27±22.98	57.14 (0-100)	U=1725.0	0.119
No	109	68.67±24.62	71.42 (0-100)		
General health assessment					
Bad/Moderate	30	58.57±16.92	57.14 (42.86-100)	U=1310.0	0.029
Good/Excellent	117	68.86±25.55	71.42 (0-100)		
Considering screening for esophageal cancer					
Yes	58	66.00±22.52	71.42 (0-100)	U=2518.0	0.799
No	89	67.25±25.59	71.42 (0-100)		
Wanted training about esophageal cancer					
Yes	118	70.09±23.69	71.42 (0-100)	U=1035.0	0.001
No	29	53.20±22.55	42.85 (0-100)		

Comparison of Somalian nurses' scores for esophageal cancer treatment methods knowledge scores and independent variables was showed in Table 4.13. In this study, it was found that there was no difference in terms of age, gender, marital status, education level status, work experience, clinics, smoking status, alcohol use, eating habits, time of last health check, presence of esophageal cancer in first-degree relatives, and treatment methods scores of nurses ($p>0.05$). However, there was a difference in the treatment methods knowlege scores between the groups of frequency visiting to the doctor in the last year among Somalian nurses ($p<0.001$). As a result of the multiple comparison test, the treatment methods scores of those who went to the doctor 3-4 times in the last year were lower than those who never

went and those who went 1-2 times ($p<0.001$), those with good/excellent general health had higher scores ($p<0.05$). It was determined that those who wanted to get information about esophageal cancer risk diagnosis and treatment methods knowlege had higher treatment methods scores ($p<0.01$).

Table 4.13. Comparison of Somalian Nurses' scores for esophageal cancer treatment methods with independent variables.

Variables	Treatment Scores				
	n	Ort ± SS	Median (Min-Max)		P
Age					
18-29	84	64.28±26.40	75 (0-100)	KW=2.203	0.316
30-40	47	63.29±27.01	50 (0-100)		
≥ 41	16	53.12±30.10	50 (0-100)		
Gender					
Female	73	60.61±27.61	75 (0-100)	U=2526.5	0.483
Male	74	64.86±26.47	62.5 (0-100)		
Marital status					
Single	72	61.11±25.82	50 (0-100)	U=25,3.5	0.429
Married	75	64.33±28.22	75 (0-100)		
Educational status					
Associate degree	22	59.09±30.41	50 (0-100)	KW=1.474	0.479
Undergraduate	41	66.46±28.28	75 (0-100)		
Master degree	84	61.90±25.58	50 (0-100)		
Work experience					
0-5 years	68	65.07±27.02	75 (0-100)		
6-10 years	40	62.50±28.30	62.5 (0-100)	KW=7.072	0.070
11-15 years	27	64.81±27.95	75 (25-100)		
≥ 15 years	12	45.83±14.43	50 (25-75)		
Clinics					
Internal medicine	40	62.50±26.67	71.42 (0-100)	KW=2.268	0.687
Surgery	33	61.36±26.58	50 (0-100)		
Intensive care	30	62.50±24.34	50 (25-100)		
Operating room	21	59.52±25.58	50 (25-100)		
Emergency	20	70.00±23.78	75 (25-100)		
Smoking					
Yes	13	73.07±33.01	75 (0-100)	U=639.0	0.100
No	134	61.75±26.31	50 (0-100)		
Alcohol use					
Yes	4	43.75±42.69	37 (0.100)	U=190.0	0.235
No	143	63.28±26.50	75 (0-100)		
Nutrition habits					
High fiber vegetables	40	67.50±25.44	75 (0-100)	KW=5.263	0.072
Rich in low fiber protein and fat	78	58.01±28.34	50 (0-100)		
Other	29	68.96±23.76	75 (0-100)		
Frequency of visiting a doctor in the past year					

I never went	33	70.45±26.84	75 (0-100)	KW=17.887	0.000
1-2 times	70	66.78±26.48	75 (0-100)		
3-4 times	39	48.71±24.96	50 (0-100)		
Other	5	65.00±13.69	75 (50-75)		
Time for the last health check					
In the last year	58	62.06±26.59	50 (0-100)	KW=2.820	0.244
In the last two years	60	60.83±26.18	50 (0-100)		
Other	29	68.10±29.80	75 (0-100)		
Esophageal cancer in first-degree relatives					
Yes	38	57.89±31.89	62.5 (0-100)	U=1853.0	0.316
No	109	64.44±25.06	75 (0-100)		
General health assessment					
Bad/Moderate	30	53.33±25.20	50 (0-100)	U=1326.5	0.032
Good/Excellent	117	65.17±27.06	75 (0-100)		
Considering screening for esophageal cancer					
Yes	58	64.22±27.74	75 (0-100)	U=2394.0	0.441
No	89	61.79±26.67	50 (0-100)		
Wantedtraining about esophageal cancer					
Yes	118	65.88±27.08	75 (0-100)	U=1111.0	0.002
No	29	50.00±23.14	50 (0-100)		

Independent variables that may have an effect on the dependent variable were included in the lineer regression model. For example, smoking or eating habits were considered as the dependent variable (risk factors score) that had no effect on the explanation. For these reasons, the model in the regression analysis: variables of age, gender, marital status, educational status, years of employment, clinic worked, frequency of visiting a doctor in the last year, and having esophageal cancer in first-degree relatives were included in the model. As a result of multiple regression analysis for the risk factors scores of Turkish nurses according to the model, independent variables were not found to be significant for the risk factors scores. ($p>0.05$). As a result of the multiple regression analysis for the risk factors knowledge scores of the Somalian nurses, the independent variables were not found to be significant for the risk factorsknowledge scores ($p>0.05$) (Table 4.14).

Table 4.14. Multiple regression analysis for Turkish and Somalian nurses knowlege scores of risk factors.

	Turkish nurses				Somalian nurses			
Risk Factors	R=0.312 R^2=0.097	F=1.767	F =0.089		R=0.312 R^2=0.097	F=1.767	F =0.089	
	B	95 % CI	SE	p	B	95 % CI	SE	p
Variables	4.856	-4.505-14.216	4.732	0.307	-1.327	-6.407-3.753	2.500	0.606
Age	-10.715	-24.741-3.311	7.09	0.133	0.488	-5.494-6.470	3.025	0.872
Gender (male)	-5.848	-15.144-3.448	4.699	0.216	4.283	-2.467-11.034	3.414	0.212
Marital status	2.102	-4.564-8.768	3.370	0.534	0.531	-3.832-4.893	2.206	0.810
Education	-5.090	-11.193-1.013	3.085	0.101	-0.063	-3.681-3.556	1.830	0.973
WE	1.353	-1.608-4.315	1.497	0.368	-0.629	-2.794-1.537	1.095	0.567
Clinics	2.732	-2.821-8.284	2.807	0.332	-3.640	-7.780-0.500	2.093	0.084
Frequency of visit doctor in the last year	20.432	-45.214-4.349	12.527	0.105	5.987	-0.909-12.883	3.487	0.088

B: Coeffecient; SE: Standart error; WE: Work experience

As a result of multiple regression analysis for diagnosis and screening methods knowledge scores of Turkish nurses according to Model 2 in Table 4.15. It was found that independent variables were not found to be significant for risk factors knowledge scores ($p>0.05$). As a result of lineer regression analysis for diagnosis and screening methods knowlege scores of Somalian nurses. The frequency of going to the doctor in the last year was found to be significant ($p<0.01$). It was found that the increase in the frequency of visiting to the doctor in the last year (2 times more) caused a decrease of 8,581 points in the diagnosis ands methods knowledge scores.

Table 4.15. Multiple Regression Analysis for Diagnosis/Screening Methods Scores of Turkish and Somalian Nurses.

	Turkish Nurses				Somalian Nurses			
Diagnosis Screening	R=0.193 R^2=0.037	F=0.635	Sig.F =0.747		R=0.396 R^2=0.157	F=3.146	Sig.F =0.003	
	B	95 % CI	SE	p	B	95 % CI	SE	p
Variables	3.527	-10.338-17.392	7.009	0.616	-6.164	-12.803-0.474	3.357	0.069
Age	-3.647	-24.423-17.130	10.502	0.729	2.037	-5.780-9.857	3.953	0.607
Gender (male)	-7.409	-21.178-6.361	6.961	0.289	8.198	-0.625-17.020	4.461	0.068
Marital status	4.634	-5.241-14.508	4.992	0.355	3.895	-1.806-9.596	2.883	0.179
Education	-0.633	-9.673-8.407	4.570	0.830	0.561	-4.168-5.290	2.391	0.815
WE	0.775	-3.612-5.162	2.218	0.727	1.917	-0.914-4.747	1.431	0.183
Clinics	-1.190	-9.415-7.035	4.158	0.775	-8.581	-13.991--3.170	2.736	0.002
Frequency of visit doctor in the last year	25.482	-62.190-11.226	18.556	0.172	7.130	-1.882-16.142	4.557	0.120

B: Coeffecient; SE: Standart error; WE: Work experience

As a result of multiple regression analysis for the treatment methods scores of Turkish nurses according to Model 3 in Table 16. Having esophageal cancer in first-degree relatives caused a 46.120-point increase in treatment methods scores ($p<0.05$). As a result of the multiple regression analysis for the treatment methods scores of the Somalian nurses, the frequency of going to the doctor in the last year was found to be significant ($p<0.01$). It was determined that the increase in the frequency of going to the doctor in the last year caused a decrease of 9.784 points in the scores of treatment methods (Table 4.16).

Table 4.16. Multiple Regression Analysis for Treatment Methods Scores of Turkish and Somalian Nurses.

Turkish Nurses					Somalian Nurses			
Treatment	R=0.228 R²=0.052	F=0.898	Sig.F =0.520		R=0.348 R²=0.121	F=2.318	Sig.F =0.023	
Variables	B	95 % CI	SE	p	B	95 % CI	SE	p
Age	-2.117	-17.997-13.763	8.027	0.792	-2.967	-10.316-4.381	3.716	0.426
Gender (male)	4.403	-19.392-28.199	12.029	0.715	1.774	-6.879-10.427	4.375	0.686
Marital status	-8.467	-24.238-7.304	7.972	0.290	5.946	-3.819-15.711	4.938	0.231
Education	3.496	-7.814-14.805	5.717	0.542	1.550	-4.760-7.860	3.191	0.628
WE	1.511	-8.843-11.865	5.234	0.773	-1.169	-6.403-4.065	2.647	0.659
Clinics	0.817	-4.207-5.842	2.540	0.748	0.930	-2.202-4.063	1.584	0.558
Frequency of visit doctor in the last year	0.603	-8.817-10.024	4.762	0.899	-9.784	15.773-3.796	3.028	0.002
Esophagus in first-degree relatives	46.120	88.162-4.07	21.252	0.032	4.791	-5.184-14.767	50.044	0.344

B: Coeffecient; SE: Standart error; WE: Work experience

As a result of the multiple regression analysis for the total scores of Turkish nurses according to Model 4 in Table 17. Nurses whose first-degree relatives had esophageal cancer caused an increase of 25.956 points in their total knowledge scores ($p<0.05$). As a result of the lineer regression analysis for the total knowledge scores of the Somalian nurses, the frequency of going to the doctor in the last year was found to be significant ($p<0.01$). It was determined that the increase in the frequency of going to the doctor in the last year caused a decrease of 6.007 points in the total scores of the nurses from the knowledge test.

Table 4.17. Multiple Regression Analysis for the total knowledge scores of Turkish and Somalian Nurses.

Turkish Nurses					Somalian nurses			
Total knowledge score	R=0.271 R²=0.073	F=1.293	Sig.F =0.252		R=0.360 R²=0.130	F=2.511	Sig.F =0.014	
Variables	B	95 % CI	SE	p	B	95 % CI	SE	p
Age	3.368	-6.264-13.000	4.869	0.490	-2.944	-7.837-1.946	2.474	0.236
Gender (male)	-6.317	-20.750-8.116	7.296	0.388	1.127	-4.634-6.889	2.913	0.699
Marital status	-6.704	-16.270-2.862	4.835	0.168	5.645	-0.857-12.148	3.288	0.088
Education	3.034	-3.826-9.894	3.468	0.283	1.636	-2.566-5.837	2.124	0.443
WE	-2.786	-9.066-3.494	3.175	0.382	-0.065	-3.550-3.420	1.762	0.941
Clinic	1.106	-1.942-4.153	1.540	0.474	0.333	-1.753-2.419	1.055	0.752
Frequency of visit the doctor in the last year	1.293	-4.421-7.007	2.888	0.655	-6.007	-9.994-2.019	2.016	0.003
Esophagus Ca in first-degree relatives	25.956	0.456-51.456	12.890	0.046	6.116	-0.526-12.758	3.359	0.071

B: Coeffecient; SE: Standart error; WE: Work experience

PART 5

DISCUSSION

This chapter presents a discussion the study findings which are supported by available evidence in the literature and the researcher's point of view.

Esophageal cancer is the seventh most common malignancy worldwide (Bray et al., 2018). A recently study by Tahtabasi et al 2020 reported that esophageal cancer is the most prevalent cancer in Somalia about 27% of the total cases. This geographical difference was more prominent among males than females. The incidence rates were higher in males than in females in all regions (Huang et al., 2021). When comparison of socio-demographic characteristics of nurses working in Turkey and in Somalia, of older in age, female gender, being married, being license is dominant are seen in the Turkish population according to Somalian nurses. Somalian nurses are younger and their work experience time is short. The reason why Somali nurses are younger may be because traditionally in Somalia, women marry at a younger age and leave work after marriage. That's why, hospitals management gets new graduated nurses. In Turkey, many nurses can work as a nurse until retirement. Also, working as a nurse is not barrier to marriage life.

In comparison, Somalian nurses were 4%, which may be the difference due to cultural and the differentiation of Islamic religious beliefs. This difference agrees while regarding educational level more high degree graduated in Somalian nurses. But the regarding experience level more in Turkish nurses. When evaluated nurses' answers to questions about esophageal cancer risk factors, diagnosis and screening methods, and treatment methods, Somalian nurses had more true knowledge. This may be due to the fact that somali nurses are newly graduated and may get more experience because of high incidence of esophageal cancer in Somalia. Otherwise, the knowledge score of Turkish nurses may be affected because of pandemic. They had immense working that time. Therefore, they may give unexpected answers and thats why their knowledge score was less than Somali nurses.

Somalian nurses said more male gender, and this agreed study determine the type, frequency, and distribution of all cancers in Somalia (Baş et al., 2017 & Globocan 2020). And it was described esophageal cancer as the most common cancer overall (n = 284; 21.7%) and in both genders. The ratio of men (n = 145; 22.7%) to women (n = 139; 20.9%) for this cancer (Globocan 2020). However, it is known that being male poses more risk for esophageal cancer in the literature (Baş et al., 2017). And this agrees with the study of smoking. Most Turkish nurses and Somali nurses agree with this knowledge. Both of them told about cancer, which indicates that their common knowledge about esophageal cancer is the type, frequency, and distribution of all cancers in Somalia (Baş et al., 2017 & Globocan 2020).

Concerning the common age group of esophageal cancer, the study determined that the Turkish nurses have no idea about the risk age group 50%. In comparison, 47.3% of them said more common over 55 years and agreed with the Somalian nurses that more than 68% said more common over 55 years. Esophageal cancer is common in men over 55 years of age, as is the case in a study showing the distribution of cancer cases in Somalia. This may be attributed to the fact that Somali nurses encounter more esophageal cancer cases (Baş et al., 2017 & Globocan 2020). Regarding Barret esophageal disease 72% of the Turkish nurses said they have no idea, and this indicates they have less experience with esophageal cancer while regarding obesity, alcohol use, and smoking, most of the Turkish nurses are said the major risk factors of esophageal cancer, and this indicates that their common knowledge about esophageal cancer is well. Still, they have less experience related to esophageal cancer. Other studies show Barrett's esophageal cancer is usually diagnosed on routine, and the incidence is two to three times higher in men than women (Hvid-Jensen et al., 2011). Regarding diet-rich fiber, the Turkish nurses agree that most of them reduce esophageal cancer risk. Additionally, also the Somalian nurses agree diet-rich fiber reduce the risk of esophageal cancer.

It is already known that people in Somalia consume a low-fiber diet. It may have affected nurses' knowledge of esophageal cancer prevalence and risk factors. Nurses may know the community well. As mentioned in the literature, insufficient intake and a low fiber diet are the major risk factors of esophageal cancer ((Liu et al.,

2013& Uludağ et al., 2021b). According to diagnosis and screening, Turkish nurses denied that the endoscopy has little effect. In comparison, all of them agree that the definitive diagnostic method is the biopsy of the esophagus as in the literature. However, Somalian nurses agree that endoscopy has a minor role. Additionally, both Turkish and Somalian nurses agree that the definitive diagnostic method is the biopsy of the esophagus.

Regarding symptoms of esophageal cancer, most Turkish nurses agree that dysphagia, reflux, chest pain or pressure sensation, unexplained weight loss and indigestion, cough and hoarseness are the symptoms of esophageal cancer, and Hematemesis is one of the late symptoms of esophageal cancer, and this determined the overview knowledge of esophageal cancer. Regarding symptoms of esophageal cancer, most Somalian nurses agree. Addition, regarding management and treatment most Turkish nurses have no idea of the treatment of esophageal cancer such as neoadjuvant, esophagostomy, chemotherapy, and radiotherapy. That indicates they have less experience with esophageal cancer. Regarding management and treatment, most Somalian nurses have a complete idea about the treatment of esophageal cancer such as neoadjuvant, esophagostomy, chemotherapy, and radiotherapy. That indicates they have less knowledge of esophageal cancer' symptoms and diagnosis treatment methods and mostly agree to have a role.

Regarding Barret esophageal disease 72% of the Turkish nurses said they have no idea, and this indicates they have less experience with esophageal cancer while regarding obesity, alcohol use, and smoking, most of the Turkish nurses are said the major risk factors of esophageal cancer, and this indicates that their common knowledge about esophageal cancer is well. Still, they have less experience related to esophageal cancer.

In this study, the Somalian nurses said the Barret esophageal disease is the leading cause of esophageal cancer. This indicates they have more knowledge with esophageal cancer because of more common in Somalia this cancer. At the same time, regarding obesity, alcohol use, and the significant risk factors of esophageal well due to awareness from their doctor and more common cases in Somalia. Other

studies show Barrett's esophageal cancer is usually diagnosed on routine, and the incidence is two to three times higher in men than women (Hvid-Jensen et al., 2011).

Nurses working in Turkey mostly use high-fiber vegetables in their nutrition. In contrast, nurses working in Somalia mostly use a low fiber diet and high fat, which is the cause of most Somali people's increased risk of esophageal cancer (Tahtabasi et al., 2020). Concerning health, the nursing working in Turkey have more number made health annually checking. In contrast, nurses working in Somalia mostly made the health checking two years and more, and this strongly agrees that Somali people are more at risk for cancer.

The nurses working in Somalia have more esophageal cancer in first-degree relatives than Turkish nurses., which suggests a high risk in Somali people esophageal cancer. While considering screening for esophageal cancer, nurses working in Somalia more than 60% never do esophageal cancer screening, and regionally east Africa, esophageal cancer is the most cancer. At the same time, some studies determined esophageal cancer in most cancer in Somalia regarding both genders (Tahtabasi et al., 2020).When the comparison of esophageal cancer risk factors, diagnosis/screening, and treatment scores of knowledge Turkish and Somali nurses, Somalian nurses had more knowledge than Turkish colleagues. This result can be attributed to the higher incidence of esophageal cancer (27%) in the Somali community compared to the Turkish community but increasing in the east region and consequently, the Somali nurses encountering esophageal cancer and these patients more frequently (Uludağ et al., 2021 & Tahtabasi et al., 2020). And this study strongly agrees with other studies written by global burden and indicated that eastern African countries are the second-highest rate of esophageal cancer (Huang et al., 2021).

While considering the treatment score of esophageal cancer, this study indicates more than 60% of Somalian nurses have a high score of treatment and management of esophageal cancer compared to Turkish nurses, which agrees that the Somalian nurses continuously have updated from their doctors of treatment of esophageal cancer. Regarding the total knowledge score of esophageal cancer, this study

indicates that the Somalian nurses have the highest score (60%) while comparing the Turkish nurses (47%). This shows that the Somalian nurses have more experience in case management according to esophageal cancer.

In the study, it is seen that the risk factor scores of non-smoker Turkish nurses are better than smokers. This result shows that non-smokers have better knowledge about esophageal cancer risk factors and avoid smoking for protection.Those who account for smokers have a high-risk factor of esophageal cancer, and this strongly agrees with the study made in Turkey (Uluğa et al., 2021). However, there is no relationship between the smoking status and risk factors of Somali nurses. unfrequently there is no previous study both made in both countries that agree or disagree this result.

While there is no relationship between the diagnosis and screening methods knowledge score of Turkish nurses and the independent variables, it is seen that Somali nurses who have never visited a doctor for control have better knowledge about esophageal cancer diagnosis and screening. At the same time, it is seen that those who have never gone to the doctor have better knowledge about treatment methods. This result may be due to the good education received as a student or employee.

Turkish nurses having esophageal cancer in first-degree relatives caused the increase in treatment methods scores. This strongly agrees that the Turkish nurses have less frequency of visiting doctors when comparing Somalian nurses. Interestly, this present study found that the Somalian nurses have significant risk factor scores according to an analysis of treatment methods with the frequency of going to the doctor in the last year when increasing the frequency of visiting doctor two times per year can cause a decrease of risk factors, this indicates that the Somalian nurses have more experiences than the Turkish nurses according to case management and treatment of esophageal cancer. Unfortunately, we have not any data made in both countries that agree or disagree with this result in Somalian nurses. Since nurses are health professions, and they also had information about esophgeal cancer before, this result may be affected from this situation.

PART 6

CONCLUSION

In this study, it was aimed to evaluate the knowledge level of Turkish and Somalian nurses about esophageal cancer risk factors, diagnosis, screening, and treatment methods, to determine whether there is a difference in knowledge of the nurses of the two communities and to reveal the predictors that affect the level of knowledge. This present study results indicate that a difference between the esphageal cancer risk factors, treatment and total knowledge scores in Turkish and Somalian nurses. However, there was no statistical differences between two groups in items of diagnosis and screening knowlege scores. Somalian nurses knowledge scores about risk factors and treatment was higher than the Turkish nurses. Additional, this study results indicate that Turkish nurses whose first-degree relatives had esophageal cancer had high knowledge score. Otherwise, Somalian nurses who didn't visit doctor frequently had high knowledge scores.

Considering the increasing prevalence of esophageal cancer in the world, we strongly recommend organizing training programs to nurses in regard to increase the knowledge on esophageal cancer risk factors, diagnosis, screening and treatment modalalites. In addition, action-oriented initiatives should be planned to combat esophageal cancer and to increase the knowledge and competencies of nurses in this regard, within the policies of combating cancer. Increasing the knowledge of nurses in both societies will undoubtedly contribute to healthy individuals, patients and their families.

REFERENCES

Abnet, C. C., Arnold, M., & Wei, W. Q. (2018). Epidemiology of esophageal squamous cell carcinoma. *Gastroenterology*, 154(2), 360–373. https://doi.org/10.1053/j.gastro.2017.08.023.

Ahrens, T. D., Werner, M., & Lassmann, S. (2014). Epigenetics in esophageal cancers. *Cell and Tissue Research*, 356(3), 643–655. https://doi.org/10.1007/s00441-014-1876-y.

Andegiorgish AK, Kidane EA, Gebrezgi MT. Knowledge, attitude, and practice of breast cancer among nurses in hospitals in Asmara, Eritrea. *BMC Nursing* 2018; 17: 33.

Arnal, M. J. D. (2015). Esophageal cancer: risk factors, screening and endoscopic treatment in Western and Eastern countries. *World Journal of Gastroenterology*, 21(26), 7933. https://doi.org/10.3748/wjg.v21.i26.7933.

Arnold, M., Soerjomataram, I., Ferlay, J., & Forman, D. (2014). Global incidence of oesophageal cancer by histological subtype in 2012. *Gut*, 64(3), 381–387. https://doi.org/10.1136/gutjnl-2014-308124.

Bademci V. (2011). Kuder-rıchardson 20, Cronbach'ın alfası, Hoyt'un Varyans analizi, genellenirlik kuramı ve ölçüm güvenirliği üzerine bir çalışma. *Dicle Üniversitesi Ziya Gökalp Eğitim Fakültesi Dergisi*, 17, 173-193.

Baş, Y., Hassan, H. A., Adıgüzel, C., Bulur, O., Ibrahim, K. A., & Soydan, S. (2017). The distribution of cancer cases in Somalia. *Seminars in Oncology*, 44(3), 178–186. https://doi.org/10.1053/j.seminoncol.2017.10.007.

Bhat, S., Coleman, H. G., Yousef, F., Johnston, B. T., McManus, D. T., Gavin, A. T., & Murray, L. J. (2011). Risk of malignant progression in barrett's esophagus patients: results from a large population-based study. *JNCI Journal of the National Cancer Institute*, 103(13), 1049–1057. https://doi.org/10.1093/jnci/djr203.

Bray, F., Ferlay, J., Soerjomataram, I., Siegel, R. L., Torre, L. A., & Jemal, A. (2018a). Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA: A *Cancer Journal for Clinicians*, 68(6), 394–424. https://doi.org/10.3322/caac.21492.

Buckle, G. C., Mahapatra, R., Mwachiro, M., Akoko, L., Mmbaga, E. J., White, R. E., Bent, S., & van Loon, K. (2020). Optimal management of esophageal cancer in Africa: A systemic review of treatment strategies. *International Journal of Cancer*, 148(5), 1115–1131. https://doi.org/10.1002/ijc.33299.

Chen, Y., Tong, Y., Yang, C., Gan, Y., Sun, H., Bi, H., Cao, S., Yin, X., & Lu, Z. (2015). Consumption of hot beverages and foods and the risk of esophageal cancer: a meta-analysis of observational studies. *BMC Cancer*, 15(1). https://doi.org/10.1186/s12885-015-1185-1.

Coleman, H. G., Xie, S. H., & Lagergren, J. (2018). The Epidemiology of Esophageal Adenocarcinoma. *Gastroenterology*, 154(2), 390–405. https://doi.org/10.1053/j.gastro.2017.07.046.

Conteduca, V., Sansonno, D., Ingravallo, G., Marangi, S., Russi, S., Lauletta, G., & Dammacco, F. (2012). Barrett's esophagus and esophageal cancer: An overview. *International Journal of Oncology*, 41(2), 414–424. https://doi.org/10.3892/ijo.2012.1481.

Cook, M. B., Chow, W. H., & Devesa, S. S. (2009). Oesophageal cancer incidence in the United States by race, sex, and histologic type, 1977–2005. *British Journal of Cancer*, 101(5), 855–859. https://doi.org/10.1038/sj.bjc.6605246.

Cuizhi Geng, F. L. (2015). Nursing care for esophageal cancer patients receiving radiation therapy in China: A review of the published literature. *Journal of Nursing & Care*, 04(02). https://doi.org/10.4172/2167-1168.1000243.

Daly, J. M., Fry, W. A., Little, A. G., Winchester, D. P., McKee, R. F., Stewart, A. K., & Fremgen, A. M. (2000). Esophageal cancer: results of an American College of Surgeons patient care evaluation study11No competing interests declared. *Journal of the American College of Surgeons*, 190(5), 562–572. https://doi.org/10.1016/s1072-7515(00)00238-6.

De Jonge, P. J. F., Van Blankenstein, M., Looman, C. W. N., Casparie, M. K., Meijer, G. A., & Kuipers, E. J. (2010). Risk of malignant progression in patients with Barrett's oesophagus: a Dutch nationwide cohort study. *Gut*, 59(8), 1030–1036. https://doi.org/10.1136/gut.2009.176701.

Eroğlu, A, Aydin, Y., Altuntaş, B., Gündoğdu, B., & Yilmaz, M. (2016). The increasing incidence of esophageal squamous cell carcinoma in women in Turkey. *Turkish Journal Of Medical Sciences*, 46, 1443–1448. https://doi.org/10.3906/sag-1504-154.

Eşrefoglu, M., Taslidere, E., & Çetin, A. (2018). Development of the esophagus and stomach. *Bezmialem Science*, 175–182. https://doi.org/10.14235/bs.2017.811.

Gele, A. (2020). Challenges facing the health system in Somalia and implications for achieving the SDGs. *European Journal of Public Health*, 30(5). https://doi.org/10.1093/eurpub/ckaa165.1147.

Hardefeldt, h. A., cox, m. r., & eslick, g. d. (2014). Association between human papillomavirus (HPV) and oesophageal squamous cell carcinoma: a meta-analysis. *Epidemiology and Infection*, 142(6), 1119–1137. https://doi.org/10.1017/s0950268814000016.

Hardikar, S., Onstad, L., Blount, P. L., Odze, R. D., Reid, B. J., & Vaughan, T. L. (2013). The role of tobacco, alcohol, and obesity in neoplastic progression to esophageal adenocarcinoma: A prospective study of Barrett's Esophagus. *PLoS ONE*, 8(1), e52192. https://doi.org/10.1371/journal.pone.0052192.

Harris, C., Croce, B., & Munkholm-Larsen, S. (2017). Esophageal cancer. *Annals of Cardiothoracic Surgery*, 6(2), 190. https://doi.org/10.21037/acs.2017.03.01.

Health Commission Of PRC, N. (2019). Chinese guidelines for diagnosis and treatment of esophageal carcinoma 2018 (English version). *Chinese Journal of Cancer Research*, 31(2), 223–258. https://doi.org/10.21147/j.issn.1000-9604.2019.02.01.

Holmes, R. S., & Vaughan, T. L. (2007). Epidemiology and pathogenesis of esophageal cancer. *Seminars in Radiation Oncology*, 17(1), 2–9. https://doi.org/10.1016/j.semradonc.2006.09.003.

Hongo, M., Nagasaki, Y., & Shoji, T. (2009). Epidemiology of esophageal cancer: Orient to occident. Effects of chronology, geography and ethnicity. *Journal of Gastroenterology and Hepatology*, 24(5), 729–735. https://doi.org/10.1111/j.1440-746.2009.05824.x.

Huang, F. L., & Yu, S. J. (2018a). Esophageal cancer: Risk factors, genetic association, and treatment. *Asian Journal of Surgery*, 41(3), 210–215. https://doi.org/10.1016/j.asjsur.2016.10.005.

Huang, J., Koulaouzidis, A., Marlicz, W., Lok, V., Chu, C., Ngai, C. H., Zhang, L., Chen, P., Wang, S., Yuan, J., Lao, X. Q., Tse, S. L., Xu, W., Zheng, Z. J., Xie, S. H., & Wong, M. C. (2021). Global burden, risk factors, and trends of esophageal cancer: An analysis of cancer registries from 48 countries. *Cancers*, 13(1), 141. https://doi.org/10.3390/cancers13010141.

Hvid-Jensen, F., Pedersen, L., Drewes, A. M., Sørensen, H. T., & Funch-Jensen, P. (2011). Incidence of adenocarcinoma among patients with Barrett's Esophagus. *New England Journal of Medicine*, 365(15), 1375–1383. https://doi.org/10.1056/nejmoa1103042.

Ide, E., Carneiro, F. O. A. A., Frazão, M. S. V., Chaves, D. M., Sallum, R. A. A., de Moura, E. G. H., Sakai, P., Cecconello, I., & Maluf-Filho, F. (2013). Endoscopic detection of early esophageal squamous cell carcinoma in patients with Achalasia: Narrow-Band Imaging versus Lugol's Staining. *Journal of Oncology*, 2013, 1–6. https://doi.org/10.1155/2013/736756.

Jansson, C., Jeding, K., & Lagergren, J. (2009). Job strain and risk of esophageal and cardia cancers. *Cancer Epidemiology*, 33(6), 473–475. https://doi.org/10.1016/j.canep.2009.10.008.

Jiang, X., Tseng, C. C., Bernstein, L., & Wu, A. H. (2014). Family history of cancer and gastroesophageal disorders and risk of esophageal and gastric adenocarcinomas: a case–control study. BMC Cancer, 14(1). https://doi.org/10.1186/1471-2407-14-60.

Kamangar, F., Dores, G. M., & Anderson, W. F. (2006). Patterns of cancer incidence, mortality, and prevalence across five continents: defining priorities to reduce cancer

disparities in different geographic regions of the world. *Journal of Clinical Oncology,* 24(14), 2137–2150. https://doi.org/10.1200/jco.2005.05.2308.

Kheshti, R., Namazi, S., Mehrabi, M., Firouzabadi, D. (2016). Health care workers knowledge, attitude, and practice about chronic pain management. *Anesth Pain Med,* 16;6(4): e37270.

Kim, T. J., Kim, H. Y., Lee, K. W., & Kim, M. S. (2009). Multimodality assessment of esophageal cancer: preoperative staging and monitoring of response to therapy. *RadioGraphics,* 29(2), 403–421. https://doi.org/10.1148/rg.292085106.

Li, M., Zhang, X., Zhao, F., Luo, Y., Kong, L., & Yu, J. (2016). Involved-field radiotherapy for esophageal squamous cell carcinoma: theory and practice. *Radiation Oncology,* 11(1). https://doi.org/10.1186/s13014-016-0589-7.

Liu, J., Wang, J., Leng, Y., & Lv, C. (2013). Intake of fruit and vegetables and risk of esophageal squamous cell carcinoma: A meta-analysis of observational studies. *International Journal of Cancer,* 133(2), 473–485. https://doi.org/10.1002/ijc.28024.

Löfdahl, H. E., Lu, Y., Lagergren, P., & Lagergren, J. (2013). Risk factors for esophageal adenocarcinoma after antireflux surgery. *Annals of Surgery,* 257(4), 579–582. https://doi.org/10.1097/sla.0b013e3182888384.

Meves, V., Behrens, A., & Pohl, J. (2015). Diagnostics and early diagnosis of esophageal cancer. *Visceral Medicine,* 31(5), 315–318. https://doi.org/10.1159/000439473.

Pan, D., Su, M., Zhang, T., Miao, C., Fu, L., Yang, L., Song, G., Raine, P. J., Wang, S., & Sun, G. (2019). A Distinct epidemiologic pattern of precancerous lesions of esophageal squamous cell carcinoma in a high-risk area of Huai'an, Jiangsu province, China. *Cancer Prevention Research,* 12(7), 449–462. https://doi.org/10.1158/1940-6207.capr-18-0462.

Pennathur, A., Gibson, M. K., Jobe, B. A., & Luketich, J. D. (2013). Oesophageal carcinoma. *The Lancet,* 381(9864), 400–412. https://doi.org/10.1016/s0140-6736(12)60643-6.

Renehan, A. G., Tyson, M., Egger, M., Heller, R. F., & Zwahlen, M. (2008). Body-mass index and incidence of cancer: a systematic review and meta-analysis of prospective observational studies. *The Lancet,* 371(9612), 569–578. https://doi.org/10.1016/s0140-6736(08)60269-x.

Rice, T. W. (2015). Esophageal Cancer Staging. *The Korean Journal of Thoracic and Cardiovascular Surgery,* 48(3), 157–163. https://doi.org/10.5090/kjtcs.2015.48.3.157.

Siegel, R. L., Miller, K. D., & Jemal, A. (2015). Cancer statistics, 2015. CA: *A Cancer Journal for Clinicians*, 65(1), 5–29. https://doi.org/10.3322/caac.21254.

Soytürk, M. (2014). A case report of esophageal perforation: Complication of nasogastric tube placement. *American Journal of Case Reports,* 15, 168–171. https://doi.org/10.12659/ajcr.890260.

Tahtabasi, M., Mohamud Abdullahi, I., Kalayci, M., Gedi Ibrahim, I., & Er, S. (2020).Cancer Incidence and Distribution at a Tertiary Care Hospital in Somalia from 2017 to 2020: An Initial Report of 1306 Cases.

Cancer Management and Research, Volume 12, 8599–8611. https://doi.org/10.2147/cmar.s277202.

Uhlenhopp, D. J., Then, E. O., Sunkara, T., & Gaduputi, V. (2020). Epidemiology of esophageal cancer: update in global trends, etiology and risk factors. *Clinical Journal of Gastroenterology,* 13(6), 1010–1021. https://doi.org/10.1007/s12328-020-01237-x.

Uludağ, S.S., akinci, o., ergün, s., erginöz, e., şanli, a. n., kepil, n., ayan, f., özçelik, m. F., & zengin, a. K. (2021). The 33-year retrospective analysis of esophageal carcinomas: Cerrahpaşa experience. *Namık Kemal Tıp Dergisi,* 9(1), 67–71. https://doi.org/10.4274/nkmj.galenos.2021.816166.

Wheeler, J. B., & Reed, C. E. (2012). Epidemiology of esophageal cancer. *Surgical Clinics of North America*, 92(5), 1077–1087. https://doi.org/10.1016/j.suc.2012.07.008.

Xie, S. H., & Lagergren, J. (2018). Social group disparities in the incidence and prognosis of oesophageal cancer. *United European Gastroenterology Journal*, 6(3), 343–348. https://doi.org/10.1177/2050640617751254.

Zhang, S. K., Guo, L. W., Chen, Q., Zhang, M., Liu, S. Z., Quan, P. L., Lu, J. B., & Sun, X. B. (2015). The association between human papillomavirus 16 and esophageal cancer in Chinese population: a meta-analysis. *BMC Cancer*, 15(1). https://doi.org/10.1186/s12885-015-1096-1.

Zhang, Y. (2013). Epidemiology of esophageal cancer. World Journal of Gastroenterology, 19(34), 5598. https://doi.org/10.3748/wjg.v19.i34.5598.

Sung, H., Ferlay, J., Siegel, R. L., Laversanne, M., Soerjomataram, I., Jemal, A., & Bray, F. (2021). Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. CA: *A Cancer Journal for Clinicians*, 71(3), 209–249. https://doi.org/10.3322/caac.21660.

GLOBOCAN 2020: New Global Cancer Data | UICC. (2021). Retrieved 14 March 2021, from https://www.uicc.org/news/globocan-2020-new-global-cancer-data.

Chen,W, zheng R, zeng H, et al. Annual report an status of cancer in China, 211-chin.j cancers 2015; 27:2-12.

https://www.prnewswire.com/news/cancer-treatment-centers-of-america/. Accessed date: 20.05.2021.

https://gco.iarc.fr/today/data/factsheets/populations/792-turkey. Accessed date:25.05.2021.

Lam, A. K. Y. (2021). Updates on World Health Organization classification and staging of esophageal tumors: implications for future clinical practice. *Human Pathology*, 108, 100–112. https://doi.org/10.1016/j.humpath.2020.10.015.

APPENDIX A.

KARABUK UNIVERSITY ETHICAL COMMITTEE APPROVAL FORM

T.C.
KARABÜK ÜNİVERSİTESİ REKTÖRLÜĞÜ
Girişimsel Olmayan Klinik Araştırmalar Etik Kurulu

Sayı : 77192459-050.99-E.50699
Konu : 2019/48 Nolu Karar

08/12/2019

Sayın Doç. Dr. Işıl IŞIK ANDSOY

Girişimsel Olmayan Klinik Araştırmalar Etik Kurulumuza sunmuş olduğunuz "Hemşirelerin Özafagus Kanseri Ve Risk Faktörlerine Yönelik Bilgi Durumlarının Belirlenmesi: Türkiye Somali Örneği" başlıklı araştırma projeniz amaç, gerekçe, yaklaşım ve yöntemle ilgili açıklamaları açısından Girişimsel Olmayan Etik Kurulu yönergesine göre incelenmiştir. Etik açıdan bir sakınca olmadığına oy çokluğu ile karar verilmiş ve uygun görülmüştür.

Bilgilerinize rica ederim.

e-imzalıdır
Dr. Öğr.Üyesi Zafer LİMAN
Kurul Başkanı

Belgenin Aslı
Elektronik İmzalıdır
17/01/2020

02/12/2019 Sürekli İşçi

Simge ACAR TURGUT

Adres:Karabük Üniversitesi Demir Çelik Kampüsü Merkez/Karabük
Telefon:(370) 418 9446
e-Posta:giroletik@karabuk.edu.tr Elektronik Ağ:http://tip.karabuk.edu.tr/giroletik
Bilgi için: Simge ACAR TURGUT
Unvanı: Sürekli İşçi

APPENDIX B.

KARABUK UNIVERSITY TRAINING AND RESEARCH HOSPITAL ADMINISTRATIVE PERMISSION

KARABÜK İL SAĞLIK MÜDÜRLÜĞÜ - KARABÜK İL SAĞLIK MÜDÜRLÜĞÜ
07/02/2020 14:25 - 98024045 - 799 - E.2372
00112118649

T.C.
KARABÜK VALİLİĞİ
İl Sağlık Müdürlüğü

Sayı : 98024045-799
Konu : Araştırma İzni Hk.(Zahra Salad NAGEYE)

KARABÜK ÜNİVERSİTESİ EĞİTİM VE ARAŞTIRMA HASTANESİ

İlgi : 03/02/2020 tarihli ve 98024045-1360 sayılı yazı.

Karabük Üniversitesi Lisansüstü Eğitim Enstitüsü Hemşirelik Bilimi Anabilim Dalı Yüksek Lisans Programı öğrencisi Zahra Salad NAGEYE'nin Doç. Dr. Işıl IŞIK ANDSOY'un danışmanlığında yürüttüğü *"Hemşirelerin Özafagus Kanseri ve Risk Faktörlerine Yönelik Bilgi Durumlarının Belirlenmesi:Türkiye-Somali Örneği"* konulu tez çalışmasını Hastanenizde yapabilmesi Müdürlüğümüzce uygun görülmüştür.

Bilgilerinizi ve gereğini rica ederim.

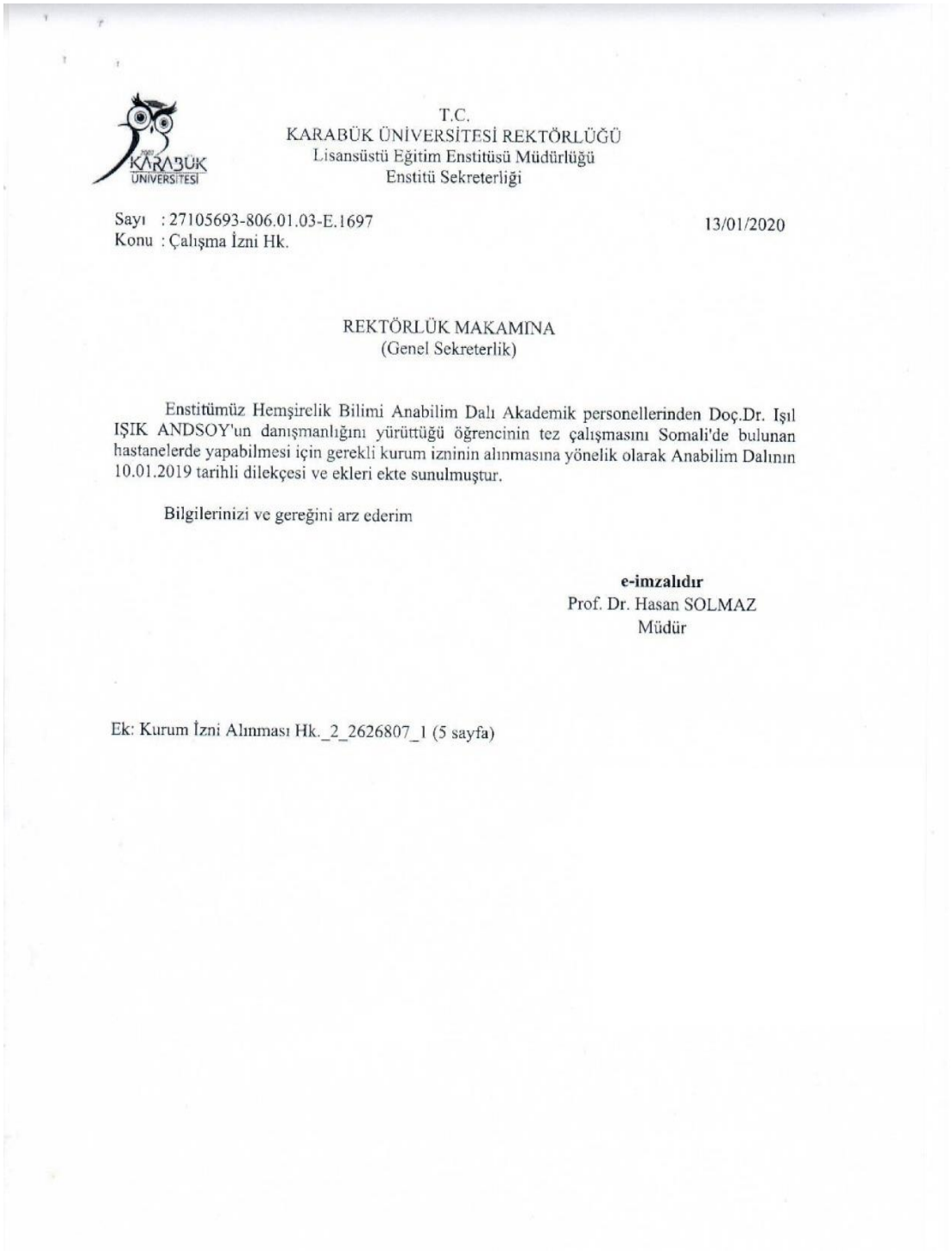
e-imzalıdır.
Dr. Ahmet SARI
İl Sağlık Müdürü

Ek:
1- Yazı ve Ekleri (14 Sayfa)
2- Toplantı Formu (1 Sayfa)

Karabük İl Sağlık Müdürlüğü İdari Hizmetler Birimi 5000 Evler 75.Yıl Mah. 17.Sok. No: 4 78020 KARABÜK
Bilgi için: Aynur TOPCU
Telefon: 03704333126 Faks No: 4338160
EBE
e-Posta: aynur.topcu@saglik.gov.tr İnternet Adresi: 1402
Telefon No: (0 370) 433 31 26

APPENDIX C.

MOGADISHO BANADIR HOSPITAL DIRECTORATE OF HEALTH FORMAL ADMINISTRATIVE PERMISSION



T.C.
KARABÜK ÜNİVERSİTESİ REKTÖRLÜĞÜ
Lisansüstü Eğitim Enstitüsü Müdürlüğü
Enstitü Sekreterliği

Sayı : 27105693-806.01.03-E.1697
Konu : Çalışma İzni Hk.

13/01/2020

REKTÖRLÜK MAKAMINA
(Genel Sekreterlik)

Enstitümüz Hemşirelik Bilimi Anabilim Dalı Akademik personellerinden Doç.Dr. Işıl IŞIK ANDSOY'un danışmanlığını yürüttüğü öğrencinin tez çalışmasını Somali'de bulunan hastanelerde yapabilmesi için gerekli kurum izninin alınmasına yönelik olarak Anabilim Dalının 10.01.2019 tarihli dilekçesi ve ekleri ekte sunulmuştur.

Bilgilerinizi ve gereğini arz ederim

e-imzalıdır
Prof. Dr. Hasan SOLMAZ
Müdür

Ek: Kurum İzni Alınması Hk._2_2626807_1 (5 sayfa)

APPENDIX D.

QUESTIONNAIRES FORM

Dear Participant,

Below is an information and questions to determine esophageal cancer and its risks. Read each statement and mark the answer that suits you. Please be careful do not leave any questions as empty as possible. Thank you for your support.

Part 1. Sociodemographic Characteristics

Age: ☐ 18-29 ☐ 30-40 ☐ 41-50 ☐ 51 and above

1. Gender: ☐ Female ☐ Male
2. Marital Status: ☐ Single ☐ OMarried
3. Education: ☐ O High school ☐ Undergraduate ☐ O Graduate
4. Years of experience:
   ☐ 0-5 years
   ☐ 6-10 years
   ☐ 11-15 years
   ☐ 15 years or more
5. Type of clinic you work
   ☐ Internal medicine
   ☐ Surgery
   ☐ Intensive Care
   ☐ Operating Room
   ☐ Emergency
6. Smoking status: ☐ Smoking ☐ No smoking
7. Alcohol: ☐ Drinking ☐ Not Drinking
8. Nutrition habits
   ☐ Abundant fiber-weighted vegetables
   ☐ Low fiber, rich in protein and fat
   ☐ Other
9. Frequency of your visiting to the doctor in the last year
   ☐ I Never went
   ☐ 1-2 times
   ☐ 3-4 times
   ☐ Other
10. When did you have the last health check? ☐ Last year ☐ Last two years ☐ Other
11. Do your close relatives have oesophageal cancer? ☐ Yes ☐ No
12. How do you assess your general health? ☐ Bad ☐ Average ☐ Good ☐ Excellent

13. Are you planning to have an oesophageal cancer scan? ☐Yes ☐No

14. What are your barriers to oesophageal cancer screening?
    - ☐ I have no information
    - ☐ No one suggest
    - ☐ I'm afraid to get diagnosed with cancer
    - ☐ I’m afraid of hurting
    - ☐ Other

15. Do you want traning about oesophageal cancer risk, diagnosis and treatment methods?

    ☐ Yes ☐ No

Section 2. Information on esophageal cancer risk factors, diagnosis, screening and treatment methods

RISK FACTORS	Yes	No	No idea
1.Male are at greater risk for oesophageal cancers than female.			
2.Oesophageal cancers are more common over the age of 55			
3.White race is more susceptible than black race.			
4.Barret Oesophageal disease increases the risk of cancer.			
5.Reflux complaints are common in patients with oesophageal cancer.			
6.Obesity is a major risk factor for oesophageal cancer.			
7.Alcohol use is an important risk factor in oesophageal cancer.			
8.Smoking increases the risk of cancer.			
9.Fibber, fruit and vegetable-rich nutrition reduces the risk of oesophageal cancer.			
10.Low socioeconomic level is not a risk factor for oesophageal cancer.			
11.The presence of FOXF1 and BARX1 genes increases the risk of oesophageal cancer.			
12.The use of proton pump inhibitors and aspirin reduces the risk of cancer.			
13.Statins reduce the risk of oesophageal cancer.			
14.Use of non-steroid anti-inflammatory, increases the risk of cancer.			
DIAGNOSIS AND SCREENING METHODS			
15.Endoscopy is a diagnostic method that has little importance in the diagnosis ofoesophageal cancer.			
16.Biopsy is the definitive diagnostic method for oesophageal cancer.			
17.Dysphagia, reflux, chest inflammation or feeling of pressure are the symptomsof oesophageal cancer.			
18.Unexplained weight loss and indigestion are symptoms of oesophageal cancer.			
19.Cough and hoarseness are symptoms of oesophageal cancer.			
20.Hematemesis is a late symptom of oesophageal cancer.			
21. MR, CT, PET CT and endoscopic ultrasound are other diagnostic methods usedin oesophageal cancer.			
TREATMENT			
22.Neoadjuvant treatment is the treatment of cancer after surgery.			
23.Esophagectomy is performed in oesophageal cancer.			
24 Chemotherapy is applied after surgical treatment.			
25.In oesophageal cancer, radiotherapy may be applied together with neoadjuvanttherapy.			

ANKET FORMU

Sayın Katılımcı,

Aşağıda size ait bilgiler ile özafagus kanseri ve risklerini belirlemeye yönelik sorular yer almaktadır. Her ifadeyi her ifadeyi okuyup, size uygun gelen cevabı işaretleyiniz. Hiçbir soruyu mümkün olduğunca boş bırakmamaya özen gösteriniz. Desteğiniz için teşekkür ederiz.

Bölüm 1. SosyodemografikÖzellikler

1.Yaş: ☐ 18-29 ☐ 30-40 ☐ 41-50 ☐ 51 veüzeri
2.Cinsiyet:☐Kadın ☐Erkek
3. Medeni Durum: ☐Bekar ☐Evli
4. Eğitim durumu: ☐Önlisans ☐Lisans ☐Lisansüstü
5. Çalışma yılınız:
☐ 0-5 yıl
☐ 6-10 yıl
☐ 11-15 yıl
☐ 15 yıl ve üzeri
6. Çalıştığınız klinik
☐Dahiliye klinikleri
☐Cerrahi Klinikleri
☐Yoğun Bakım
☐Ameliyathane
☐Acil
7. Sigara kullanma durumu: ☐İçiyor ☐İçmiyor
8. Alkol kullanma: ☐İçiyor ☐İçmiyor
9. Beslenme alışkanlıkları
☐ Bol lifli sebze ağırlıklı
☐ Az lifli, protein ve yağdan zengin
☐ Diğer
10. Son bir yıl içerisinde doktora gitme sıklığınız
☐ Hiç gitmedim
☐ 1-2 defa
☐ 3-4 defa
☐ Diğer
11. Son sağlık kontrolleri ne zaman yaptırdınız?
☐ Son bir yıl içerisinde
☐ Son iki yıl içerisinde
☐ Diğer
12. Birinci derece akrabalarınızda özafaguskanseri var mı?
☐ Var
☐ Yok
13. Genel sağlık durumunuzu nasıl değerlendiriyorsunuz?
☐Kötü
☐Orta
☐İyi
☐Mükemmel

14. Özafaguskanseri taramasını yaptırmayı düşünüyor musunuz?

☐ Evet

☐Hayır

15. Özafaguskanseri taramasına gitme ile ilgili engelleriniz nelerdir?

☐Bilgim yok

☐Kimse önermedi

☐Kanser tanısı almaktan korkuyorum

☐İşlemlerin acı vermesinden korkuyorum

☐Diğer

16. Özafaguskanseri risk, tanı ve tedavi yöntemlerine yönelik bilgi almak istermisiniz?

☐ Evet

☐Hayır

Bölüm 2. Özafaguskanseri risk faktörleri, tanı ve tarama ile tedavi yöntemlerine yönelik bilgiler

	Evet	Hayır	Fikrim Yok
RİSK FAKTORLERİ			
1. Özafaguskanserleri açısından erkeler kadınlara gore daha fazla risk altındadır.			
2. 55 yaş üzeri özafaguskanserleri daha sık görülür.			
3. Beyaz ırkta siyah ırka gore yatkınlık daha fazladır.			
4. Barret Ozafagus hastalığı kanser riskini arttırır.			
5. Özafaguslu kanseri hastalarının öncesinde reflü şikayatleri sık görülür.			
6. Obesite özafagus kanseri açısından major risk faktörüdür.			
7. Özafagus kanserinde alkol kullanımı önemli bir risk faktörüdür.			
8. Sigara kullanımı kanser riskini arttırır.			
9. Lifli, meyve ve sebze yönünden zengin beslenme özofagus kanseri riskini azaltır.			
10. Düşük sosyoekonomik düzey özafagus kanseri için bir risk faktörü değildir.			
11. FOXF1 ve BARX1 genlerinin varlığı özofagus kanseri riskini arttırır.			
12. Proton pompainhibitörleri ve aspirin kullanımı kanser riskini azaltır.			
13. Statinler özafagus kanser riskini azaltır.			
14. Non steroid anti inflammatuar, kullanımı kanser riskini arttırır.			
TANI VE TARAMA YÖNTEMLERİ			
15. Endoskopi yöntemi özafagus kanseri tanısında önemi az olan tanı yöntemidir.			
16. Biyopsi yöntemi özafagus kanseri tanısında kesin tanı yöntemidir.			
17. Disfaji, reflü, göğüste yangı veya basınç hissi özafagus kanserinin belirtilerindendir.			
18. Açıklanamayan kilo kaybı ve hazımsızlık özafgus kanserinin belirtilerindendir.			
19. Öksürük ve ses kısıklığı özafagus kanserinin belirtilerindendir.			
20. Hematemez özafagus kanserinin geç belirtilerindendir.			
21. MR, CT, PET CT ve endoskopik ultrason özafagus kanserinde kullanılan diğer tanı yöntemleridir.			
TEDAVİ			
22. Ne adjuvant tedavi yöntemi kanserin cerrahi sonrasında uygulanan tedavi yöntemidir.			
23. Özafagus kanserinde özafagusektomi uygulanır.			
24. Cerrahi tedavi sonrasında kemoterapi uygulanır.			
25. Özafagus kanserinde radyoterapi neadjuvant tedavi ile birlikte uygulanabilir.			