

Libya's Rapid Collapse of the Healthcare System After 2011: A Comparison of the Six
Aims of Health Care Quality Between the United States and Libya

Policy Research

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ABSTRACT

This study examines Libya's post-war healthcare between the years of 2011 to 2020 through self-reports of Libyan respondents regarding the healthcare quality they were provided in Libya and the U.S measured by the Institute of Medicine's six quality aims of healthcare. The construct of the six quality aims is a guideline created to help healthcare facilities deliver adequate quality healthcare to patients. It is a reliable tool to measure the quality of a medical service center. To my knowledge, there have been no studies conducted regarding Libya's healthcare system based on the Institute of Medicine's six quality aims. Also, no data has been collected regarding Libyans' perception of the quality of healthcare they received. With a detailed survey that I have constructed containing demographic variables as well as the six quality aims, I compared the respondents' experiences in healthcare facilities in Libya to their experiences in the U.S healthcare facilities. With 30 respondents in total, this study found that their perception of healthcare quality between Libya and the U.S is similar. This study will also recall Libya's medical background exploring the challenges it faced to help gain insight on the initial momentum that seems to have been lost. It will also introduce previous studies and action plans such as the Humanitarian Response Plan and the Libya Stabilization Act that can turn Libya into the divinely serene country it is meant to be.

“The parable of the believers in their affection, mercy, and compassion for each other is that of a body. When any limb aches, the whole body reacts with sleeplessness and fever.”- Prophet Muhammed

CHAPTER 1-PURPOSE OF THE STUDY

“The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition” (Ghebreyesus, 2017). Unfortunately, the healthcare system in Libya is failing due to fragmented governance, limited financial resources, deficient human resources, a shortage of life-saving medicines and basic equipment, a weakening primary healthcare network, and neglected health care service primarily in the south.

A Service Availability and Readiness Assessment Survey conducted by the World Health Organization (WHO) and the Ministry of Health in June - July of 2017 “showed that 17 out of 97 hospitals (in Libya) are closed and only 4 hospitals are functional between 75-80% of its capacity. Over 20% of primary health care facilities are closed, and the rest are not well ready for service delivery” (World Health Organization). Out of the 1,355 Primary Health Care centers, 1,082 are partially or fully functional and 273 are nonfunctional. Only 18 PHC centers provide family planning, 568 provide treatment for non-communicable diseases and 184 provide antenatal care. In hospital settings, only 40% of inpatient beds are currently functional, thus having an overall functional capacity of the 15 beds per 100,000 people rather than the targeted goal of 25 beds per 100,000 people. Additionally, 8 out of 22 districts have maternal bed density lower than the WHO standard of 10 beds per 10,000 pregnant women. Libyan hospitals are in need of 2,360 specialists, 4,997 nurses, and 359 midwives. In light of these events, 1.3 million Libyan people require health humanitarian aid and this study will investigate the devastating healthcare collapse.

This study covers the salient foundations of a health care system. It will bring to light the problems that Libyan medical facilities are having from the point of view of their patients by

conducting a cross-sectional survey. According to research on the Importance of Patient Satisfaction Measurement and Electronic Surveys, health professionals can benefit from satisfaction surveys that identify potential areas for service improvement and health expenses may be optimized through patient-guided planning and evaluation (Ilioudi et al, 2013).

Therefore, conducting a survey, reviewing previous surveys, and studying Libya's medical history will bring forth valuable information for policymakers and advocates, such as the World Health Organization, the Ministry of Health of Libya, and other international non-governmental organizations (INGO) and non-governmental organizations (NGO).

This research examines Libya's healthcare system after the 2011 revolution through self-reports of Libyans living in the US measured by the six aims of healthcare quality. These six aims will be used in the survey to measure the comparison of healthcare quality between Libya and the U.S through the respondents' perception between the years of 2011 to 2020. The Institute of Medicine has created the six aims of healthcare quality to improve healthcare quality by removing the mistakes currently embedded in the system, allowing the healthcare system to deliver attainable healthcare to patients. The six aims (constructs) are safety, effectiveness, patient-centered, timeliness, efficiency, and equitability.

The first aim, safety, refers to the avoidance of harm to patients from the care that is intended to help them. The effectiveness aim seeks to provide services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit, thereby avoiding overuse, underuse, and misuse. The third aim, patient-centered, aims to provide care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions. The timely aim reduces waits and sometimes harmful delays for both those who receive and those who give care. The efficient

aim attempts to avoid waste, including waste of equipment, supplies, ideas, and energy. Lastly, equitable aims to provide care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status (*Six Domains of Healthcare Quality*). These constructs of healthcare quality created by the Institute of Medicine are an ideal guide on measuring the quality care of medical service centers, especially when the centers start to become more inadequate. Unfortunately, no studies have been conducted regarding Libya's healthcare system based on the Institute of Medicine's six quality aims. This lack of data in addition to the absence of self-reports of Libyans regarding the healthcare they are receiving is what piqued my interest in conducting this research.

The target population in this research will be individuals who have been medically treated in Libya and the United States during or after 2011 and are currently 18 years or older. The survey questions will target the individuals' personal experience based on the six aims of healthcare quality. There is a total of seventeen questions in this study. The survey will start with the participants' demographics, such as what regions they were being medically treated in Libya and the U.S. The responses for regions have been divided into the four cardinal and intercardinal directions. The survey also asks the age they were medically treated in both Libya and the U.S, what age they are currently, and what their gender identity is. The survey questions will then be divided into six categories for each aim. The research questions have been constructed to ask the participants about their personal experience receiving medical aid with the purpose of measuring the quality of that specific healthcare aim in both Libya and the U.S. The participants will answer with a five-point Likert scale of strongly agree, somewhat agree, neutral, somewhat disagree, as well as other precise answers to specific questions. This survey will collect data that will be compared to other key research about the Libyan healthcare system.

This study will be divided into three parts. The first part is exploring Libya's medical educational background and investigating the challenges it faced so it may help to regain the initial momentum that seems to have been lost. The second is introducing previous studies and action plans such as the Humanitarian Response Plan and the Libya Stabilization Act. Lastly, this research will examine if there is a difference in healthcare quality between Libya and the United States between the years of 2011 to 2020 through self-reports of Libyans living in the U.S by conducting a cross-sectional study measured by the six constructs of healthcare quality.

CHAPTER 2-REVIEW OF LITERATURE

The purpose of this study is to examine Libya's healthcare system after the 2011 revolution through self-reports of Libyans living in the US as measured by the six areas of healthcare quality. These six areas as outlined above will be used to measure the comparison of healthcare quality between Libya and the U.S through the respondents' perception among the years of 2011 to 2020. Currently, there have been no studies regarding Libya's healthcare through the perception of Libyans nor any studies regarding Libya's healthcare based on the Institute of Medicine's six quality aims. That is why this study chose this specific model to use to measure the quality of Libya's healthcare. In addition, this study will also recall Libya's medical background from when it started to flourish and its decline as well as previous studies and health surveys.

Since 2011, there have been around one million refugees that have fled Libya due to the war, 2.44 million people in need of protection and some form of humanitarian aid, and 435,000 internally displaced persons (REACH, 2016). After the former president, Muammar Al-Gaddafi, was executed, the majority of Libyans traveled back to Libya in hopes of a brighter future within their homeland but were faced with a new civil war in 2014. The healthcare system in Libya has not always been devastating. Therefore, recollecting Libya's medical educational background and exploring the challenges it faced may help in gaining the initial momentum that seems to have been lost.

During the 1970's, medical schools started to flourish in Libya due to the discovery of oil in the 1960's (Benamer & Bakoush, 2009). Libya's oil profits provided funding that allowed many students to attend medical school in Europe and North America. This led to the first generation of Libyan doctors and academics who built the first medical school in Libya in the

city of Benghazi in 1970, and the second one in Tripoli in the year 1973. The medical education system adopted the British system and English became the language of instruction. In the years 1987 to 2001, there was an increase in the number of medical schools in Libya, and seven new schools were established in the cities Sebha, Surt, Misrata, Zawia, Khums, Bayda, and Ghayran (Benamer & Bakoush, 2009).

When the civil war erupted in 2011, hundreds of doctors and 80% of the nurses fled the country (REACH, 2016). Doctors Without Borders has tried to fill in this gaping hole in the healthcare system, but the split governance and ongoing chaos caused many challenges. Libya's healthcare system hit a breaking point during the second civil war in 2014. The 2014 civil war also brought a deep decline in oil exports, limiting the funding to health facilities (REACH, 2016). In May 2015, The World Health Organization reported that many patients and medical workers could not reach the hospitals due to the fighting. Medical workers also refused to work unless they were paid their wages. The militia rules, widespread corruption, and political fighting have frozen the Central Bank, denying the health ministry and WHO access to funds (REACH, 2016).

The safety regulations in Libya have also declined dramatically. Fighters have threatened medical professionals to save their comrades and armed men have stormed into hospitals to kill wounded soldiers from opposite parties. A 2018 report by the UN Human Rights Office and UN Support Mission in Libya (UNSMIL) documented 36 attacks on medical facilities, staff workers or patients between May 2017 and May 2018. The Sabha Medical Center, in southern Libya, was shot at 15 times between February and May 2018 (REACH, 2016).

Despite there being many brutal inhumane actions during the war by the hands of corrupt politicians, Libya has many highly intelligent doctors and healthcare workers that put their lives

at risk every day by going to hospitals and taking care of patients. There is also a new generation of medical students who have hope that there can be a brighter future for their country that fulfils the fundamental rights of every human being to receive the highest attainable standard of healthcare.

However, with the lack of authority, individuals such as the former surgeon Sam Eljamel can make their way into the Libyan borders and back into the operating room. Sam Eljamel was the head of the neurosurgery department in Ninewells - one of four specialist centers in Scotland (Adams, 2020). However, he has been harming patients for years by doing actions such as removing the wrong body part during operations and conducting the wrong surgeries. In Scotland, he was put under investigation and supervision since June 2013, and was finally suspended in December 2013. In February 2020, he was found operating again on children and adults in the Libyan city of Misrata in a number of hospitals (Adams, 2020). This incident goes highly against the healthcare quality constructs.

In 2012, a Post Conflict Health Facility Assessment was carried out by the Libyan Ministry of Health and World Health Organization - Regional Office for the Eastern Mediterranean, who provided the project financing and technical support during the implementation phases of the survey. The Health Information Center at the Ministry of Health – Libya supervised the implementation of the survey. The purpose of a general service readiness assessment is to measure the availability of infrastructure, equipment, and supplies crucial to provide services within the following five domains: basic amenities, basic equipment, standard precautions, diagnostic testing, and essential medicines. The general service readiness assessment is a combined score summarizing information from the five domains (WHO, 2012). In 2012, the overall readiness score of health services in Libya is 64% (El-Zanaty, 2012).

The Primary Health Care facilities were amongst the highest percentage of readiness at a score of 71%. Among all 23 districts, the readiness score ranges from 51% to 85% (El-Zanaty, 2012).

Basic equipment averages at a score of 67%, whereas diagnostic capacity and essential medicines scores tend to be at 58% across the districts (El-Zanaty, 2012).

In 2017, another Service Availability and Readiness Assessment was conducted for the public health facilities in Libya. The general readiness score for the requirement of basic services by hospitals was 69%, indicating a fair readiness capacity for service provision. PHC facilities had an unacceptably low general readiness score of 45% which indicates that the capacity to provide basic health services in these facilities is severely unethical. The highest scoring domain was basic equipment at 60%. The overall score was primarily lowered as a result of the low availability of basic medicines at 44% and fairly limited availability of diagnostic tests at 63%. The availability of standard precautions and diagnostics was higher, at 49% and 48% (Health Information Centre, 2017).

We can see that over five years, the overall Service Availability and Readiness Assessment has risen by 5%. However, the score has also dramatically decreased in certain health care service centers such as, Primary Health Care facilities decreasing from 71% in 2012 to 45% in 2017. Urgent action, such as a Humanitarian Response Plan, is mandatory to restore essential medicine and supplies to reconstruct the best potential for improvement for both hospitals and PHC facilities in Libya.

In 2017, a Humanitarian Response Plan was drafted and finalized by the Humanitarian Coordinator, Dr. Syed Jaffar Hussain, and The Humanitarian Country Team. This Humanitarian Plan specifically prioritizes around life-saving support. All actions planned for 2017 take aim to support short-term and temporary solutions and bridge gaps in basic services. Meanwhile, the

international community and Libyan partners are working on a more sustainable political, economic, and security solution. Dr. Hussain has stated that “the support of humanitarian actors in 2017 will focus specifically on saving lives through safe and dignified access to health services and essential medicines, as well as other basic social services, such as food, water, hygiene, sanitation, shelter and education, and to protect the most vulnerable Libyans, migrants and refugees. International organizations are coordinating and working closely with Libyan counterparts to ensure alignment with national response efforts planned for Libya” (Hussain, 2017).

The Humanitarian Country Team has strategized three core objects for the Humanitarian Response Plan. The first objective is to save lives through safe and dignified access to emergency healthcare and essential medicines. Increasing availability and accessibility to life-saving healthcare and essential medicines is a top priority for this first objective. Safe and dignified access to emergency healthcare will include provisions of essential medicines and medical supplies, as well as human resources, such as specialized doctors, nurses, and technicians. In close collaboration and coordination with the Ministry of Health (MoH), the support of the international community will focus on the health facilities that are close to the population in need (Hussain, 2017).

The second objective is to protect the most vulnerable Libyan people, migrants, refugees, and asylum seekers. This is of the highest importance for the international community. The Humanitarian Team will provide specialized protection support, including legal and psychosocial services, to the most vulnerable, with a focus on women, children, the elderly, people with disabilities, and survivors of torture and sexual violence. Humanitarians will help people brutalized by violence to cope and recover from trauma and support the release. They will

support children associated with armed groups by reuniting them with their families reintegrating into society (Hussain, 2017).

The last objective is to save lives through safe and dignified access to multisector basic social services. Safe access to basic goods and services, like food, clean water, sanitation services, education, and adequate housing, is an essential condition for people in need to fulfill their fundamental human rights. The humanitarian partners will do their utmost to assist the Libyan people, migrants, and refugees most in need through provisions of food, water, hygiene, and non-food items, light rehabilitation of existing damaged water systems, provision of basic education and recreation material, and support safe and dignified housing conditions (Hussain, 2017).

The hardest part of a humanitarian response plan is not the gathering of information, but the execution of the plan, especially in a disturbed, bankrupt, fragmented country. For this response plan to be executed, it is in need of 151,503,476 U.S dollars (Hussain, 2017). This humanitarian response plan has divided an operational response plan into eight categories which are Health, Protection, Water, Sanitation & Hygiene (WASH), Shelter/Non-Food Items (NFI), Food Security, Education, Coordination Refugee, and Migrant Response. Each category shares the number of people needed for the specific humanitarian aid, the people targeted, the U.S dollars needed, and the numbers of NGOs and IGNO partners that could help execute the operational response plan. Each operation response category also has its own objectives, priorities, response strategy, and breakdown of people in need and targeted by status, sex, and age (Hussain, 2017).

All eight categories of the operational response plan are equally important, but this paper will briefly introduce the execution of the health plan as it relates to the core purpose of this

study, the healthcare quality of Libya. The first objective of the health plan is to “improve access to basic life-saving primary and emergency secondary healthcare services through the provision of essential medicine, medical supplies and technical support for primary healthcare, disability care, and life-saving emergency care” (Hussain, 2017). The second health objective is to “strengthen the existing health structure and avoid a collapse of the health system by ensuring deployment of essential health staff, functional referral system” (Hussain, 2017). Lastly, the third is to “reduce communicable disease transmission and outbreak through detection and mitigation measures” (Hussain, 2017).

With the health response plan objectives in mind, 1.33 million people are in need of health humanitarian aid. The targeted population will be 941,047 individuals, and the required amount of U.S dollars is 38 million. The health operation response plan will need 12 partners that include the Ministry of Health, National Centre for Disease Control, and several international organizations, including the UN, international NGOs, and national organizations. The table in figure 1 is a breakdown of the people in need.

Figure 1

BREAKDOWN OF PEOPLE IN NEED AND TARGETED BY STATUS, SEX AND AGE								
	BY STATUS					Sector total	BY SEX & AGE	
	Refugees	Migrants	IDPs	Returnees	Non-displaced		% female	children, adult, elderly
PEOPLE IN NEED	100,569	195,083	241,193	356,478	436,775	1,330,098	44%	33% children 61% adults 6% elderly
PEOPLE TARGETED	47,000	97,545	177,506	280,945	338,051	941,047	45%	33% children 61% adults 6% elderly
FINANCIAL REQUIREMENTS \$	7,146,230	2,379,300	28,435,329			37,960,859	Children (<18 yrs old) Adults (18-59 yrs old) Elderly (> 59 yrs old)	

In relation to the health response plan, the objective of the Water, Sanitation, and Hygiene response plan is to help people in need to have access to sufficient safe water and basic sanitation, have sufficient access to basic and life-saving hygiene items, and for children to have

access to safe drinking water, sanitation, and hygiene facilities in their learning environments. The delivery of WASH services will be performed by international, national, and local NGOs with an established presence in Libya.

It is stated in the Humanitarian Response Plan that despite the endless efforts of international and national organizations to reach a solution to this on-growing crisis, an improvement to the humanitarian situation was not likely to occur in 2017, during which the most vulnerable people suffered and were in need of life-saving assistance. However, as the political process continues, it is hoped that a solution to the on-going crisis can be found.

On October 11th, 2019, the Bipartisan Bill to Support Peaceful Resolution to Libyan Conflict was introduced by Congressman Ted Deutch, Congressman Joe Wilson, Congressman Ted Lieu, and Congressman Tom Malinowski. The H.R 4644 Libya Stabilization Act “sanctions individuals who commit human rights violations in Libya, support Russia’s military intervention in Libya, or threaten the peace, security, and stability of Libya. It authorizes the Department of State and USAID to provide humanitarian assistance to Libyans and international migrants. The bill also authorizes U.S. support for efforts to strengthen good governance, promote anti-corruption, and foster economic recovery both during and after a negotiated political solution to the Libyan conflict” (Deutch, et al). Section *Title III - Assistance for Libya* provides humanitarian relief for the people of Libya and international refugees and migrants in Libya. It also includes urgently needed health assistance, including logistical and technical assistance to hospitals, ambulances, and health clinics in affected communities, as well as public health commodities and services, including medicines and basic medical supplies and equipment. The bill also advocates for protection, food, shelter, water, sanitation, and hygiene (WASH), and

other assistance such as technical assistance to ensure health, food, and commodities that are appropriately selected, procured, targeted, and distributed.

If a humanitarian response plan is not implemented in Libya and fails to support the national health system, the population of 1.33 million people in need of humanitarian aid will dramatically increase. If WASH needs are not met, over 500,000 people will not have adequate access to safe drinking water, hygiene, and basic sanitation. Outbreaks of contagious and water-borne diseases are likely to occur. The ongoing conflict has also left over 315,000 children without access to education. As the situation continues to worsen, children remain a target for military recruitment and trafficking. In addition, if assistance is not delivered, over 551,000 would not have minimum and dignified NFIs and shelter and be forced to continue to live in inadequate collective public spaces. As ever, the most vulnerable will bear the burden of a lack of action. For them, fear, hunger, and sickness will become a prolonged reality (Hussain, 2017). If greater political stability is achieved, national and local authorities would gradually resume the sustainability of public social services, especially in the areas affected by the conflicts. This would allow the humanitarian community to reach their goal of providing humanitarian aid and providing up-to-date health care quality to the population.

This explicitly in-depth Humanitarian Response Plan is undoubtedly extraordinary; however, the response plan has limitations on the Libyans' perceptions of the quality of healthcare they are receiving while visiting a medical service center. My study shares the opinions and self-reports of Libyans living in the U.S measured by the six constructs of healthcare quality. In addition to a Service Availability and Readiness Assessment and a Humanitarian Response Plan to fix the healthcare system in Libya, the opinions and voices of the Libyans themselves that are living through this tragedy are what needs to be heard and recorded

in order for bills such as the H.R 4644 Libya Stabilization Act to go further than just being introduced to congress, but actually legislated into a law. This study provides the missing essential missing factor which is the opinions and voices of Libyans.

CHAPTER 4-METHODOLOGY

Participants

The targeted population for this study is individuals who are age 18 years and older who have been medically treated in Libya and the U.S between the years of 2011 to 2020. The total number of participants was 30 (N=30). Participation in this project was voluntary and the only limitation from volunteering to participate was if the participant was under the age of 18 years old or had not been medically treated in Libya and the U.S during or after 2011. However, participation is still valid if they are currently older than 18 but were medically treated under the age of 18 and can recall their experience and answer the survey questions. Participants were informed of the purpose of the study, what they would do, the protection of their information, their rights to participate, and were given the researcher's contact information. Participants who agreed to this study checked the yes option on the consent form.

Design and Materials

There is a lack of data on Libyans' perception of the healthcare quality within Libya and the U.S. Therefore, this study used a cross-sectional study design and self-administered online through a retrospective survey so the participants can recall their past experience and respond to the survey questions at their own pace and time. The type of study design for this research is a cross-sectional study design because it is an observational study that analyzes data from a population at a specific point in time. This study took place online, and a link was provided for the participants to access the survey and consent form. This specific approach was chosen for this study because it is easier to reach the population throughout the country online.

The survey was measured by the six aims of healthcare quality which are safety, effectiveness, patient-centered, timeliness, efficiency, and equality. In the survey, there were

seventeen questions that I created based on the six constructs of healthcare quality. Eleven of those questions were regarding the six aims and will be listed as the main results. The response variables were different depending on the question. For the main result variables safety, effectiveness, patient-centered, and equitable, the questions were ordinal, and they responded with strongly agree, somewhat agree, neutral, somewhat disagree, and strongly disagree. For the main result variable, timely, one question was nominal which they responded with yes, a little, unsure, no, and the second question was an ordinal and the response variables were 1-2 weeks, 3-4 weeks, 2-3 months, and 4+ months. The main result variable, efficient, had nominal questions with response variables such as yes, no, a little, and unsure.

There were also three nominal demographic questions and three ordinal demographic questions that were being asked in this survey. The first nominal demographic questions were the location where they were medically treated in Libya between the years of 2011 to 2020 with the response variables of West Libya (Tripoli, Al-Khums, Misrata, Zlitan, Misrata, Gharyan, Surt, Yafran, Az-zawiyah, and Al-Ghadamis), East Libya (Benghazi, Al-Marj, Al-Baydaa, Darnah, Tobruk, Ajdabiya), South Libya (Sabha, Al-Kufra, Ghat, Murzuq) and Other. The second nominal question was the location of where they were medically treated in the U.S between the years of 2011 to 2020 with the response variables West (WA, OR, CA, MT, CO, UT, NV, ID, WY, HI, AK), Southwest (TX, AZ, NM, and OK), Midwest (ND, SD, NE, KS, MN, IA, WI, IL, IN, MI, and OH), Southeast (AR, LA, MS, AL, TN, KY, GA, FL, SC, NC, VA, WV, DE, and MD), Northeast (PA, NJ, CT, RI, NY, MA, VT, and ME), and Other. The third and fourth ordinal demographic questions discovered what ages they were medically treated in both Libya and the U.S. The two questions have the same response variables of the age range to choose from, 13-17, 18-24, 25-39, 40-54, 55-64, and 65 and older. For their current age, the response

variables were 18-24, 25-39, 40-54, 55-64. The last nominal demographic question was what gender identity the respondents identify with, and the response variable was female, male, and other. Each question within the six-section was regarding the respondents' personal experience in the U.S and in Libya. In doing so, I was able to compare the answers regarding the respondents' perception of the quality care in the U.S to their perception of the quality care in Libya.

Data Collection Procedure

This survey was distributed online through social media. The social media engines that were used were Facebook and Instagram. There was a link for participants to fill out the consent form and the survey through the SurveyMonkey website. There was a short description posted on social media with the link so participants could be informed of what the survey would be regarding before clicking on the link.

The data collected from the survey questions were then exported from SurveyMonkey to IBM SPSS Statistics to be coded and analyzed statistically. The first step was to run frequencies on the demographic variables and the main results which showed the mode of every response variable. Second, the study utilized SPSS to determine whether there was a significant difference between the respondents' experience in Libya and the U.S by running a cross-tab chi-square.

Data Analysis Strategy

There are numerous studies and reports of the Libyan healthcare system, but the majority lack a key component which is the opinion of the Libyan people. The purpose of this survey is to measure the condition of the healthcare quality in Libya through the perception of the Libyan people. In order to do so, this survey was conducted in a specific matter. It started with the basic demographic questions of location, age, and gender. Then, it was divided into six sections, each

section measuring a construct of the healthcare qualities. Each section includes a description of what the specific healthcare aim is striving to construct within the healthcare system. With the description, the respondent was provided background information on the six aims of healthcare quality to have an idea of what to reflect on within their personal experiences with medically treated in a healthcare setting as they answered the survey questions. Each question was asked regarding the participant's experience in Libya and the U.S. After running the frequencies and collecting the mode for each question, they were then compared to each other based on the five-point grading scale.

Ethical Considerations

An IRB form was submitted for this project and was found to be exempt from IRB requirements. Participation in this study was strictly voluntary and a consent form was required to be completed and agreed upon for participants to continue with the study. The participants did not have to answer any questions they did not want to answer. If at any time and for any reason, the participant would prefer not to participate in this study, they were free not to. Participants could also take a break, stop, and continue at a later date or withdraw from the study at any time. To protect the participants' identity, no personal information was asked, and there was no harm to the subjects.

CHAPTER 4-RESULTS AND DISCUSSION

According to the United Nations Human Development Report of 2019, the U.S comes in 15th place, and Libya comes in 110th place (Conceição, 2019). In that case, the respondents' perception of the healthcare quality in the U.S should result in a more positive score than Libya's. However, this cross-sectional study fails to reject the hypothesis that there is no difference based on the six constructs of healthcare quality between Libya and the United States through self-reports of Libyans living in the US. The respondents also had the opportunity in the survey to share their comments, and because the core purpose of this study was to share the opinion of the Libyan people, the comments will be available in Appendix C.

Demographics

Location

The survey began by asking the respondents what area of Libya they were medically treated in between the years of 2011 and 2020. The answers were West Libya (Tripoli, Al-Khums, Misrata, Zlitan, Misrata, Gharyan, Surt, Yafran, Az-zawiyah, and Al-Ghadamis), East Libya (Benghazi, Al-Marj, Al-Baydaa, Darnah, Tobruk, Ajdabiya), South Libya (Sabha, Al-Kufra, Ghat, Murzuq) and Other. The total number of respondents was 30. Sixteen respondents (53.3%) were medically treated in western Libya and 14 respondents (46.7%) were medically treated in eastern Libya. No respondents were medically treated in southern Libya and most respondents were medically treated in western Libya.

Table 1 Demographic results of gender identity

The location in Libya where participants were medically treated

	Frequency	Percent	Valid Percent	Cumulative Percent
West Libya	16	53.3	53.3	53.3
East Libya	14	46.7	46.7	100.0
Total	30	100.0	100.0	

The next demographic question was asking the respondents what area of the U.S they have been medically treated in between the years of 2011 and 2020. The answers were west (WA, OR, CA, MT, CO, UT, NV, ID, WY, HI, AK), southwest (TX, AZ, NM, and OK), midwest (ND, SD, NE, KS, MN, IA, WI, IL, IN, MI, and OH), southeast (AR, LA, MS, AL, TN, KY, GA, FL, SC, NC, VA, WV, DE, and MD), northeast (PA, NJ, CT, RI, NY, MA, VT, and ME), and other. Out of 30 respondents, 24 (80%) were medically treated in the west, two respondents (6.7%) were medically treated in the southwest, three respondents (10%) were medically treated in the southeast, and one respondent (3.3%) was medically treated in the northeast. No respondents were treated in the Midwest and the majority being treated in the West. Most respondents being medically treated in the west could be due to the factor that I live in the west and my social networks include more Libyans who live in the west region of the U.S [Table 2].

Age and Gender

The respondents were then asked at what age were they being medically treated in Libya during or after 2011. The age range to choose from was 13-17, 18-24, 25-39, 40-54, 55-64, and 65 and older. From 30 respondents, five (16.7%) were in the age range of 13-17. Eight respondents (26.7%) were in the age range of 18-24. Eight respondents (26.7) were in the age range of 25–39. Seven respondents (23.3%) were in the age range of 40-54. Lastly, two respondents (6.7%) were in the age range of 55-64. The bulk of respondents were medically treated in Libya in the age ranges of 18-24 and 25-39. [Table 3].

The same question was then asked in the survey, but for their age of being medically treated in the *U.S* between the years of 2011 and 2020. One respondent (3.3%) was of age range 13-17. Ten respondents (33.3%) were of age range 18-24. Twelve respondents (40%) were of

age range 25-39. Six respondents (20%) were of age range 40-54. One respondent (3.3%) was of age range 55-64. Most respondents were medically treated in the U.S in the age range of 25-39 [Table 4].

To have an idea of the age range of the respondents, they were asked to choose their current age range, keeping in mind that respondents had to be 18 years of age or older to participate in this study. However, for some individuals, it could mean that they were medically treated younger than 18 in Libya or in the U.S and their answers in this survey reflect on their experience from when they were younger than the age of 18 with a limit of age 13 as shown in Table 3 and Table 4. From the 30 respondents, 11 (36.7%) are of age range 18-24. Eight respondents (26.7%) are of age range 25–39. Nine respondents (30%) are of age range 40-54. One respondent (3.3%) is of the age range of 55–64. Lastly, one respondent (3.3%) is of age range 65 and older. The most popular age group of the respondents' current age is 18-24 [Table 5].

For the final demographic, the respondents were asked to which gender identity they most identify with, either female, male, or other. From the 30 respondents, 19 (63.3%) are female and 11 respondents (36.7%) are male. No respondents answered “other” [Table 6].

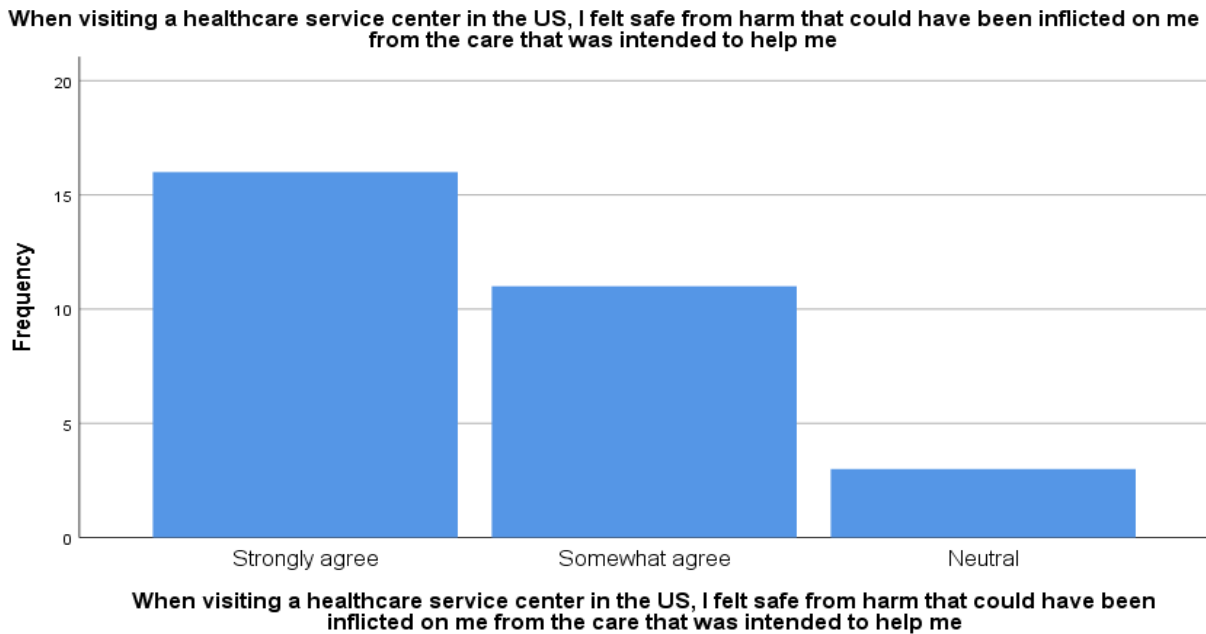
Main Results

Safety

The purpose of this aim is to avoid harm to patients from the care that is intended to help them. The respondents were asked whether they felt safe from harm that could have been inflicted on them from care that was intended to help them when they were visiting a healthcare service center in the U.S The responding variables were “strongly agree, somewhat agree, neutral, somewhat disagree, and strongly disagree.” Out of 30 respondents, 16 (53.3%) strongly

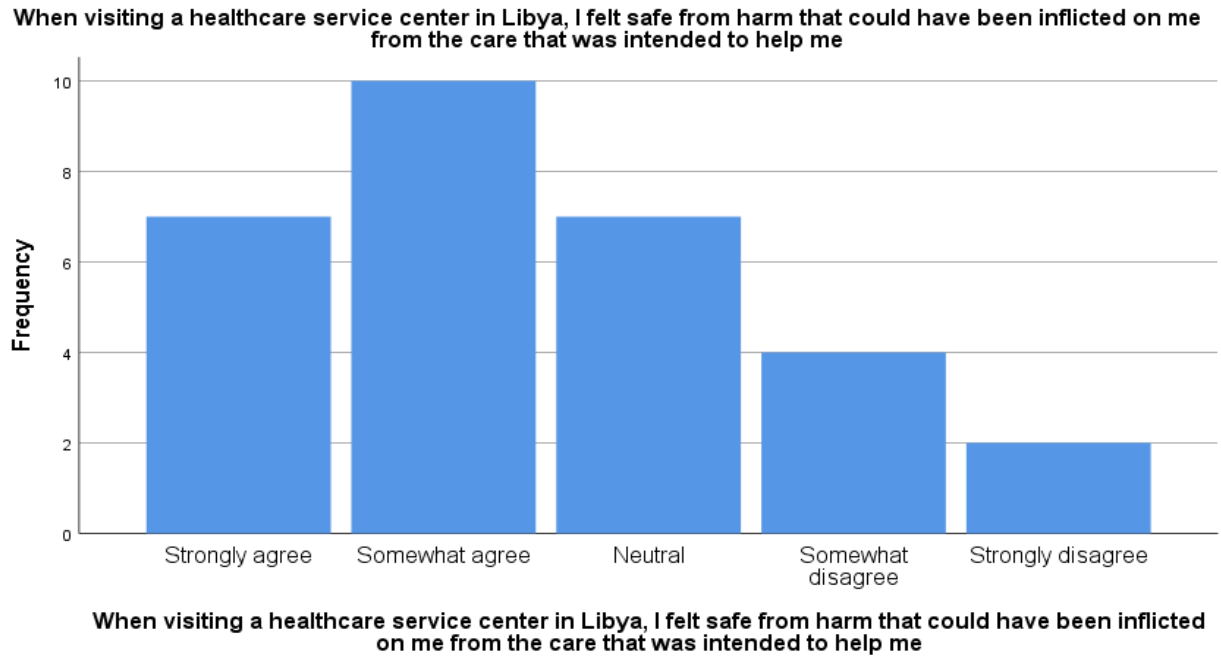
agreed, 11 (36.7%) responded with somewhat agree, and three respondents (10%) said neutral. No respondents answered “somewhat disagree” and “strongly disagree.” A slight majority of respondents strongly agreed to feeling safe from harm that could have been inflicted on them from the care that was intended to help them in the U.S [Figure 1.1].

Figure 1.1 Results of respondents’ perception of the safeness aim in the U.S



With the same question regarding Libya, seven respondents (23.3%) answered with strongly agree, 10 respondents (33.3%) responded with somewhat agree, seven (23.3%) replied with a neutral, four (13.3%) replied with somewhat disagree, and lastly two respondents (6.7%) answered strongly disagree. The plurality of respondents answered somewhat agree to feeling safe from harm that could have been inflicted on them from the care that was intended to help them in Libya [Figure 1.2].

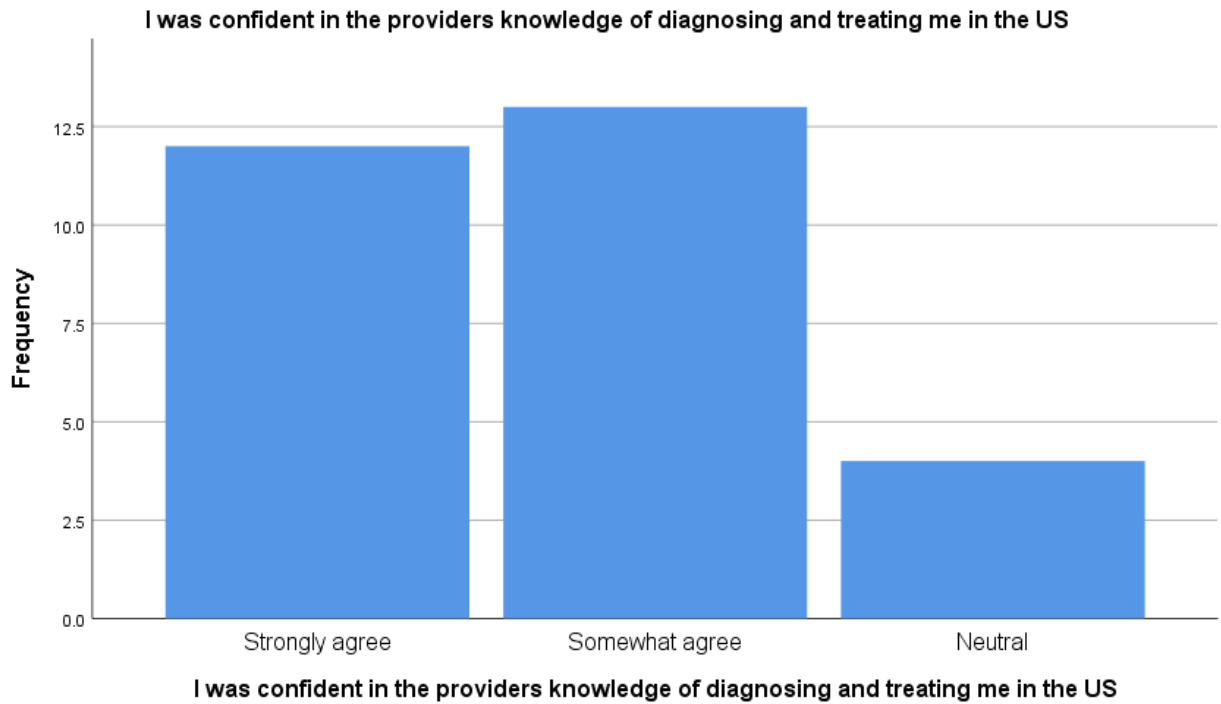
Figure 1.2 Results of respondents' perception of safeness aim in Libya



Effective

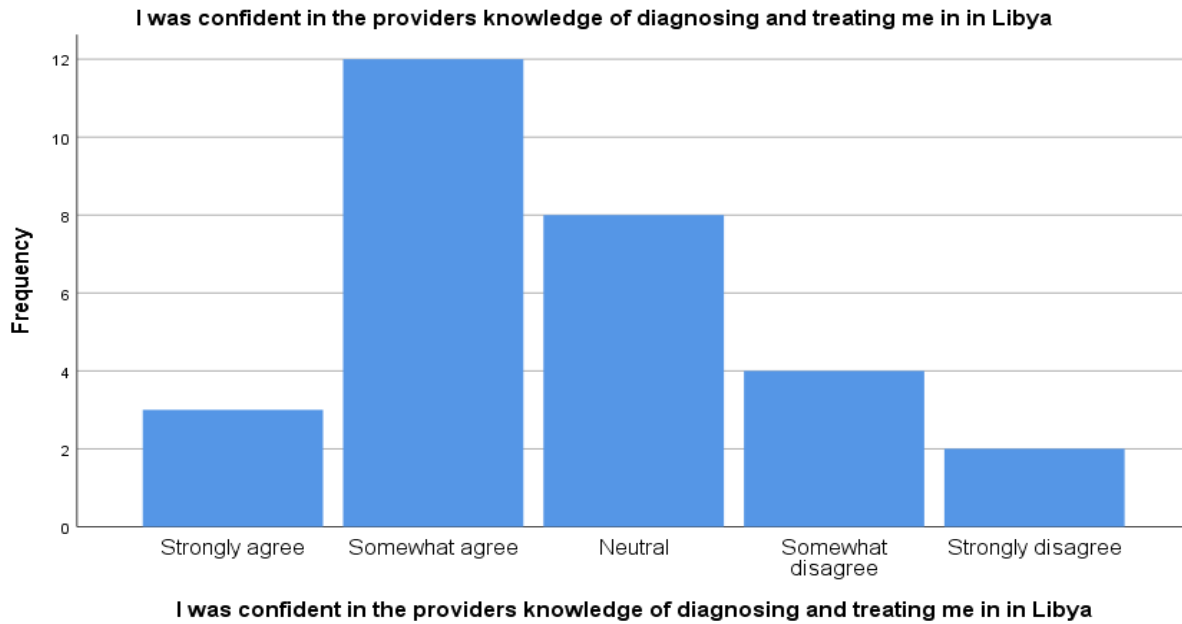
The purpose of this aim is to measure the effectiveness of healthcare quality. The effective aim is providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit and avoiding overuse, underuse, and misuse. The respondents were asked if they were confident in the provider's knowledge of diagnosing and treating them in the *U.S.* The response variables were "strongly agree, somewhat agree, neutral, so much disagree, and strongly disagree". From the 30 respondents, 12 (40%) strongly agreed, 13 (43.3%) somewhat agreed, and four (13.3%) respondents felt neutral. No respondents responded with "somewhat disagree" or "strongly disagree." Most respondents somewhat agreed regarding feeling confident in the provider's knowledge of diagnosing and treating them in the US [Figure 2.1].

Figure 2.1 Results of respondents' perception of the effectiveness aim in the U.S



The respondents were then asked the same question regarding their experience in *Libya*. From the 29 respondents who answered the following questions, three (10%) strongly agreed, 12 (40%) somewhat agreed, eight (26.7%) felt neutral, four (13.3%) somewhat disagreed, and two (6.7%) strongly disagreed. Most respondents somewhat agreed to feeling confident in the provider's knowledge of diagnosing and treating them in Libya. Respondents were willing to skip any survey questions thus resulting in a missing value of 1 in the following questions [Figure 2.2].

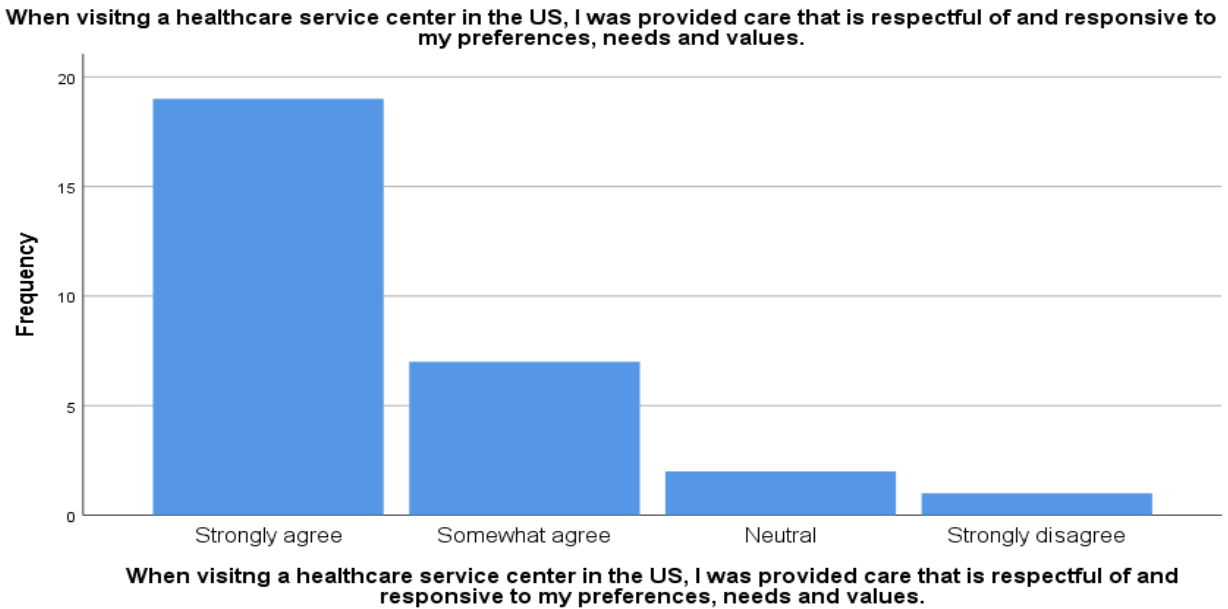
Figure 2.2 Results of respondents' perception of the effectiveness aim in Libya



Patient-Centered

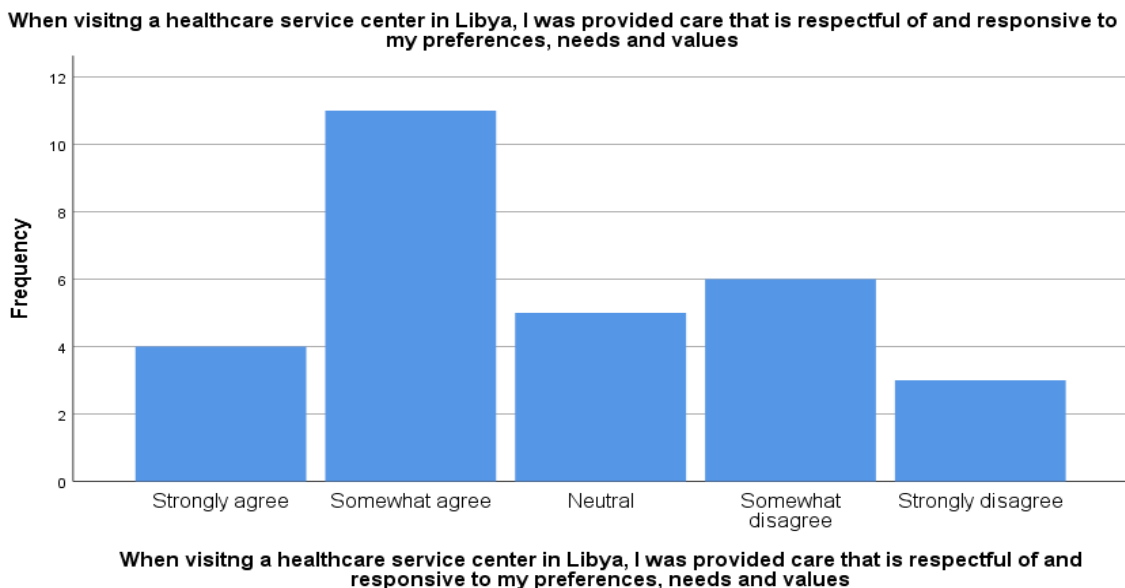
The purpose of the he third aim, patient-centered, is to provide care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions. The respondents in this study were asked when visiting a healthcare service center in the *U.S*, whether they were provided care that was respectful of and responsive to their preferences, needs, and values. From the 29 respondents who answer this survey 19 (63.3%) strongly agreed, seven (23.3%) somewhat agreed, two (6.7%) felt neutral, and one respondent (3.3%) strongly disagreed. Most respondents somewhat agreed to feeling respected in a healthcare setting in the *U.S* [Figure 3.1].

Figure 3.1 Result of respondents' perception of the patient-centered aim in the U.S



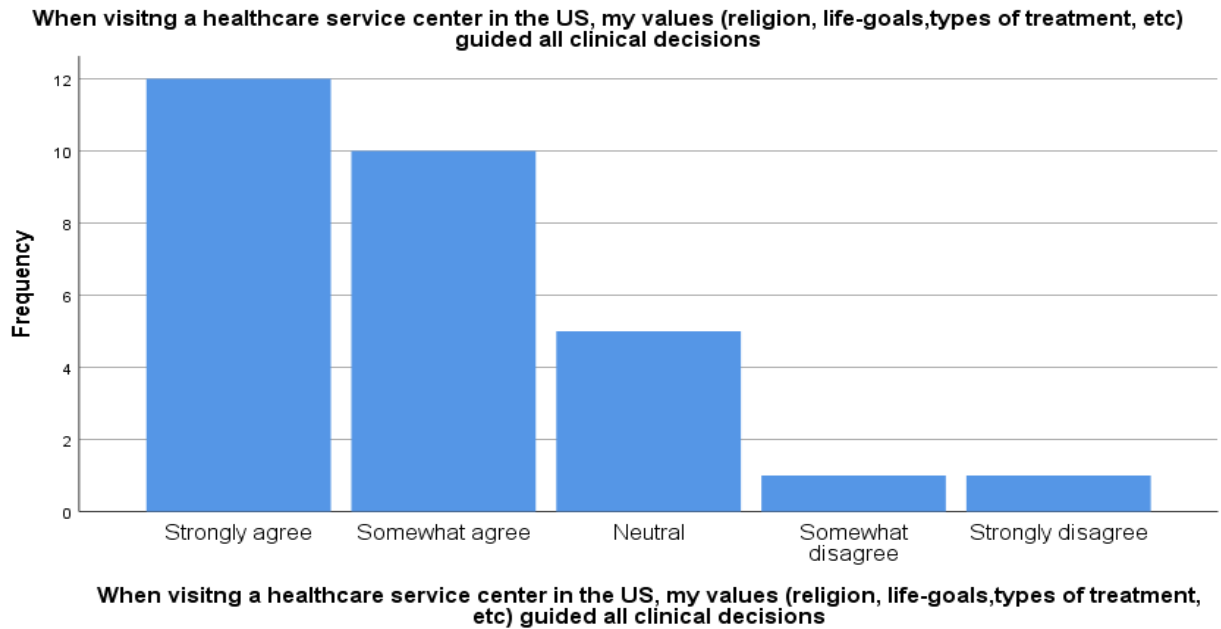
For the same question regarding Libya, four respondents (13.3%) strongly agreed, 11 (36.7%) somewhat agreed, five respondents (16.7%) felt neutral, six respondents (20%) somewhat disagreed, and lastly three respondents (10%) strongly disagreed. Most respondents somewhat agreed to feeling respected in a healthcare setting in Libya [Figure 3.2].

Figure 3.2 Results of respondents' perception of the patient-centered aim in Libya



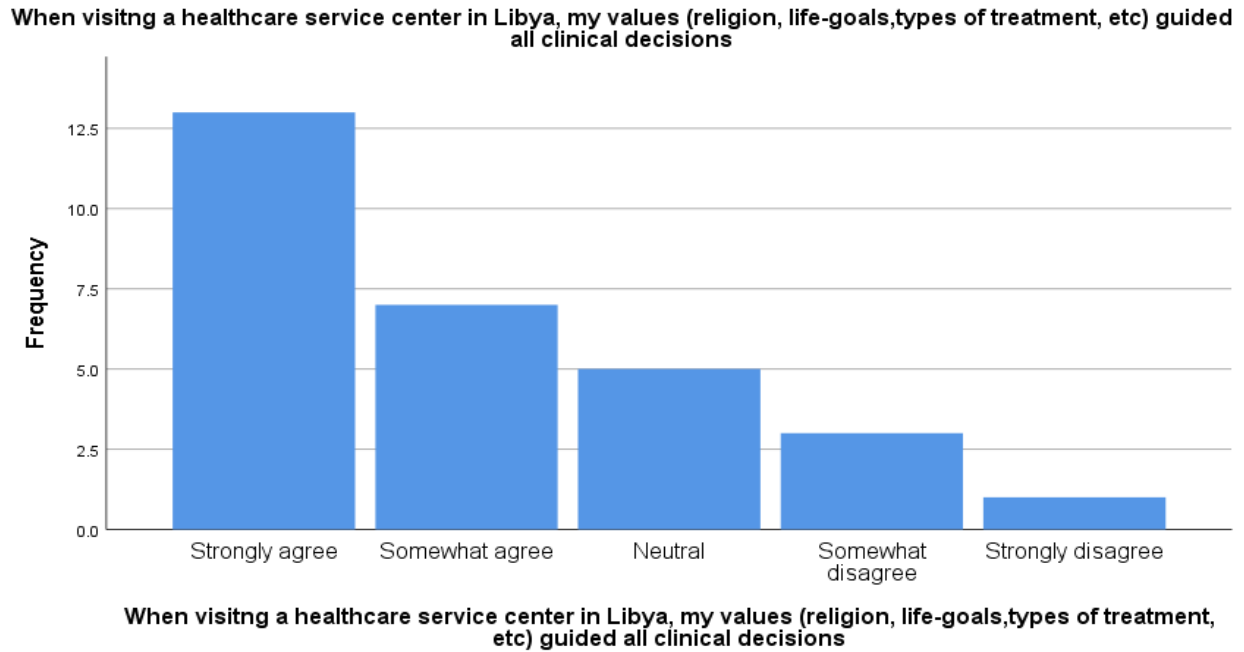
In addition to feeling respected in a healthcare services center, it is important that patients' values guide all clinical decisions. The respondents were asked whether their values (religion, life goals, types of treatments, etc.) guided all clinical decisions when visiting healthcare facilities in the U.S. With a total of 29 respondents, 12 respondents (40%) strongly agreed, 10 (33.3%) somewhat agreed, 5 respondents (16.7%) felt neutral, one respondent (3.3%) somewhat disagreed, and one respondent (3.3%) strongly disagreed. Most respondents strongly agreed that their values guided all clinical decisions in the U.S [Figure 3.3].

Figure 3.3 Results of respondents' perception of the patient guiding clinical decisions in U.S



In the perception of healthcare service centers in Libya, 13 (43.3%) strongly agreed that their values guided all clinical decisions. Seven (23.3%) somewhat agreed, five (16.7%) felt neutral, three respondents (10%) somewhat disagreed, one respondent (3.3%) strongly disagreed. The generality of respondents strongly agreed that their values guided all clinical decisions in healthcare facilities in Libya [Figure 3.4].

Figure 3.4 Result of respondents' perception of patient guiding clinical decisions in Libya



Timely

The purpose of the timeliness aim is to reduce waits and sometimes harmful delays for both those who receive and those who give care. The respondents in this study were asked if they have had to travel outside of the country they were currently in (Libya or the U.S) to receive medical help. The response variables were either “yes” or “no.” Of the 29 respondents, five (16.7%) have had to travel outside the US for medical help, and 24 (80%) have not traveled outside the US for medical help [Figure 4.1]. Of the 29 respondents, 12 (40%) have had to travel outside of Libya for medical help, and 17 (56.7%) have not had to travel outside Libya for medical help [Figure 4.2].

Figure 4.1 Results of respondents' perception of the timeliness aim in the U.S

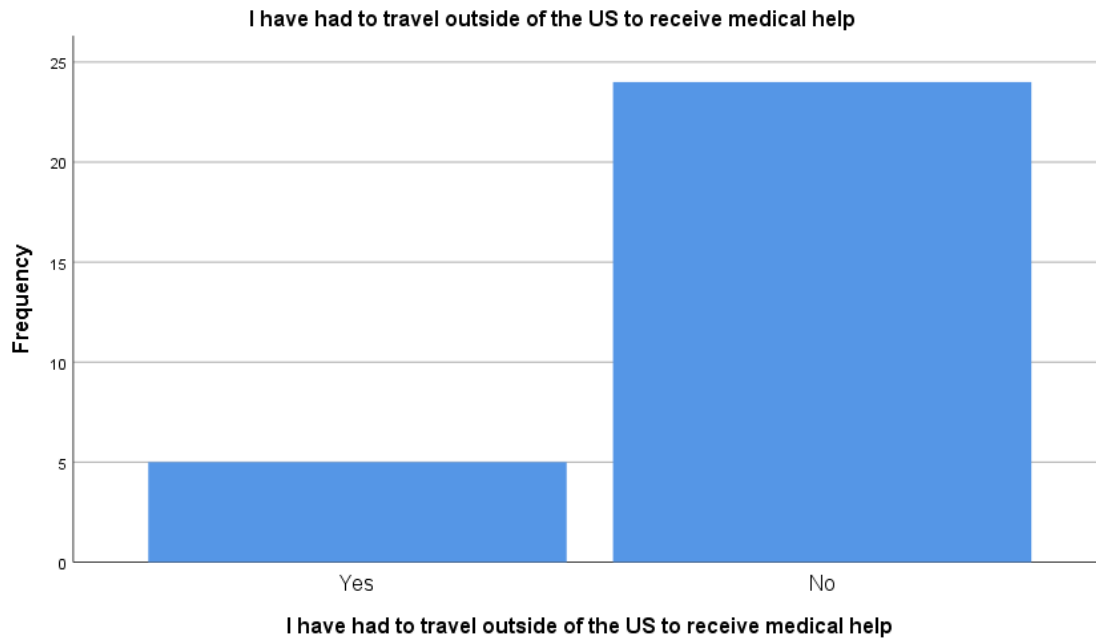
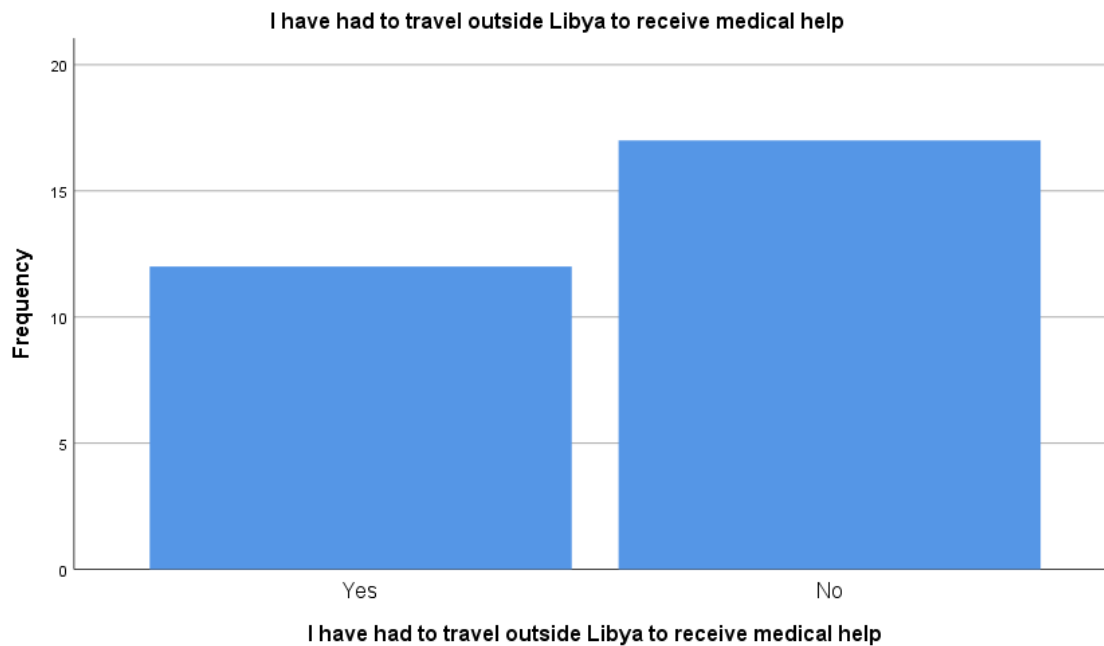


Figure 4.2 Results of respondents' perception of the timeliness in Libya



The respondents were then asked how long they have had to wait to see a medical provider. The response variables were “1-2 weeks, 3-4 weeks, 2-3 months, and 4 or more months.” To see a medical provider in the U.S, 18 respondents (60%) had to wait for 1 to 2 weeks, eight respondents (26.7%) had to wait for 3 to 4 weeks, and three respondents (10%) had to wait for 2 to 3 months [Figure 4.3]. To see a medical provider in Libya, 24 respondents (80%) had to wait for 1 to 2 weeks, three respondents (10%) had to wait 3 to 4 weeks, one respondent (3.3%) had to wait 2 to 3 months, and lastly, one respondent (3.3%) had to wait four or more months [Figure 4.4]. The majority of respondents had to wait for 1 to 2 weeks to see a medical provider in the U.S and in Libya.

Figure 4.3 Results of respondents’ perception of wait-time to see a medical provider in U.S

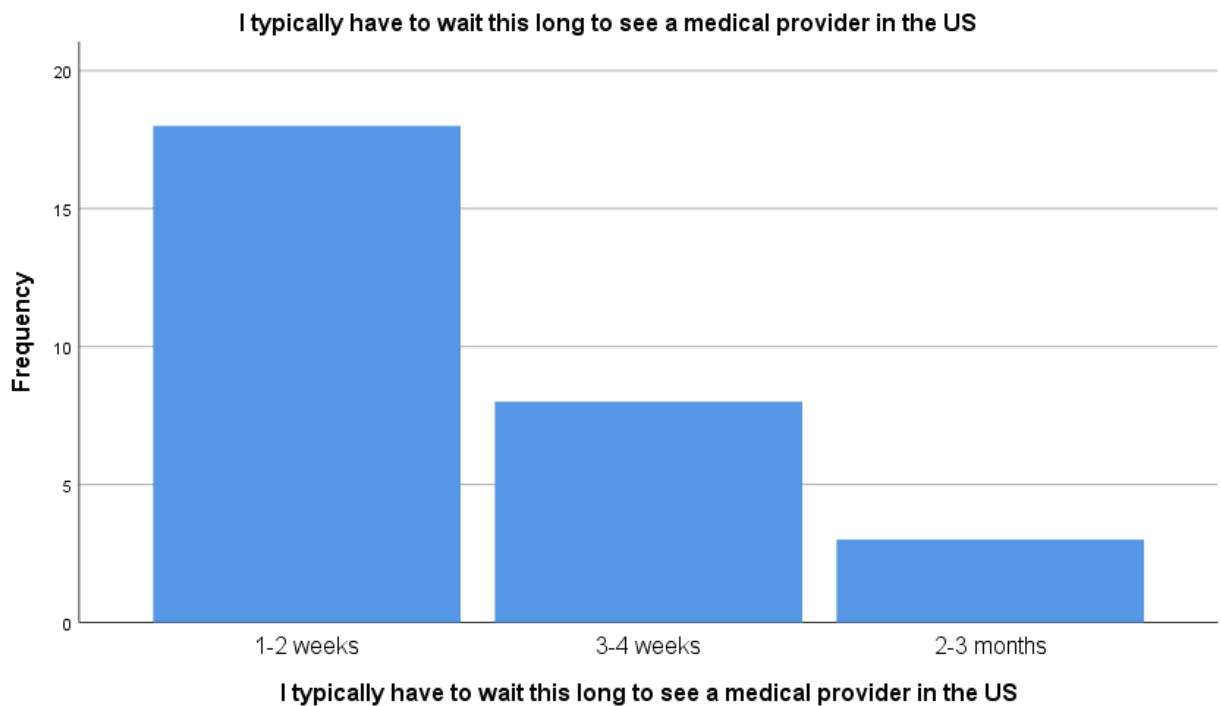
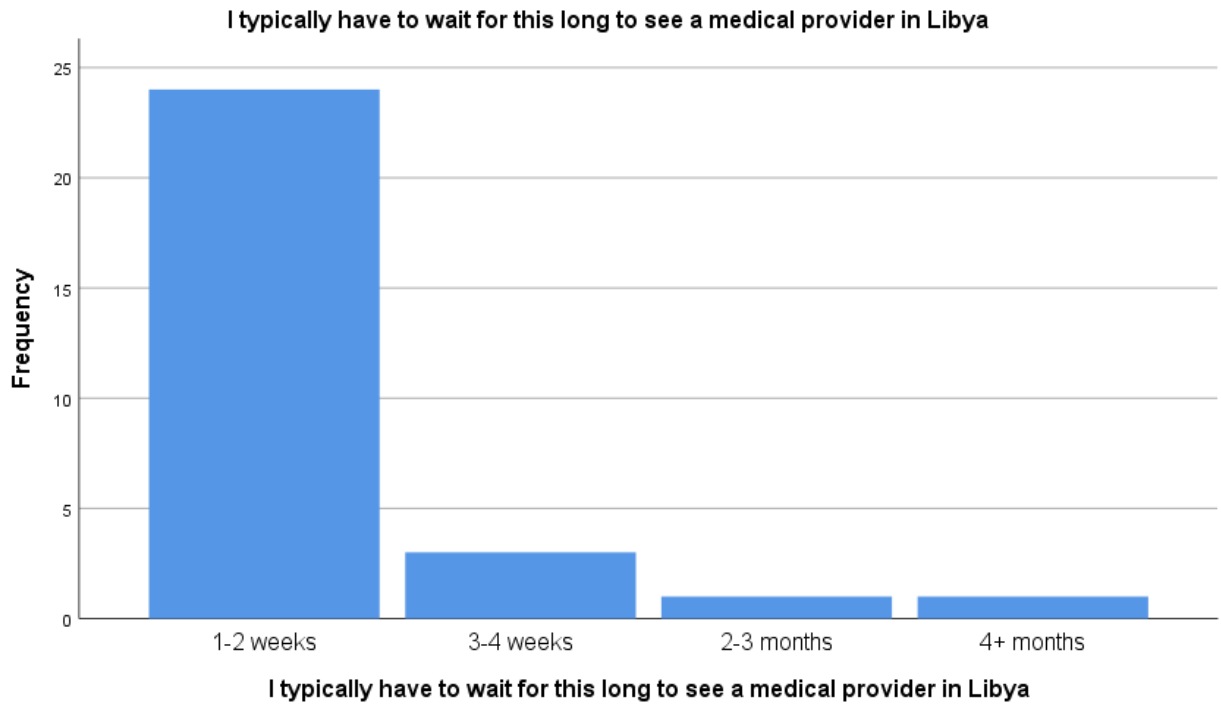


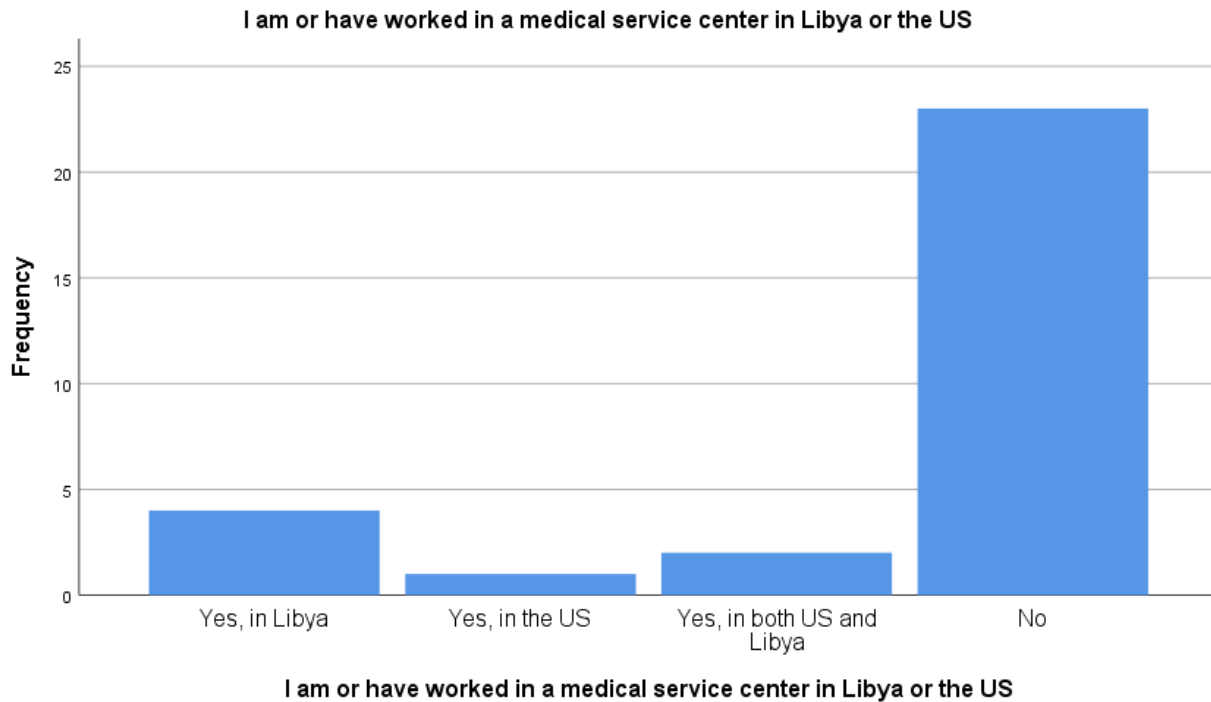
Figure 4.4 Results of respondents’ perception of wait-time to see medical provider in Libya



Efficient

The purpose of the efficiency aim is to avoid waste including waste of equipment, supplies, ideas, and energy. This next section examines healthcare efficiency through the perception of healthcare workers and non-healthcare workers. The respondents were asked if they currently work or have worked in a medical service center in the U.S and/or Libya. The response variables were “yes in Libya, yes in the U.S, yes in both, and no.” From the 30 respondents who have answered this question, four (13.3%) have worked in a medical facility in Libya, one respondent (3.3%) has worked in a medical facility in the US, two respondents (6.7%) have worked both in a medical facility the US in Libya, and 23 (76.7%) have not worked in any medical facility [Figure 5.1].

Figure 5.1 Results of respondents' occupation



The next question in the survey is whether the medical workers believe there is a big issue of waste including equipment and supplies in a medical facility. The response variables were “yes, a little, unsure, and no.” Five medical workers responded to this question regarding medical facilities in the *U.S.* One medical worker (3.3%) said yes, three medical workers (10%) were unsure, and one medical worker (3.3%) said no [Figure 5.2]. Regarding a big issue of waste including equipment and supplies in *Libya*, one medical worker (3.3%) answered yes, two medical workers (6.7%) answered a little, one medical worker (3.3%) was unsure, and one medical worker (3.3%) replied with no [Figure 5.3]. Most medical workers were unsure regarding the issue of waste of equipment and supplies in medical facilities in the *U.S.* and believe there is a little issue of waste in *Libya*’s medical facilities.

Figure 5.2 Results of medical-worker respondents' perception of the efficiency aim in U.S

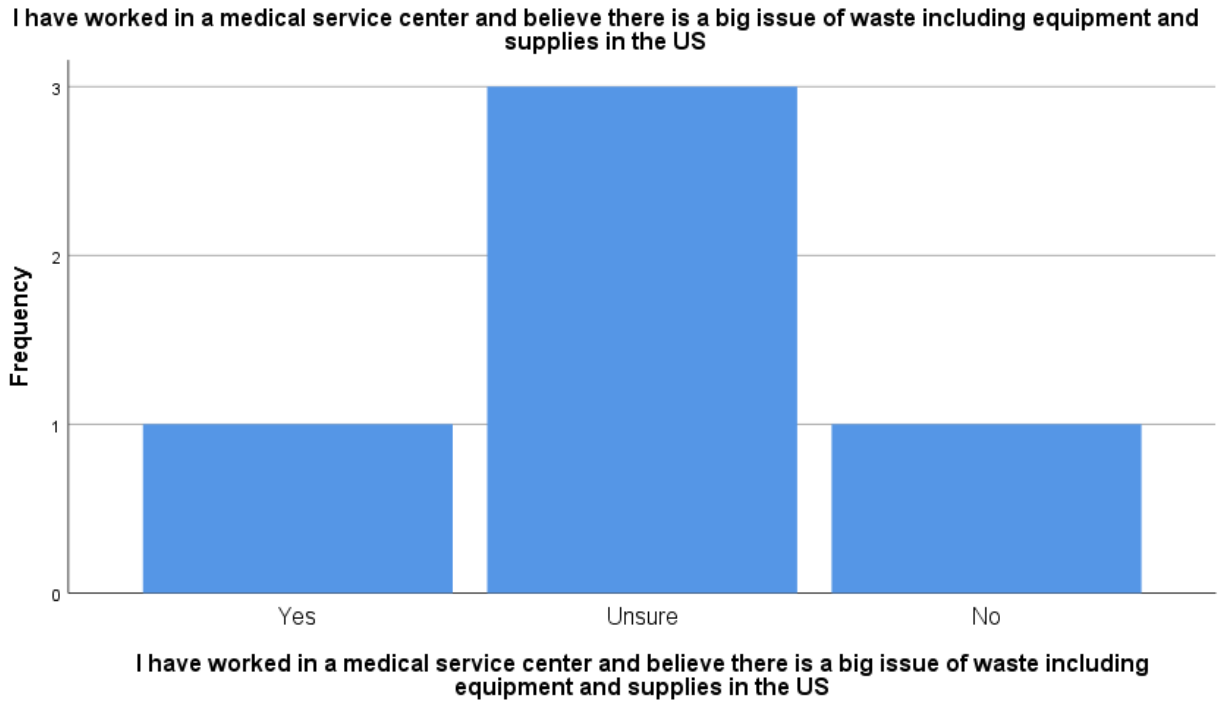
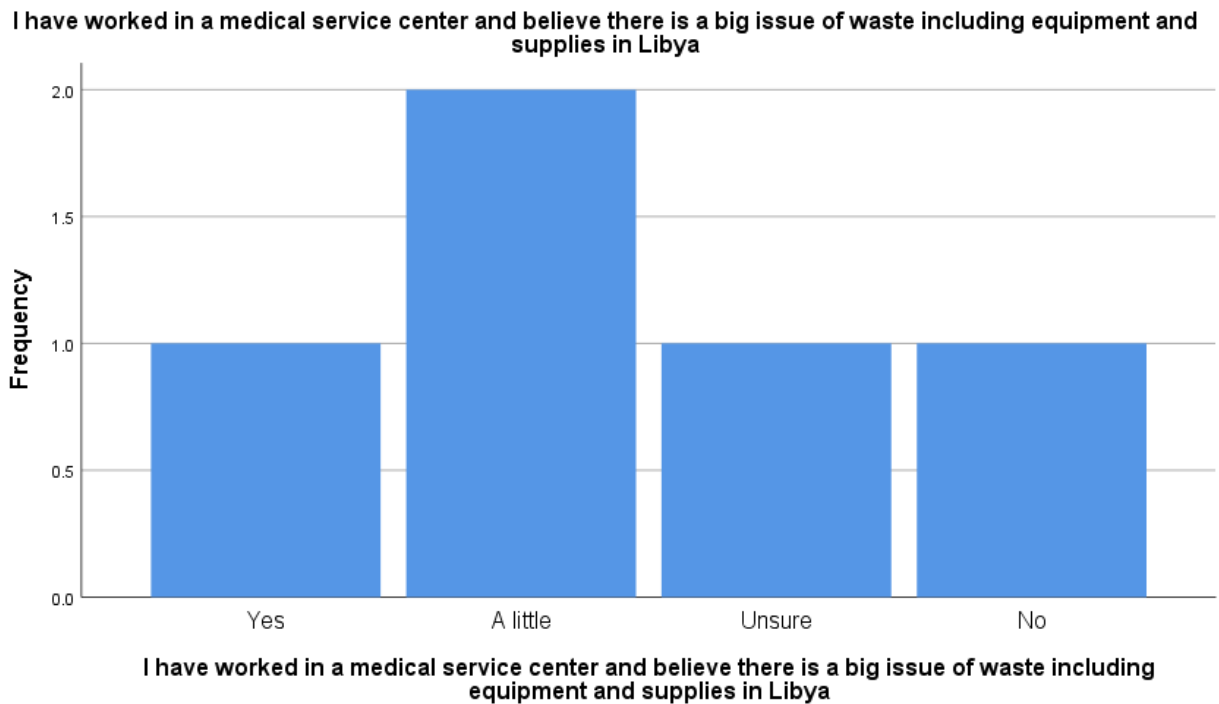


Figure 5.3 Results of medical-worker respondents' perception of efficiency aim in Libya



Twenty-eight non-medical workers have responded to the question of whether they believe there is a big issue of waste including equipment and supplies in the *U.S.* Six respondents (20%) answered yes, six (20%) answered a little, eight (26.7%) answered unsure, and eight respondents (26.7%) answered no [Figure 5.4]. Regarding waste of equipment and supplies in *Libya*, eight (26.7%) non-medical workers answered yes, two (6.7%) answered a little, 10 (33.3%) answered unsure, and eight (26.7%) answered no [Figure 5.5]. The majority of non-medical workers answered “unsure” and “no” to waste of equipment and supplies in the U.S medical facilities and “unsure” regarding *Libya’s* medical facilities.

Figure 5.4 Results of non-medical worker respondents’ perception of efficiency aim in U.S

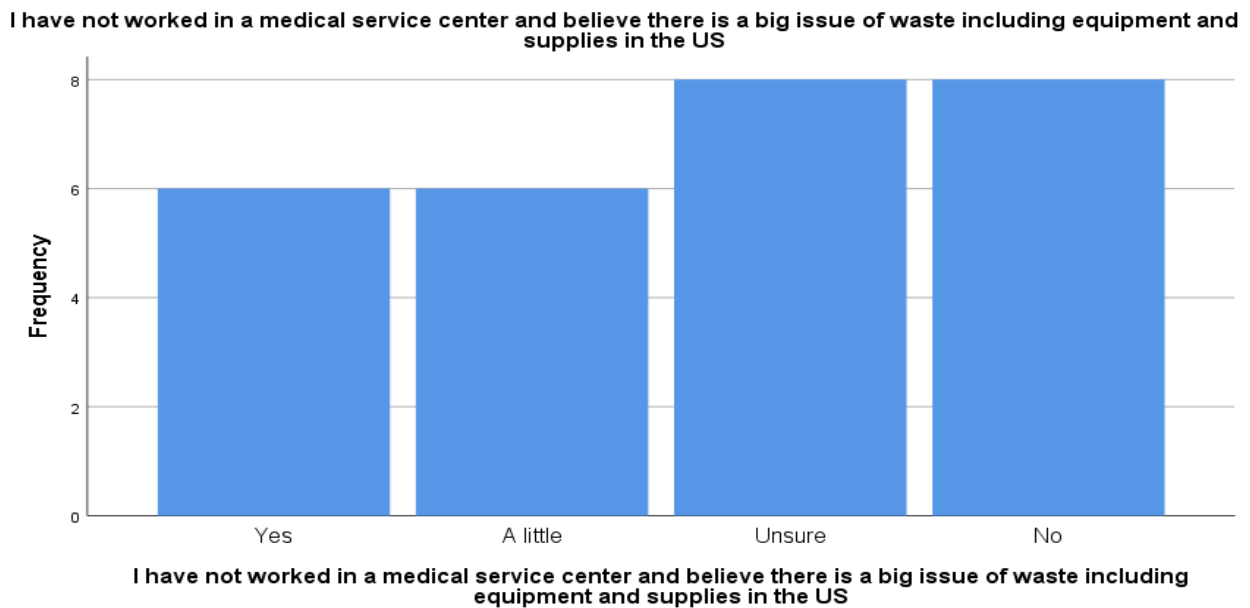
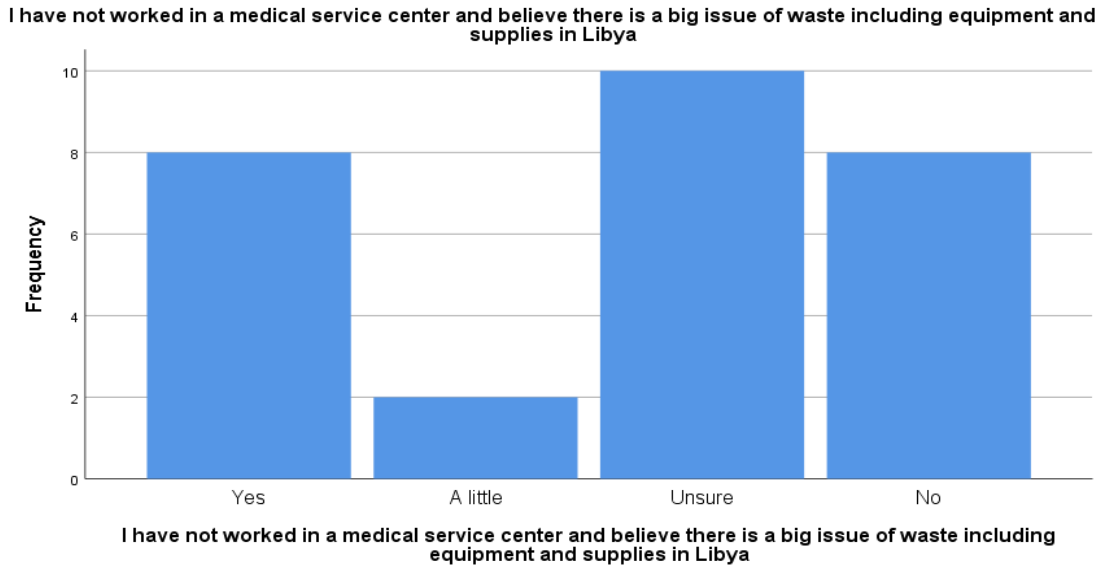


Figure 5.5 Results of the non-medical worker perception of efficiency aim in Libya



Equitable

This last section examines healthcare equality. The purpose of equality aim is providing care to patients that do not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status. The respondents were asked four questions within the equality category of this survey. The respondents were asked if the care that was provided to them in a medical service center in the *U.S* was altered due to their gender in a positive aspect. From the 27 respondents, two respondents (6.7%) strongly agreed, two respondents (6.7%) someone agreed, eight respondents (26.7%) felt neutral, four respondents (13.3%) somewhat disagreed, and lastly, 11 respondents (36.7%) strongly disagreed [Figure 6.1]. For the same question regarding Libya, three respondents (10%) strongly agreed, three respondents (10%) somewhat agreed, eight respondents (26.7%) felt neutral, four respondents (13.3%) somewhat disagreed, and nine respondents (30%) strongly disagreed [Figure 6.2]. The majority of respondents strongly disagreed that the care that was provided to them in a medical service center in the *U.S* was altered due to their gender in a positive aspect as well as in Libya.

Figure 6.1 Results of respondents' perception of the equitable aim in the U.S

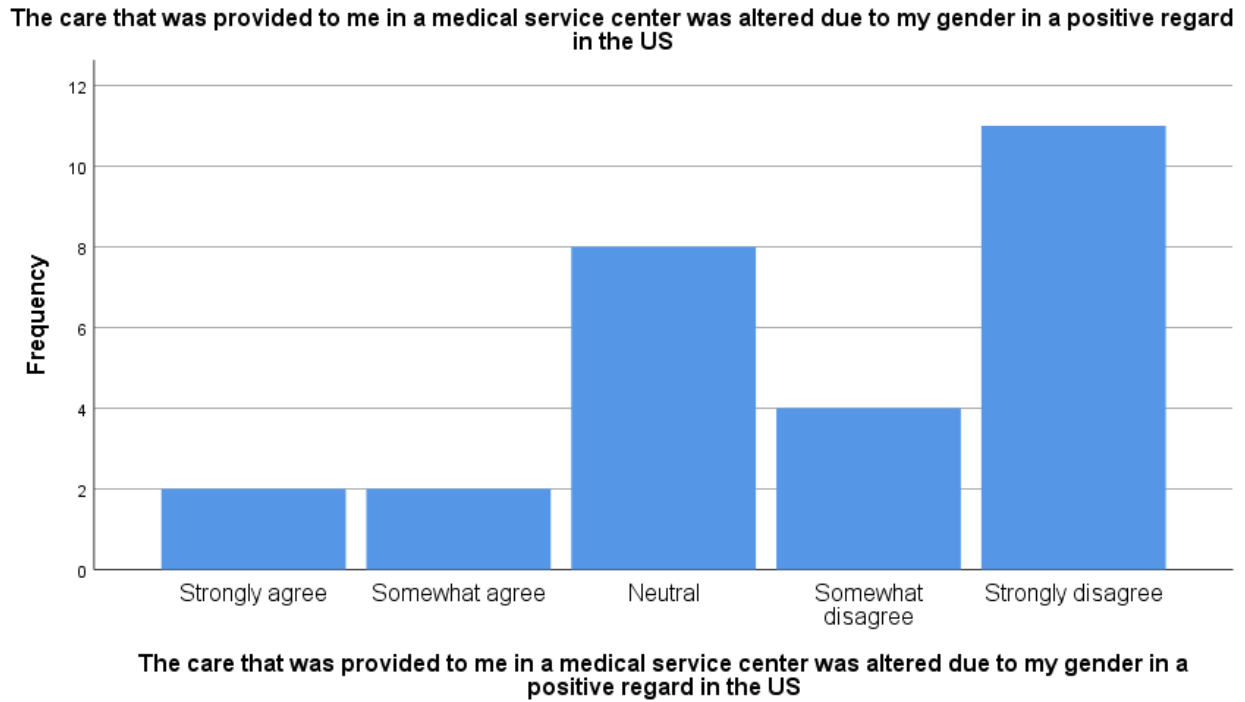
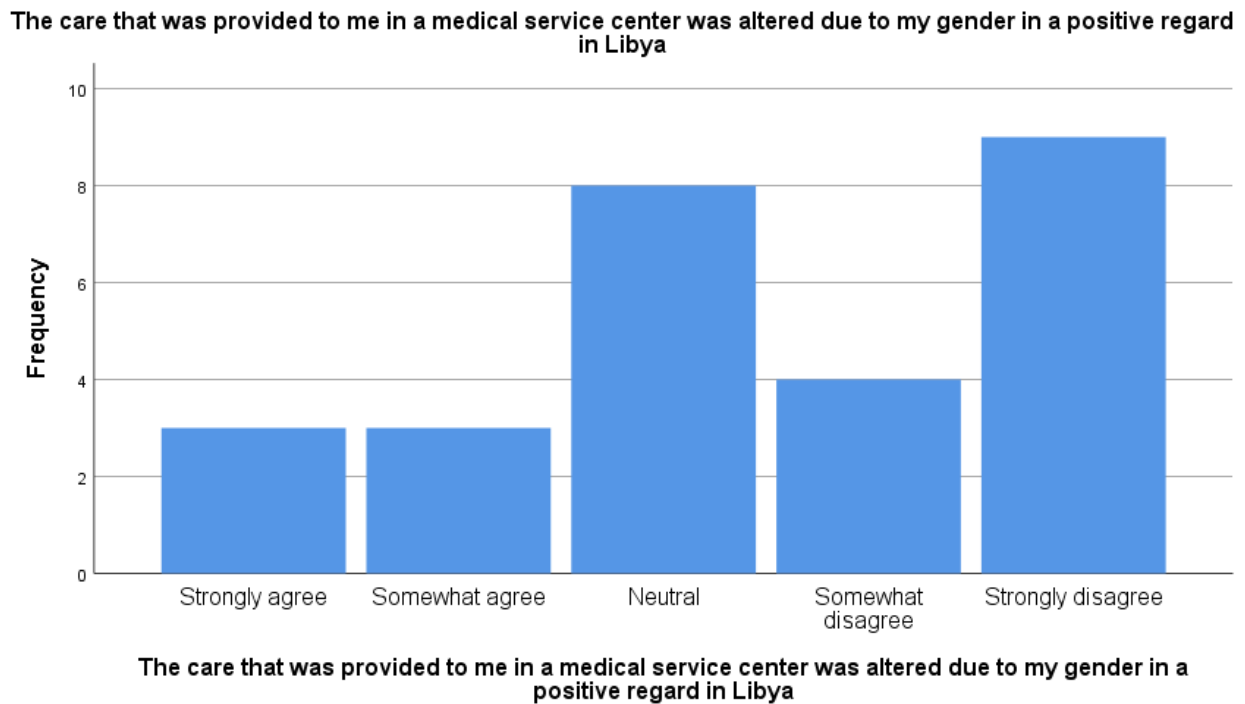


Figure 6.2 Results of respondents' perception of equitable aim in Libya



The next question that respondents were asked was if the care that was provided to them in a medical service center in the *U.S* was altered due to their ethnicity in a positive aspect. From the 27 respondents two respondents (6.7%) strongly agreed, two respondents (6.7%) somewhat agreed, nine respondents (30%) felt neutral, four respondents (13.3%) somewhat disagreed, and 10 respondents (33.3%) strongly disagreed [Figure 6.3]. For the patients’ personal experience in Libyan medical service centers, two respondents (6.7%) strongly agreed, two respondents (6.7%) somewhat agreed, nine respondents (30%) felt neutral, four respondents (13.3%) somewhat disagreed, and 10 respondents (33.3%) strongly disagreed [Figure 6.4]. Surprisingly, the perception of the patients’ experience in the U.S and Libya regarding the care that was provided to them in a medical service center being altered due to their ethnicity in a positive aspect is the exact same, with the majority strongly disagreeing in both countries.

Figure 6.3 Results of respondents’ perception on service based on ethnicity in U.S

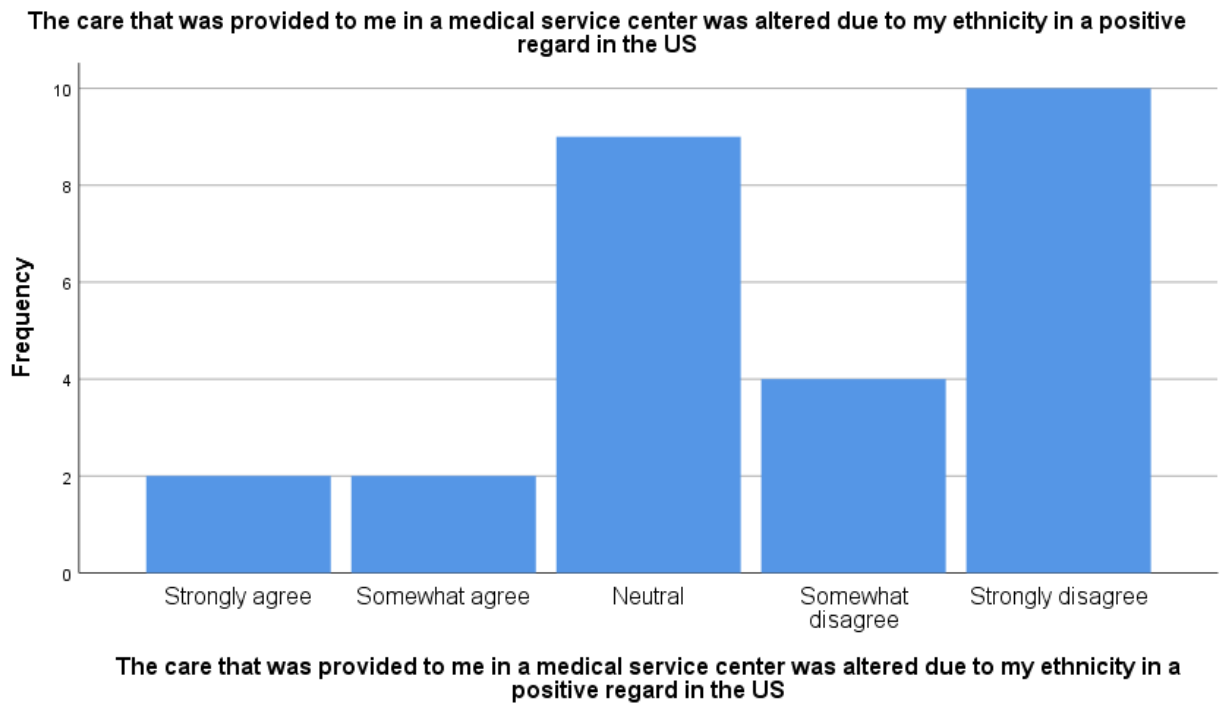
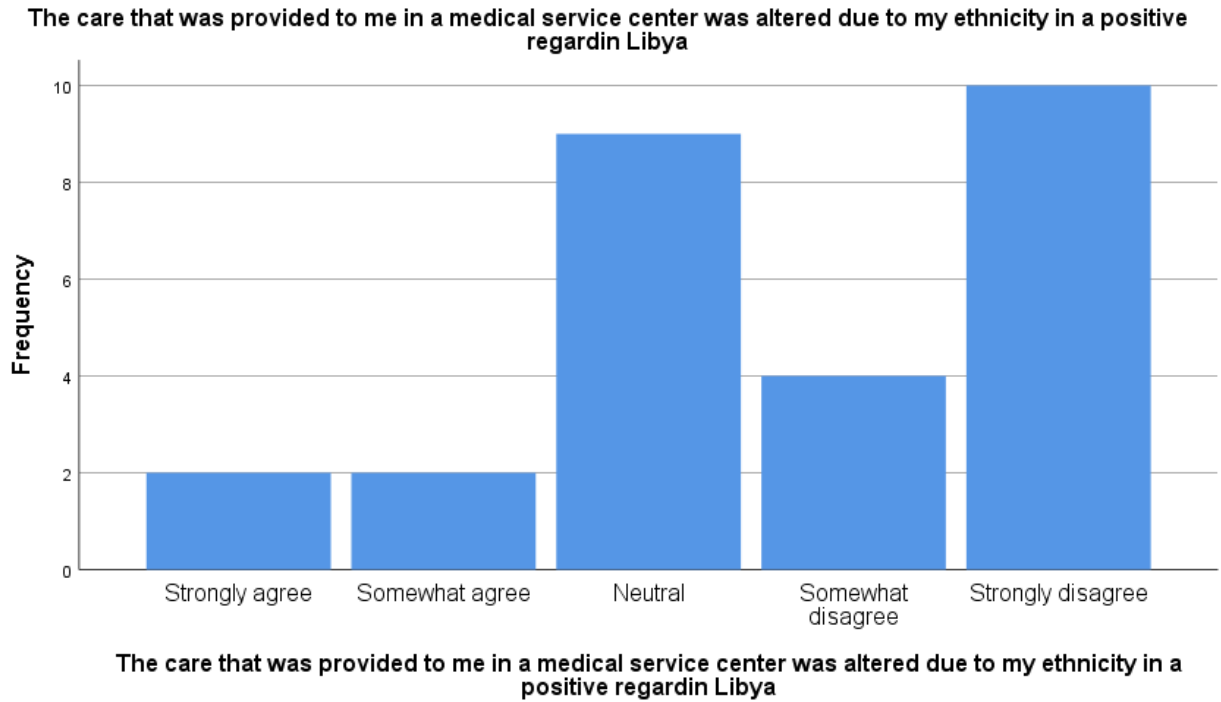


Figure 6.4 Results of respondents' perception on service based on ethnicity in Libya



The following question was whether the care provided to them was altered due to their geographical location. For medical centers in the *U.S.*, one respondent (3.3%) strongly agreed, one respondent (3.3%) somewhat agreed, 12 respondents (40%) felt neutral, three respondents (10%) somewhat disagreed, and 10 respondents (33.3%) strongly disagreed [Figure 6.5]. For medical centers in *Libya*, three respondents (10%) strongly agreed, five respondents (16.7%) somewhat agreed, nine respondents (30%) felt neutral, three respondents (10%) somewhat disagreed, and seven respondents (23.3%) strongly disagreed [Figure 6.6]. Most respondents felt neutral that the care provided to them was altered due to their geographical location in both *Libya* and the *U.S.*

Figure 6.5 Results on respondents' perception on service based on geo location in U.S

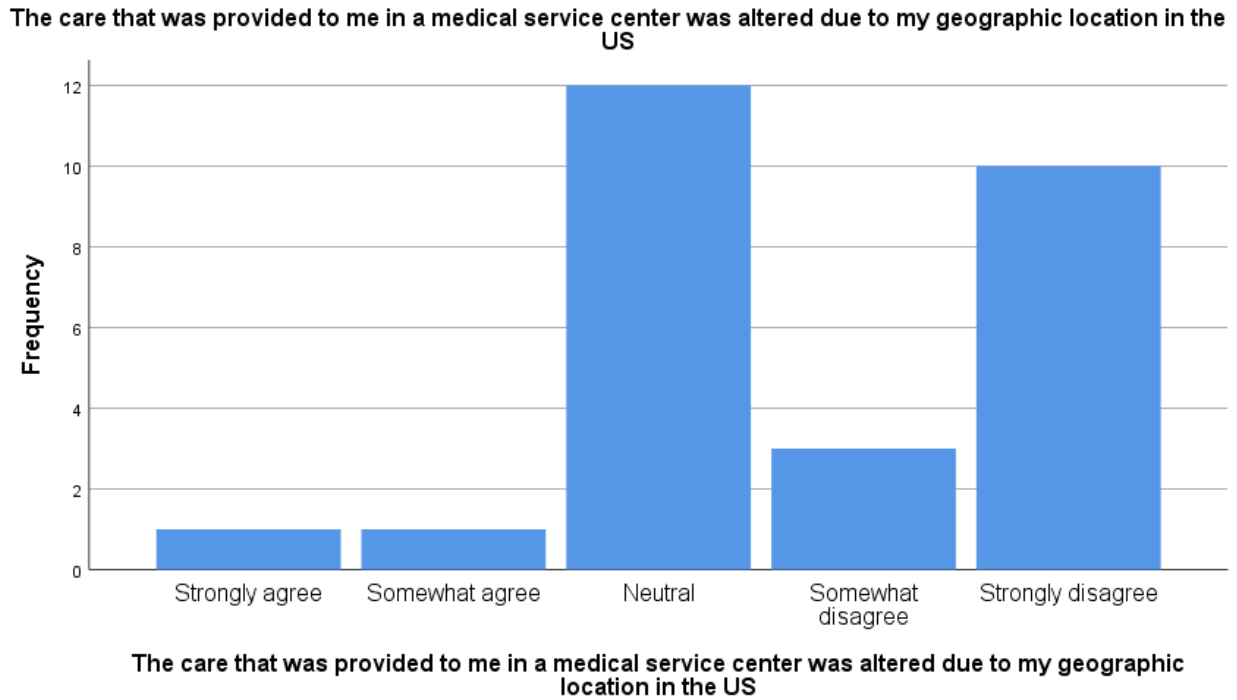
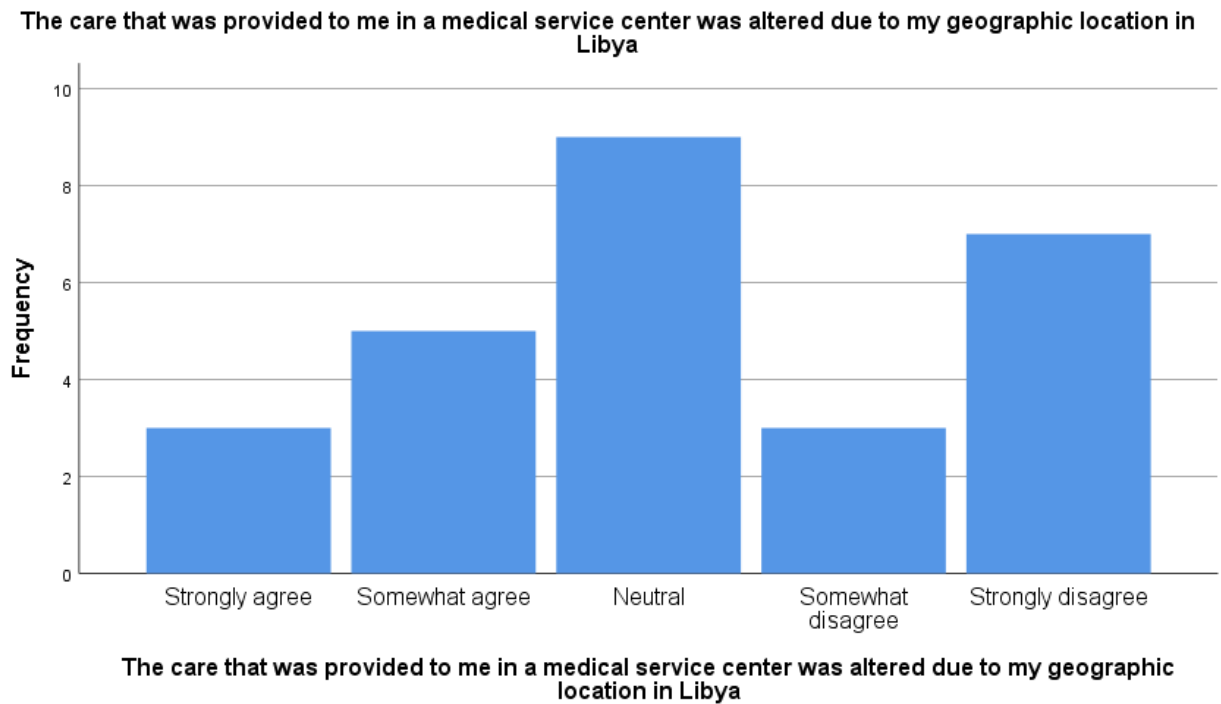


Figure 6.6 Results on respondents' perception on service based on geo location in Libya



The last survey question was if the care that was provided to the respondents in a medical service center in the *U.S* was altered due to their socioeconomic status. Three respondents (10%) strongly agreed, four respondents (13.3%) somewhat agreed, seven respondents (23.3%) felt neutral, two respondents (6.7%) someone disagreed, and lastly, 11 respondents (36.7%) strongly disagreed [Figure 6.7]. Regarding the respondents’ experience in Libya, three respondents (10%) strongly agreed, three respondents (10%) somewhat agreed, nine respondents (30%) felt neutral, five respondents (16.7%) someone disagreed, and lastly, seven respondents (23.3%) strongly disagreed [Figure 6.8]. The majority of respondents strongly disagreed that the care provided to them in a medical service center in the U.S was altered due to their socioeconomic status, and the majority felt neutral about the care provided to them in Libyan medical service centers.

Figure 6.7 Results on respondents’ perception on service based on socio-eco status in U.S

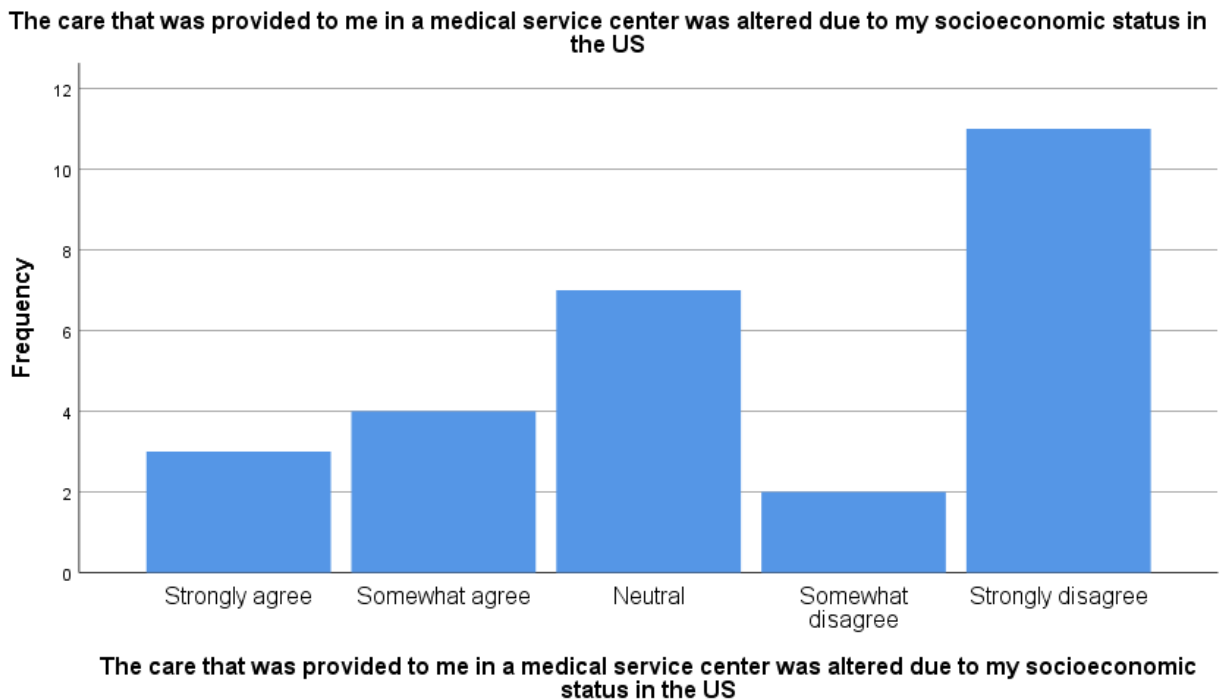
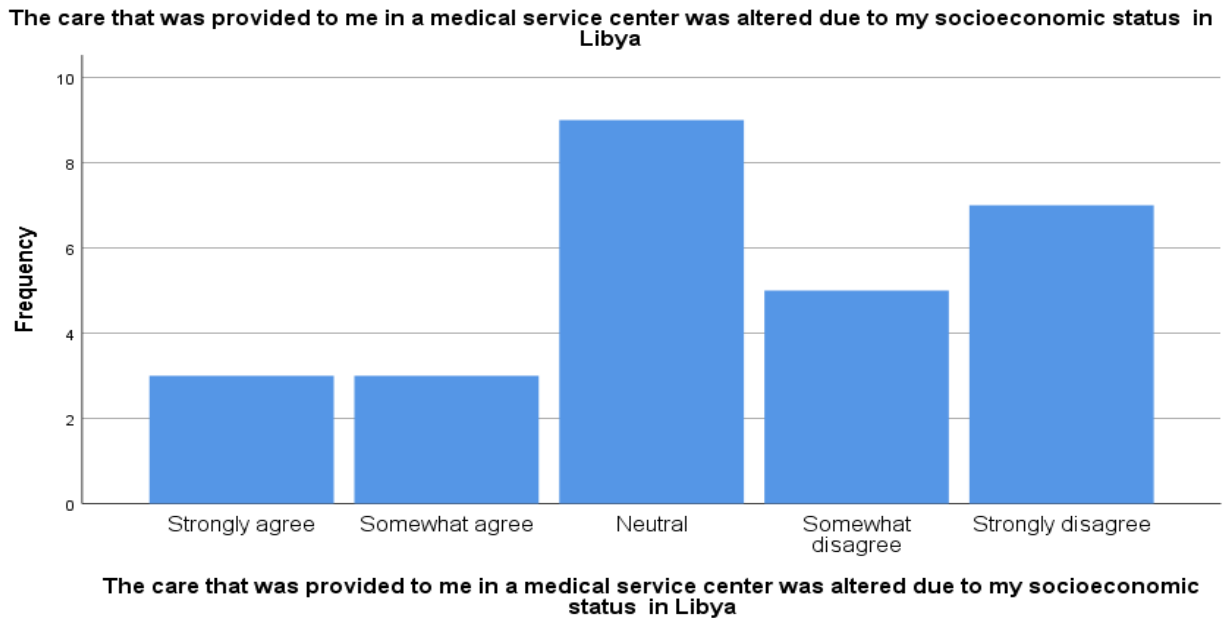


Figure 6.8 Results on respondents’ perception on service based on socio-eco status in U.S



Additional Statistical Measures

In addition to the data analysis above, a cross-tab chi-square was used to calculate the significance level of the relationship between the location of being medically treated in Libya (east or west) and whether the respondents felt safe from harm that could have been inflicted on them from the care that was intended to help them. The data analysis $\chi^2(4, N=30) p=.997 > .05$ has shown that there is no significance between the two variables [Figure 1].

There was also no significance between the location of being medically treated in Libya (either east or west) and whether the respondents had to travel outside of their current location to receive medical aid $\chi^2(1, N=29) p=.774 > .05$ [Figure 2]. Lastly, a cross-tab chi-square was tested to see whether there was a relationship between the respondents feeling safe from harm that could have been inflicted on them from the care that was intended to help them and if they had to travel outside of Libya for medical help, and the data showed there is no significance between the two variables $\chi^2(4, N=29) p=.375 > .05$ [Figure 3].

CHAPTER 5-CONCLUSION

This cross-sectional study has investigated the Libyan peoples' perception of healthcare quality between the United States and Libya from the years 2011 to 2020 as measured by the six aims of healthcare quality.

The way I decided to measure the healthcare quality in Libya was to compare it to the U.S healthcare system since firstly, the U.S is stereotypically seen by the Libyan people as one of the top-ranking countries in the world, and secondly because the target population is Libyan-Americans so they would need to be medically treated in the U.S in order to compare it to Libya's healthcare.

The data results have shown us that the Libyans' perception of Libya's and the U.S' healthcare quality is similar. My expectations for the data results were that the perception of the U.S healthcare quality would be much more positive than Libya's. Perhaps, the stereotypical view of the U.S being one of the top-ranking countries in the world fails to include healthcare quality, and maybe this study can be used not just to study Libya's healthcare system, but also the United States' healthcare.

Even though the survey results have shown that the perception of Libya's and the U.S' healthcare quality is equal, Libya is still in desperate need of humanitarian aid. From being a Libyan myself and hearing oral stories passed down, there was a time before Muammar Gaddafi's tyranny when King Idris was in rule and the healthcare system was flourishing and the country was beautifully stable. Unfortunately, corruption and exploitation started to spread throughout the country once the King was overthrown leading to the devastating state that Libya is currently in. It is in every Libyan's deep hopes that we will see Libya become the divinely serene country it once was.

Discussion

These unexpected results can have many different interpretations depending on who is reading it, as well as how the survey was conducted. The data has shown us that the perception of the healthcare quality constructs of effectiveness, patient-centered care, timeliness, efficiency, and equality is equal between the U.S and Libya. It is surprising that the results have come out equal when Libya only has 4 hospitals that are functional between 75-80% of its capacity, 20% of primary health care facilities are closed and the rest are not well ready for service delivery, and only 40% of inpatient hospital beds are currently functional.

However, the data did show some differences. Of the 29 respondents, 16.7% have had to travel outside the US for medical help and 40% have had to travel outside of Libya for medical help. Regarding feeling safe from harm that could have been inflicted on them from the care that was intended to help them, of 30 respondents, 53.3% strongly agreed within a U.S medical center, and 33.3% responded with somewhat agree within a Libyan medical center. Lastly, of 27 respondents, 36.7% strongly disagreed that the care that was provided to the respondents in a medical service center in the U.S was altered due to their socioeconomic status and 30% felt neutral regarding Libya's medical center. This data analysis has revealed to us that even though the majority of the perceptions between the healthcare quality between Libya and the U.S is equal, respondents still feel safer in a U.S medical center, have had to travel outside of Libya more than the U.S to receive medical aid, and strongly disagree more that the care provided to them was altered due to their socioeconomic status in the U.S more than Libya. With these notable findings, I ran a cross-tab chi-square between the variables safety and travel between the east and west locations of Libya to determine whether there was a difference in response

according to the location in Libya. However, the results came out insignificant, which again, could be due to many different factors which will be discussed in the conclusion.

Limits of experiment

I believe there are several different variables that limited this experiment and resulted in having the perceptions of Libya's healthcare and the U.S' healthcare to be equal. The first one is not distinguishing between public and private medical service centers. In Libya, public medical centers are owned by the government, and the care provided is for free, thus, sadly having lower quality care provided to patients. Private medical centers are self-owned by a doctor or teams of doctors who make profits from their centers, and in order to make a profit, they provide more satisfying quality care to have a more trustworthy reputation which will lead to more patients to come to their centers seeking medical aid. It is unknown if the respondents were sharing their perception from a public or private center in this survey.

Another limitation of this research is language barriers in the survey. Libya's national language is Arabic, and the survey was conducted in English. This could have prevented respondents from fully understanding the question and limiting them from answering to the best of their knowledge. In addition, the survey questions could have also been broad and confusing to the respondents.

Internal Validity

In this study, internal validity does not have much of a factor in the results of the data. What I did in the study has not caused what I observed to happen since this study is a cross-sectional study based on people's personal experiences and perceptions and the respondents are anonymous.

External Validity

This study that I have conducted is specific. To my knowledge, there is no other study conducted that measures the healthcare quality between Libya and the U.S among the years 2011 to 2020 based on the Institute of Medicine's six quality aims. However, this study can inspire future researchers to investigate more into Libya's healthcare system and have the privilege to see the limitations of this study and avoid them in their subsequent researches.

Further Directions

Throughout this study, I discussed two main action plans, the Humanitarian Response Plan, and the H.R 4644 Libya Stabilization Act. Both action plans would execute the fundamental rights of every Libyan to have the highest attainable standard of health without distinction of race, religion, political belief, economic, or social condition. This study can be used in multiple ways. It can be used for future researchers interested in the healthcare system who want to see an example of a cross-sectional study. It can also be helpful for policy-makers in Libya and the United States needing to understand the experience of patients in a medical service center, which can help them legislate new bills and help pass existing bills through The House of Congress, such as passing the H.R 4644 Libya Stabilization Act and setting the Humanitarian Response Plan in motion.

APPENDICES

APPENDIX A – REFERENCES

- Adams, Lucy. (2020, February 21). *Surgeon Who Harmed Scots is Now Working In Libya*. Retrieved from <https://www.bbc.com/news/uk-scotland-51571465>
- Benamer, H & Bakoush O. (2009, August 27). *Medical Education in Libya: The Challenges*. Retrieved from <https://www.tandfonline.com/doi/abs/10.1080/01421590902832988?journalCode=imte20>
- Conceição, Pedro. (2019). *Human Development Report 2019*. Retrieved from <http://hdr.undp.org/sites/default/files/hdr2019.pdf>
- Deutch, T., Wilson, J., Lieu, T., Malinowski, T. (2019, October 11). *Bipartisan Bill to Support Peaceful Resolution to Libyan Conflict Introduced*. Retrieved from <https://teddeutch.house.gov/news/documentsingle.aspx?DocumentID=402686>
- El-Zanaty & Associates. (2012). *Post Conflict Assessment of Hospitals*. Retrieved from <http://www.seha.ly/wp-content/uploads/2017/11/SARA-1-2012-Libya-Hospitals-report.pdf>
- Figure 1. A statistical table from the Humanitarian Response Plan. From *Breakdown of People in Need and Targeted By Status, Sex, and Age*. By Dr Jaffar Hussain Syed, WHO Libya Country Representative, 2017. http://seha.ly/en/wp-content/uploads/2017/11/Libya-HRP-2017_v9_Final-Draft.pdf
- Ghebreyesus, Tedros. (2017, December 10). *Health is a Fundamental Human Right*. Retrieved from <https://www.who.int/mediacentre/news/statements/fundamental-human-right/en/>
- Health Information Centre., World Health Organization. (2017). *Service Availability and Readiness Assessment*. Retrieved from https://drive.google.com/file/d/1BP1g2hMyfW94T_9GnsLGp9bvXO8T8fcE/view
- Hussain, Syed., The Humanitarian Country Team. (January-December 2017). *Humanitarian Response Plan*. Retrieved from http://seha.ly/en/wp-content/uploads/2017/11/Libya-HRP-2017_v9_Final-Draft.pdf
- Ilioudi, S., Lazakidou, A., Tsironi, M. (2013). *Importance of Patient Satisfaction Measurement and Electronic Surveys: Methodology and Potential Benefits*. Retrieved from http://www.sciencpress.com/Upload/IJHRI/Vol%201_1_6.pdf
- N.A (2015, February). *Six Domains of Healthcare Quality*. Retrieved from <https://www.ahrq.gov/talkingquality/measures/six-domains.html>.
- N.A (September 2018 - October 2019). *Libya's Health System on a Point of Collapse*. Retrieved from <https://fanack.com/libya/society-media-culture/society/health/libyas-health-system-collapse/>

REACH. (2016, March 11). *Libya: Reach Multi-Sector Needs Assessment Update*. Retrieved from <https://www.reach-initiative.org/what-we-do/news/libya-reach-multi-sector-needs-assessment-update/>

World Health Organization., Ministry of Health-Libya. (2012). *Post Conflict Health Facility Assessment*. Retrieved from <http://www.seha.ly/wp-content/uploads/2017/11/SARA-1-2012-Libya-Final-PHC-Report-facility.pdf>

World Health Organization. (June - July, 2017). *Libya Health Emergencies and Humanitarian Update*. Retrieved from <https://www.who.int/hac/crises/lby/libya-health-situation-report-june-july2017.pdf?ua=1>

APPENDIX B – ADDITIONAL MEASUREMENTS

Table 2 Demographic results of U.S region

The location in the U.S where participants were medically treated

	Frequency	Percent	Valid Percent	Cumulative Percent
West	24	80.0	80.0	80.0
Southwest	2	6.7	6.7	86.7
Southeast	3	10.0	10.0	96.7
Northeast	1	3.3	3.3	100.0
Total	30	100.0	100.0	

Table 3 Demographic results of age in Libya

The age participants were medically treated in Libya

	Frequency	Percent	Valid Percent	Cumulative Percent
13-17	5	16.7	16.7	16.7
18-24	8	26.7	26.7	43.3
25-39	8	26.7	26.7	70.0
40-54	7	23.3	23.3	93.3
55-64	2	6.7	6.7	100.0
Total	30	100.0	100.0	

Table 4 Demographic result of age in U.S

The age participants were medically treated in the U.S

	Frequency	Percent	Valid Percent	Cumulative Percent
13-17	1	3.3	3.3	3.3
18-24	10	33.3	33.3	36.7
25-39	12	40.0	40.0	76.7
40-54	6	20.0	20.0	96.7
55-64	1	3.3	3.3	100.0
Total	30	100.0	100.0	

Table 5 Demographic result of current age

The current age of participants

	Frequency	Percent	Valid Percent	Cumulative Percent
18-24	11	36.7	36.7	36.7
25-39	8	26.7	26.7	63.3
40-54	9	30.0	30.0	93.3
55-64	1	3.3	3.3	96.7
65+	1	3.3	3.3	100.0
Total	30	100.0	100.0	

Table 6 Demographic result of gender

The participants gender identity

	Frequency	Percent	Valid Percent	Cumulative Percent
Female	19	63.3	63.3	63.3
Male	11	36.7	36.7	100.0
Total	30	100.0	100.0	

Figure 1 Cross-tab Chi-square of the safety aim with location in Libya

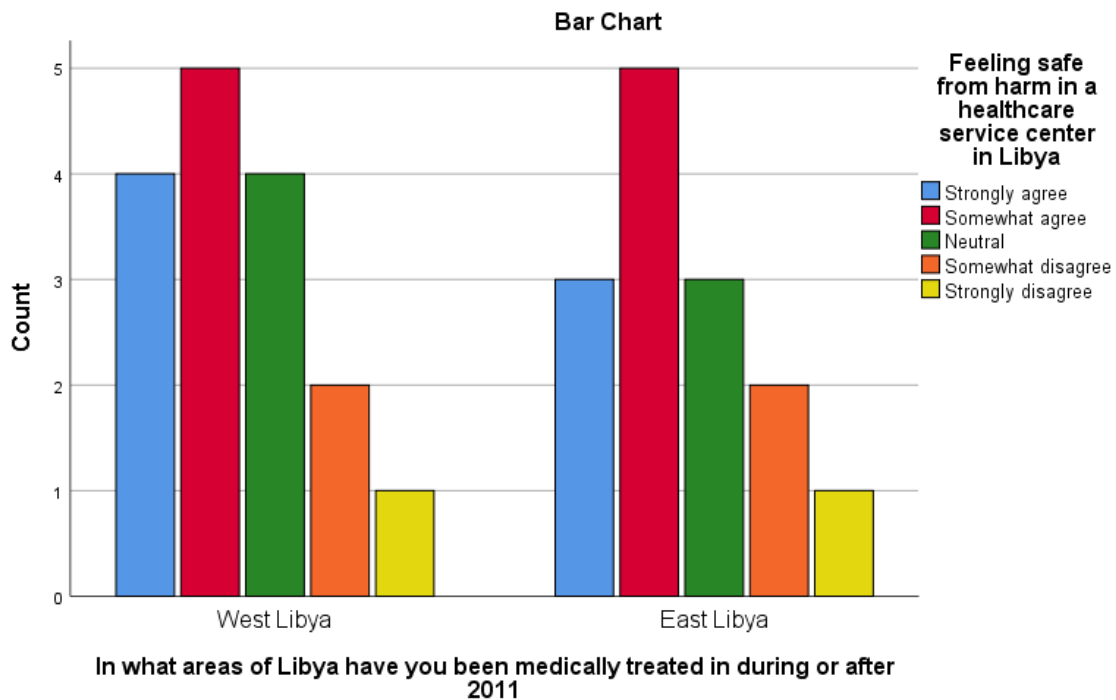


Figure 2 Cross-tab Chi-square of the timeliness aim with location in Libya

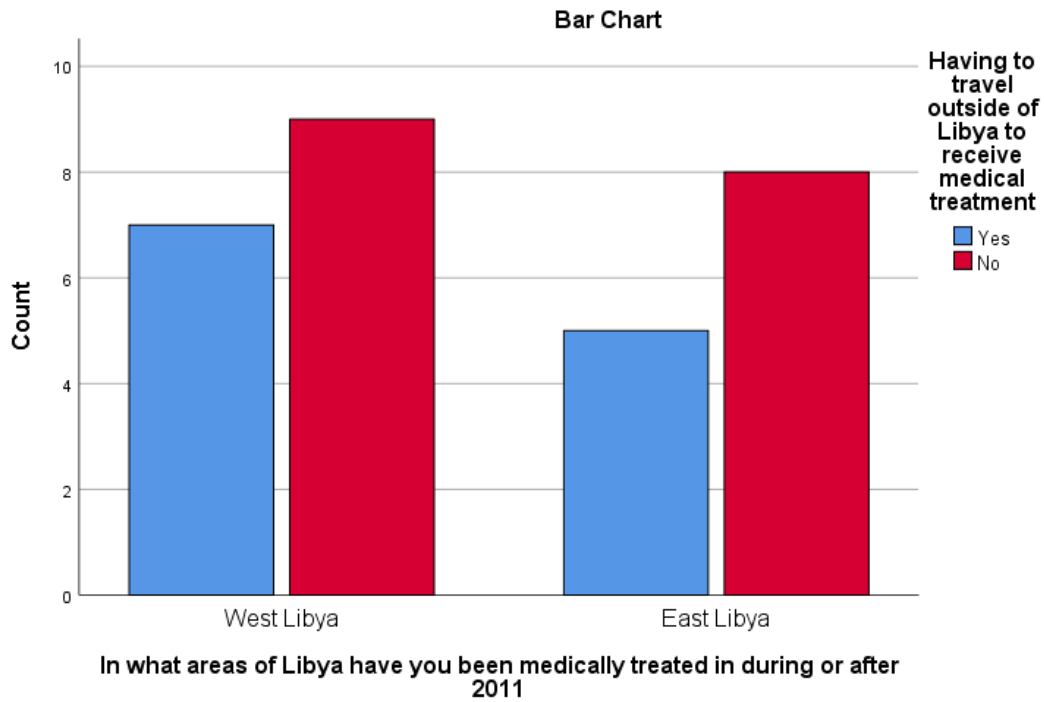
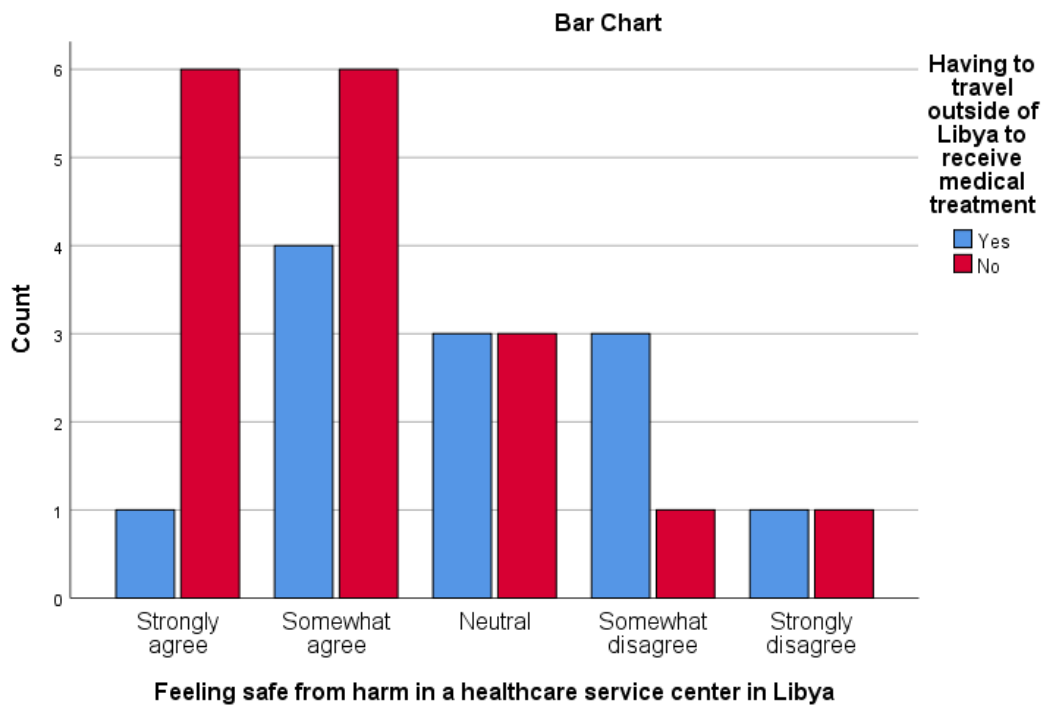


Figure 3 Cross-tab Chi-square of the timeliness aim with the safety aim



APPENDIX C - CONSENT FORM, SURVEY AND QUALITATIVE SURVEY RESPONSES

Research participant Information and Consent Form

You are being asked to participate in a research study. Researchers are required to provide a consent form to inform you about the research study to convey that participation is voluntary, to explain the protection and the rights of the participants, and to empower you to make an informed decision. You should feel free to ask the researcher any questions you may have.

Researcher and Title: Rowan Al-ghfafi, MA., Graduate Student

Department and Institution: School of Interdisciplinary Arts and Sciences, University of Washington | Bothell

Address:

Box 358530

18115 Campus Way NE

Bothell, WA 98011-8246

Purpose of Study

You have been invited to complete this survey on your personal experiences within a medical service center in the United States and in Libya during or after 2011. This research examines Libya's healthcare system after the 2011 revolution through self-reports of Libyans living in the US measured by the six aims of healthcare quality. These six aims will be used to measure the comparison of healthcare quality between Libya and the U.S through the peoples' perception from 2011-2020. This survey will conduct questions based on the Six Aims of Healthcare Quality which is created to redesign the quality of healthcare to improve from the mistakes it currently has to be attainable and to deliver rightful healthcare to patients which are fundamental human rights. The Six Aims are safe, effective, patient-centered, timely, efficient and equitable.

Although the health care system in Libya is collapsing due to higher forces such as fragmented governance and limited financial resources, this study is important because it may provide future insight on healthcare policies to revive the healthcare system in Libya with foremost quality.

What Will I Do

You will be asked to participate in an approximately 15-minute survey to answer questions about the quality of your personal experience in a medical service center in Libya and the United States after 2011.

Protection of Information

For the purposes of this project, your identity and information will not be asked. This survey will only be used by me as a researcher to conduct statistical analysis. If you prefer not to participate at any time during this survey you may do so, and the information provided will be disposed of. If you have any questions, you can send an electronic message which will be kept confidential.

Your rights to participate, say no, or withdraw

Participation in this project is voluntary. You do not have to answer any questions you do not want to answer. If at any time and for any reason, you would prefer not to participate in this study, please feel free not to. You can -

- Take a break, stop and continue at a later date, or stop altogether.
- You may withdraw from this study at any time.

Contact Information

If you have concerns or questions about this study, please contact me through electronic messaging or at rowan98@uw.edu.

If you have questions or concerns about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this study, you may contact, anonymously if you wish, the University of Washington's Human Subject Division (HSD) at (206) 543-0098 or hsdinfo@uw.edu.

Consent

I have read this form and the research study has been explained to me. I have been given the opportunity to ask questions and my questions have been answered. Partaking in this survey is to confirm my participation agreement.

I understand this survey is voluntary and am interested to:

Participate Not participate

Libyans' Perception of Healthcare Quality in the U.S and Libya

Safe

This next section asks you to provide your perceptions on health quality aim known as safety. This refers to the aim of avoiding harm to patients from the care that is intended to help them

When visiting a health service center (hospital or primary care), I felt safe from harm that could have been inflicted on me from the care that is intended to help me

	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree
Libya					
U.S					

Effective

The second aim for better healthcare quality is effectiveness. The effective aim is to provide services based on scientific knowledge to all who could benefit from providing services to those not likely to benefit and avoiding overuse, underuse, and misuse.

I was confident in the provider's knowledge of diagnosing and treating me

	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree
Libya					
U.S					

Patient-centered

The third aim, patient-centered, is aimed to provide care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.

When visiting a health care service center, I was provided care that is respectful of and responsive to my preferences, needs, and values

	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree
Libya					
U.S					

When visiting a health care service center, my values) religions, life-goals, types of treatment, etc) guide all clinical decisions

	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree
Libya					
U.S					

Timely

The timely aim is to reduce waits and sometimes harmful delays for both those who receive and those who give care.

I have had to travel outside the country I was currently in to receive medical help.

	Yes	No
Libya		
U.S		

I typically have to wait this long to see a medical provider. _

	1-2 weeks	3-4 weeks	2-3 months	4+ months
Libya				
US				

Efficient

The next section examines healthcare efficiency through the perception of healthcare workers and non-healthcare workers. The efficient aim is to avoid waste, including waste of equipment, supplies, ideas, and energy.

I am or have worked in a medical service center in Libya or the US.

Yes, in Libya

Yes, in the US

Yes, in both

No

If yes, I do believe there is a big issue of waste including equipment and supplies

	Yes	A little	Unsure	No
Libya				
US				

I have not worked in a medical center in Libya or the U.S, but from what I have witnessed and observed in a medical service center I believe that there is a big issue of waste including equipment and supplies.

	Yes	A little	Unsure	No
Libya				
US				

Equitable

This last section examines healthcare equality. Equitable is providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status.

Please answer the following questions regarding your experience in the **U.S only**.

	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree
The care that was provided to me in a medical service center was altered due to my gender in a positive aspect					
The care that was provided to me in a medical service center was altered due to my ethnicity in a positive aspect					
The care that was provided to me in a medical service center was altered due to my geographic location					

The care provided to me in a medical service center was altered due to my socioeconomic status					
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Please answer the following questions regarding your experience in **Libya only**.

	Strongly Agree	Somewhat Agree	Neutral	Somewhat Disagree	Strongly Disagree
The care that was provided to me in a medical service center was altered due to my gender in a positive aspect					
The care that was provided to me in a medical service center was altered due to my ethnicity in a positive aspect					
The care that was provided to me in a medical service center was altered due to my geographic location					
The care provided to me in a medical service center was altered due to my socioeconomic status					

Qualitative Survey Responses

Timeliness aim

The question: I typically have to wait for this long to see a medical provider.

1. Here In USA they need to confirm with the insurance company. Plus most of the clinics don't have a walk in
2. I broke my humerus in the US and it took me 2 weeks to get surgery done because it wasn't as urgent as it didn't affect any nerves. Whereas in Libya, you could walk in to a hospital and you might get treated.
3. Depending on the medical circumstance and how urgent it is, it often varies but usually takes a while to receive the care you need. Waiting lists are often from 1-3 months depending on circumstance and level of emergency. In Libya, if you have connections with doctors, like have a family member in the medical field, it can be very quick for you to get seen by a Physician and even get surgery done. If you don't have connections, this may be super difficult, as some Physicians only want to see a certain amount of walk-in patients in a day. So your wait maybe for weeks and if you have low income, the risk of complications may be very high since you are paying for "public hospital" services versus private.

Efficiency Aim

The question: I have worked in a medical center in Libya, the U.S, or both and I believe there is a big issue of waste including equipment and supplies.

1. In Libya most of health services are free.
2. Unnecessary imaging done, equipment that is bought but not used due to lack of trained personnel

3. There's a lack of supplies going to Libya in general, waste isn't the issue it's the accessibility in the first place.

The question: I have not worked in a medical center in Libya or the U.S, but from what I have witnessed and observed in a medical service center I believe that there is a big issue of waste including equipment and supplies.

1. Government doesn't do good job and steal healthcare money
2. Supplies run out in Libya a lot so i feel it's more an issue of patients not getting what they need due to lack of supplies
3. I believe that the use of plastic in any capacity is a waste but in regards to the equipment I haven't witnessed any misuse or wastefulness

Additional Comments

1. The difference between Libya and the USA is Libya doctors care to actually help and are actually very good however there is a lack of equipment in the hospitals. People also do not have insurance and pay from their pockets to private clinics which can be expensive to the average individual.
1. Based on my job as a doctor in Libya, it's hard to compare between the medical services in USA and Libya. There is a big gap. The only issue I see in USA is the insurance companies being involved too much.
2. Sometimes I am treated better than other patients because they see I have an American citizenship.

APPENDIX D - PROPOSED TIMELINE

Phase Activity	January	February	March	April	May	June	July	August
Phase 1 - Research Question and Pre-Research								
Purpose of the study	X							
Review of Literature		X						
Methodology		X						
Submit capston proposal			X					
Submit IRB			X					
Phase 2 - Data Collection			X					
Post survry and collect data				X				
Code data and upload to SPSS				X				
Analyze data					X			
Report findings					X			
Phase 3 - Final write up of finding								
Data interperation and write up					X			
First draft of capstone					X	X		
Advisor feedback						X		
Final capstone draft							X	