

Comparative Study on Awareness of Libyans in the Prevention and Control of Communicable Diseases

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Abstract Health is one of the most important things to be maintained in this world for it is considered a wealth. Without health, problems will occur that can affect the entire populace. Communicable diseases are one of those affecting good health to which considered as one of the leading cause of illness and death throughout the world. With this, it is our great desire to know and analyze how Libyans are aware to the control and prevention of communicable disease in which descriptive survey design was used and self made data gathering tool was utilized after reliability testing was made thru application of Kuder-Richardson Instrument reliability test ($rK-R = 0.99$). Frequency count and weighted mean was applied and Statistical Package for Social Sciences Version 20.0 (SPSS) was used utilizing Analysis of variance or F-test was used for the significant differences on awareness according to demographic profile. Libyans were found to be greatly aware to practices that control and prevent communicable disease. Finally, there is no significant difference on awareness among Libyans in the control and prevention of communicable diseases in terms of age, gender and educational attainment.

Keywords Libyans, Communicable disease, Control, Prevention, Awareness

1. Introduction

Over the past decades, the incidence and magnitude of communicable disease has grown most specially in less developed countries. Health concerns were triggered due to inflating reports on mortality, epidemic and alike. This concern caught the attention of some international organizations that strengthened their support that such disease should be eliminated. As the medical science and technology progressed in more years, initiatives for the eradication of communicable diseases were launched, and creating great optimism that such diseases would be eliminated.

According to Mosby's Medical Dictionary, communicable disease which is also called as contagious disease is pertaining to any disease transmitted from one person or animal to another directly, by contact with excreta or other discharges from the body; indirectly, by means of substances or inanimate objects, such as contaminated drinking glasses, toys, or water; or by means of vectors, such as flies, mosquitoes, ticks, or other insects.[1] Communicable diseases may be caused by bacteria, chlamydia, fungi, parasites, rickettsiae, and viruses. To control a communicable disease, it is important to identify the organism, prevent its spread to the environment, protect

others against contamination, and treat the infected person. Many communicable diseases, by law, must be reported to the local health department.

In the 20th century, international effort were underway to rid the world of a certain number of contagious disease that eradication to completely interrupt the transmission of a contagious disease and the waning of causative agents to eliminate or reduce incidence as a result of deliberate efforts, requiring continued control measures.

Today, however, communicable diseases remain a challenge for old diseases have re-emerged, and new contagious diseases are causing living and health standards to regress in many developing countries. Why has this happened, and what is being done about it? This question allowed more concerned citizens regarding the control and prevention of communicable disease. The control of communicable diseases depends on a healthy environment, clean water, adequate sanitation, vector control, shelter, immunization, and health workers trained in early diagnosis and treatment.

According to the World Health Organization, communicable diseases were not a major problem in Libya before the chaotic status of the country since water and sanitation systems are good and vaccination coverage is near universal. However, this could change if no prevention and control system in place. But in times of crisis, many communicable disease outbreaks are caused by common, easily preventable and treatable diseases such as acute watery diarrhea, dysentery and measles as it has been proven with tragically changes of health situation in Libya as the

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revolution started in 2011 up to now that political conflict continues. The closure of primary health care center because of damage caused by fighting, shortages of funds, medicines and supplies or lack of health workers compels people to seek health care in overburdened hospitals. [2] With the recent status of Libya, it's quite obvious that the health status of the country was affected. With this, it is the purpose of this study to identify the extent how Libyans are aware to control and prevent communicable diseases as it plays a vital role in the maintenance of good health among people of the said country.

2. Methodology

Descriptive research design was utilized in this study as it is the best choice to be used in describing the characteristics of a population or phenomenon being studied and it does not answer questions about how, when or why the characteristics occurred but rather it addresses the what are the characteristics of the population or situation being studied. [3] Longitudinal - survey was also used and an accidental or convenience sampling was applied in the collection of data for the researchers took opportunity to those available Libyans who are willing to participate in the western part of Libya particularly in Tripoli, Misurata and Gharyan from April to August 2015. A self-made questionnaire based on reliable sources such as books, journals and internet references was utilized as the main data gathering tool to be answered by respondents with two parts. First is pertaining to the demographic profile particularly on gender, age and education. These are important to consider as the moderating variable and is relevant in identifying differences for future planning purposes. The last part pertaining to health practices in the control and prevention of communicable diseases for the respondent to identify their extent of awareness. The data gathering tool was piloted to other places in the western part of Libya which was not included on the list of places where the actual data gathering was done for validation and reliability testing making use of Kuder-Richardson Instrument reliability test ($rK-R = 0.99$). Collected data were tallied and presented in frequency distribution and weighted mean to permit simple descriptive analysis. The Statistical Package for Social Sciences Version 20.0 (SPSS) was used to validate differences. Analysis of variance or F-test was used for the significant differences according to demographic profile.

3. Results

3.1. Profile of the Respondents

After data gathering was conducted in five months duration, there were three hundred fifty (350) Libyans who were available and voluntarily participated. 80% (280) are males and the remaining 20% (70) are females. The respondents belong to different age bracket where majority

of them belongs to age 20 to 30 years old with total number of 130 or 37.14% followed by those with the age 40 and above years old with 100 or 28.57% then by respondents with the age of 31 to 40 years old with 70(20.00%) and the least were those with the age of 20 and below years old with 50 or 14.28%. on the other hand, respondents were almost the same in distribution according to education. there were 120 (34.28%) each who stepped or finished secondary and college while only 110 (31.42%) who stepped or finished elementary.

3.2. Awareness on Communicable Disease Control and Prevention

Table 1 presents how Libyans are aware with the control and prevention of communicable diseases. Generally, Libyans are greatly aware on communicable disease control and prevention with an average weighted mean of 3.37. Looking upon the items provided related to control and prevention of communicable diseases, the importance of an up-to-date vaccination topped the list with weighted mean of 3.80; followed by the importance of washing hands and perform hand hygiene with weighted mean of 3.77. Contaminated needle is one source of infection with weighted of 3.70 garnered the third that was Libyans most aware of then by some diseases can be transferred through blood transfusion with weighted mean of 3.62 followed by the use of condom will prevents spread of infection with weighted mean of 3.62. Unscreened blood and body fluid can be source of infection with weighted mean of 3.60 comes next then by Libyan awareness on some diseases can be transferred by unprotected sexual contact with weighted mean of 3.57. Libyans also are greatly aware in wearing gloves that is an effective way to prevent spread of microorganism with weighted mean of 3.51. As such they are also greatly aware that contaminated foods and water can cause certain communicable disease, regular hand washing is an effective way to prevent the spread of some diseases and regular health center consultation on communicable disease is essential with weighted mean of 3.45 respectively.

Furthermore, some diseases can be transferred through transplacental manner and avoid touching own eyes or mouth after caring a person with colds or other infection were same as to which Libyans were greatly aware but has weighted mean of a little bit lower than the earlier with 3.42 both. Moreover, covering nose and mouth when coughing or sneezing prevents spread of microorganism has weighted mean of 3.31 then by handling food safely and serve well cooked food especially meat as the next with weighted mean of 3.22. The two which garnered the least among with descriptive equivalent of greatly aware is the healthy habits and practices related to communicable diseases is vital with weighted mean of 3.11 and not sharing eating utensils and personal toilet articles with weighted mean of 3.02. There are two items where Libyans were found to be moderately aware and these are eating a balanced diet and get plenty of rest and exercise with weighted mean of 2.54 and having good

personal hygiene is important to maintain with weighted mean of 2.51.

Table 1. Awareness on control and prevention of communicable diseases

Items	Mean	DE
1. It is important to have an up-to-date vaccination	3.80	GA
2. Unscreened blood and body fluid can be source of infection	3.60	GA
3. Contaminated needle is one of the sources of infection	3.70	GA
4. Some diseases can be transferred through transplacental manner.	3.42	GA
5. Contaminated foods and water can cause certain communicable disease.	3.45	GA
6. Some diseases can be transferred by unprotected sexual contact.	3.57	GA
7. Some diseases can be transferred through blood transfusion.	3.62	GA
8. Regular hand washing is an effective way to prevent the spread of some diseases.	3.45	GA
9. Regular health center consultation on communicable disease is essential	3.45	GA
10. Use of condom prevents spread of infection	3.62	GA
11. Do not share eating utensils and personal toilet articles.	3.02	GA
12. Wearing gloves is an effective way to prevent spread of microorganism.	3.51	GA
13. Healthy habits and practices related to communicable diseases is vital	3.11	GA
14. Covering nose and mouth when coughing or sneezing prevents spread of microorganism.	3.31	GA
15. Handle food safely and serve well cooked food especially meat.	3.22	GA
16. Eat a balanced diet and get plenty of rest and exercise.	2.54	MA
17. It is important to wash hand frequently and perform hand hygiene.	3.77	GA
18. Good personal hygiene is important to maintain.	2.51	MA
19. Avoid touching own eyes or mouth after caring a person with colds or other infection.	3.42	GA
Average Weighted Mean	3.37	GA

Extremely Aware (EA) = 4.01 – 5.00; Greatly Aware (GA) = 3.01 – 4.00; Moderately Aware (MA) = 2.01 – 3.00; Fairly Aware (FA) = 1.01 – 2.00; Slightly Aware (SA) = 0.01 – 1.00; DE = Descriptive Equivalent

3.3. Differences on Awareness According to Demographic Profile

Table 2 revealed the result of comparing awareness of Libyans on communicable diseases control and prevention. A one-way between subjects to which ANOVA or Analysis of Variance as more call it as F-test was applied to compare the awareness of Libyans in the control and prevention of communicable diseases according to demographic profile. At the $p < .05$ level of significance for the three moderating variables [$F(2, 6) = 0.137, p = 0.874$], there is no statistically significant difference between the awareness of Libyans in

the control and prevention according to gender, age and educational attainment.

Table 2. Differences on awareness according to demographic profile

Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.001	2	.000	.137	.874
Within Groups	.021	6	.003		

4. Discussion

Eventually, health care is one of the key pillars of effectiveness for any Government, and expectations of the people are already high. The absence of a governing body to protect patients, doctors, or health service employees has significantly damaged the healthcare system in Libya. [4] Moreover, According to different United Nations agencies, an estimated 1.9 million people require urgent humanitarian assistance to meet their basic health care needs. [5] Due to the ongoing crisis, the risk of importing communicable diseases and international disease spread is a major concern because of the weakened surveillance system, recent displacement, and the increased number of migrants passing through the country. An effective early warning and reporting systems (EWARS) has not been established yet. [6]

Communicable is commonly been understood by people as infectious or contagious while disease pertaining to illness or a situation that affect an individual's health. Thus, communicable diseases are illnesses that can be dreadful if it exist in a certain locality most especially if it will not be given an attention for its control. Different authors defined communicable diseases in many ways but indeed, only one thought is elucidated and it is caused by germs which are tiny organism or microbes (only seen in microscope) resulting to occurrence of signs and symptoms that the affected individual manifests. Microbes can be found virtually anywhere - in air, water, plants, animals and humans. Though microbes or germs are causative agents of communicable diseases, most of them are harmless and some are extremely helpful as it is beneficial in digestion as an example and many more. The control of communicable diseases depends on a healthy environment (clean water, adequate sanitation, vector control, shelter), immunization, and health workers trained in early diagnosis and treatment and prevention of communicable diseases is common in all nations but its implementation differs as culture intervene but again, in the end, the goal is to prevent and control such communicable disease. Libya where this study was conducted is one of the Arab countries found in Africa at which people are Muslims. Previously, health care delivery system in this country is quite good at which all health services and programs were being implemented and monitored. It was in 2011 that Libya is in turmoil where the country seems like more than a place passed by super typhoon. All started to be upside down as days passed by at

which one of the most affected was the health care delivery system. "Health care is crucial for children, the elderly, women and all civilians affected by the violence. Health facilities and staff must be respected and protected," says Dr. Sara Frea, a health officer in the International Committee of Red Cross Tripoli delegation. [7]

World Health Organization (WHO) [8] completed a survey on communicable diseases at which rate of hepatitis B is 2.18% while hepatitis C has 1.19% and a vaccination program for Haemophilus influenza type B has been initiated. Poliomyelitis has been eradicated, and a surveillance program for polio and other communicable diseases is in place. Furthermore prevalence rate of AIDS is at 0.13% of the general population. Although the country has a low incidence of tuberculosis, 60% of cases occur in the productive age group of 15–56 years. One thing more, Libya is one of those Arab countries at which HIV epidemic was not monitored with poor awareness as such drugs and substance abuse are the leading mode of transmission. A large survey with 65,711 subjects recruited from all areas of the country conducted in 2005 showed an overall HIV prevalence of 0.13% and 45.6% of the HIV positive individuals were between the ages of 15 and 30 years old [9] However, The epidemic in Libya is primarily concentrated among high-risk groups. Injecting drug use is the dominant mode of transmission, which in the past has accounted for as many as 90% of infections. [10] although case-reporting statistics are not available due to the post-conflict situation, there are some indications an increasing trend toward sexual transmission. The estimates of HIV prevalence among people who inject drugs vary widely and date from before the civil war. Published estimates range from 15% up to 49%. Prior to 2008, 60% of drug users admitted to drug treatment facilities tested HIV positive and the HIV prevalence in prisons was reported to be 18%. Size estimates of the injecting drug user population in Libya range from a low of 4,663 to a high of 9,779. [11] The most recent population based survey, which was carried out in 2004–2005 among 65,000 persons using random cluster sampling, indicated an HIV prevalence of 0.13% (90 cases). However, the higher prevalence in Al Kufrah in the south (0.67%) and in Tripoli (0.4%) indicated hotspots on migration and drug smuggling routes, and in urban areas. [12] In the absence of surveillance data, blood bank data can provide a proxy for the general population. In Tripoli Central Blood Bank, 0.3% of blood donors tested HIV positive in 2011, but a much higher prevalence was noted at the Benghazi Blood Bank during the same period. [13]

On the other hand, World Health Organization estimated that 9% of under-five deaths in Libya are due to pneumonia 2000 to 2003. Low birth weight, malnourished and non-breastfed children as well those living in overcrowded conditions are at higher risk of acquiring pneumonia. Furthermore, tuberculosis (TB) is one of the causes of morbidity and mortality in the Libya at which in 2009, the estimated number of new TB cases was 2600 with an incidence of 40 cases per 100,000 population. Mortality rate

from all forms of TB was 4.1/100 000 population in 2009. The estimated prevalence of multi-drug resistant TB (MDR) among all new cases was 2.6% (*WHO, TB country profile*). These numbers include TB patients among foreign workers. It was also the WHO and UNICEF indicated that 98% measles, diphtheria-tetanus-pertussis, and polio immunization coverage among one-year-old children (2009). Nevertheless, isolated cases are to be expected as has been seen in other crises. Over 2700 cases of measles were reported in 2004, this has decreased to 329 in 2009 with strengthened Expanded Program on Immunization. However cases are still occurring despite very high reported immunization coverage. [14]

The 15 most reported diseases in 2010 [15] were influenza (17 790 cases), diarrhea (14 747), hepatitis B (2437), amoebic dysentery (1600), hepatitis C (1437), chicken pox (1236), mumps (1027), food poisoning (904), leishmaniasis (893), typhoid and paratyphoid fevers (829), pulmonary TB (792), extra/pulmonary tuberculosis (730), amoebiasis (725), Malta fever (387) and H1N1 flu (304). Leishmaniasis is endemic in the western mountains and along the north/west coast, with Nalut as the epicenter, with 331 reported cases. There was an outbreak of plague from Tobruk and in Benghazi in 2009. There were 26 malaria cases, all from patients infected abroad. There were 321 new cases of HIV, having total number to 10,475 cases since 1989.

With the reports that was reviewed by the authors, this endeavor aimed to cover all places in this country but due to the ongoing political conflict that affect the transport system from one place to another, and even other means of communication was affected sometimes due to unstable situation which is unpredictable to which safety of the authors were at risk as well, only three big cities in the western part were accommodated that includes Tripoli, Gharyan and Misurata. At the same time, only those available and willing to participate from April to august 2015 were considered as the respondents. In the end, there were three hundred fifty (350) Libyans of which majority of them are males. Sadaf quoted that [16], *"And abide quietly in your homes, and do not flaunt your charms as they used to flaunt them in the old days of pagan ignorance; and be constant in prayer, and render the purifying dues, and pay heed unto Allah and His Messenger: for Allah only wants to remove from you all that might be loathsome, O you members of the [Prophet's] household, and to purify you to utmost purity"* [33:33] to which is pertaining to Muslim women. Furthermore, most of the respondents belong to early adulthood as it is obvious that they are more active mentally, physically, and socially compared to other aged group. On the other hand, it is alarming to know that more Libyans stepped the lowest level of education that is nearly the same in number with those who continued their studies in the higher category. This is one of concerns that the government should have to monitor since education is the only remedy to combat innocence and ignorance. It also plays a vital role in the implementation and practice of communicable disease prevention and control.

Furthermore, to prevent is to stop anything to occur by doing something and to control is having the power to organize or direct a situation in order not to encounter problem in the future. These two words are relevant in relation to the eradication of communicable diseases affecting humanity and were used by the health agencies in developing programs as it is beneficial to populace. Communicable disease control and prevention is one of the departments in public health sector that is responsible in monitoring and eliminating communicable diseases. This means that, this department is responsible for collection of reportable cases, planning a program to get rid of cases, implement effective and applicable programs and monitoring the effect of those implemented programs. With this, being one of the professionals under health sector, it is our desire to identify how Libyans are aware regarding the control and prevention of communicable diseases at which generally, they are greatly aware and this is impressive but since health is the most priority, they should be into perfection in terms of awareness. Looking into the items where respondents has to identify their awareness, it was been observed that Libyans are more aware on preventive measures of communicable diseases but it is in the control measures of communicable diseases where they have the most in terms of weighted means. The result reflected that an up-to-date vaccination is important topped among all indicators with weighted mean of 3.80 that goes with the 2011 report of WHO (World Health Organization) that vaccination coverage in Libya is near universal. [2] As of August 2014, 1.2 million children have been vaccinated to which it is a proof that the immunization program for children against vaccine-preventable diseases was not affected, but shortages of certain vaccines are anticipated. The amount of stocks is unclear, and maintenance of the cold chain is a challenge due to irregularity of electricity supply. [17]

On the other hand, Libyans should be more sensitive about themselves on diet, exercise, and rest as well as their personal hygiene. They were found to be moderately aware in relation to communicable diseases control and prevention with weighted means of 2.54 and 2.51 respectively. This is obviously observed and noticed for students in the university always asking for a short break to eat their breakfast at 10:30 in the morning during their first period lecture. Apparently, some evidences of poor personal hygiene were been observed. This so alarming because not only communicable disease may an individual will suffer but also a non-communicable disease as well. Another finding that is somewhat important for the Libyans to be reminded is about the sharing of eating utensils and other personal belongings. They were found greatly aware on the matter but the mean (3.02) is little bit low. Sharing of eating utensils and other personal belonging is one mode of transmitting communicable disease from an infected person to another which is commonly observed outside their homes. An example is sharing of drinking glass or bottled water. Healthy habits and practices related to communicable

disease is vital as it is really true but the findings shows that they need more improvement though they are greatly aware on it likewise with Handle food safely and serve well cooked food especially meat. The two were need to be improved as it was generally observed in the market that most of meat vendors don't cover the fleshy meat they are selling. In the bakery where they are buying bread "kobsa", no particular container where they put the purchased bread but just hand the uncovered bread sometime then the consumer carries barely going to their car and just drop into the compartment or at the back seat. Being healthy is advantageous in the control and prevention of communicable disease. According to Merriam Webster, health is the condition of being well or free from disease; the overall condition of someone's body or mind; and the condition or state of something. We take health as being free from diseases but it is much more than just the absence of a disease. [18] Good health may enable us to do well at work and in life that involves proper functioning of all body organs including good thinking. To keep ourselves free from communicable diseases and to have good health, we should be careful about hygiene. The various practices that help in maintaining good health are called hygiene. Thus, health and hygiene go hand in hand or they are interrelated. Proper nutrition, physical exercise, rest and sleep, cleanliness, and medical care are essential parts of maintaining good health. Some important aspects of good personal health are Balanced diet that includes the correct proportion of carbohydrates, proteins, vitamins, minerals and roughage in the diet and Personal hygiene referring to personal activities regular toilet habits that keep us free of body wastes generated inside the body; washing hands before eating with soap make them germ free; bathing regularly and wearing clean clothes as dirt is a place for germs to grow. Thus, this will keep the body free of dirt, body lice and germs. Cleaning the teeth after eating food as some food particles may remain sticking to the teeth. These food particles form a medium for the germs to grow, harm the gums and teeth, and cause bad breath. Brushing of teeth every day does not let the germs grow. Another is washing hair, cleaning eyes, ears and nails for regular washing and combing of hair helps in preventing dirt accumulation to keep the germs away and nails should be clipped regularly for long nails harbor germs. Finally, this study found that there are no significant differences on awareness as per demographic profile but instead, significant relationships were observed.

5. Conclusions

The authors pointed out how Libyans are aware with control and prevention of communicable diseases as it reflects how they are sensitive of their needs to be healthy. Based on the findings and the data presented, there are three identified items for demographic profile which include the age, gender and educational attainment. Most of the Libyans who participated in this study are males belong to early adulthood and stepped or graduated from college. Generally,

they are aware greatly on communicable diseases control and prevention at which an up-to-date vaccination topped among the items identified that are necessary to be aware in order to control and prevent occurrence or spread of communicable diseases. Libyans are also greatly aware to the rest of the items except for two that were found Libyans are moderately aware. These are eating a balanced diet and get plenty of rest and exercise as well as the importance of maintaining good personal hygiene. Moreover, awareness on communicable diseases control and prevention has no significant difference according to the demographic profile. Finally, the researchers therefore conclude that Libyans are greatly aware to the communicable diseases control and prevention in which there is no significant difference according demographic profile; however, since health and life is the main concern, expanded program and implementation is necessary for every individual should be aware and be influenced to practice.

6. Recommendations

As per literature and findings of this endeavor, the following recommendations were made:

1. Collaborative effort of the Ministry of Health; Ministry of Higher Education & Scientific research; and the Ministry of Finance to strengthen the pillars of all programs related to health of the populace for the betterment of the nation.
2. Collaboration among health care professionals in extending their efforts to continue and conduct a nationwide survey similar to this study for possible confirmation of the result of this study.
3. Health is the most important among all since it is the only thing a person can maintain. Thus, all means of eradicating such communicable disease should be known to all people regardless to distance and location. With this, it is highly recommended to expand how the program on communicable disease control and prevention by strengthening the mass media campaign and enforcing each citizen to participate.

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