KNOWLEDGE AND ATTITUDE LEVEL OF HEALTH SCIENCE STUDENTS TOWARDS CORONAVIRUS (COVID 19) AMONG SELECTED UNIVERSITIES IN HARGEISA, SOMALILAND

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ABSTRACT

Background: Corona virus disease 2019 (abbreviated "COVID-19") is a highly contagious and rapidly emerging respiratory disease that is caused by a pathogenic human novel corona virus SARS- CoV-2, the disease was first detected in December 2019 in Wuhan, China.[1] The outbreak was declared a Public Health Emergency of International Concern by WHO on 30 January 2020·[2] since then the disease has caused serious illness and numerous deaths The ultimate scope and effect of this outbreak are unclear at present as the situation is rapidly evolving[3] Health science students in Somaliland context which are expected to take more responsibilities in this difficult time seemed not involving and participating in the ongoing efforts against COVID19. Lessons learned from the SARS outbreak in 2003 suggest that knowledge and attitudes towards infectious diseases are associated with level of panic emotion among the population, which can further complicate attempts to prevent the spread of the disease [11, 12]. Therefore this study will determine the health science student's knowledge and attitude towards corona virus disease (COVID19) among selected three main universities in Hargeisa Somaliland. (University of Hargeisa, Edna Adan University and Gollis University)

Methodology: online based cross-sectional study was conducted among 384 health science students at the three main universities of Hargeisa. The data was collected using online based Google platform survey using closed questions using convenience sampling and data was analyzed

by SPSS version 22 and statistical results were expressed as mean±SD and categorical data were expressed as frequency and percentage.

Result: The present study assessed the knowledge and attitude of health science students about COVID 19 at three main universities in Hargeisa city Somaliland. And results showed that about 80.3% of the participants had a good level of knowledge towards COVID 19 and nearly a satisfactory level (60%) of the health science students had a positive attitude towards COVID 19 infection.

Conclusion: In general health science students at the three main universities in Somaliland showed a good level of knowledge about COVID 19 diseases (80%) in terms of its cause, transmission and high risk persons similar to most of the reports worldwide and obtaining important information related to COVID 19 tend to depend more on social medias including facebook, whatsapp rather than scientifically proved sources on the other side the study also showed significant result on negative attitude (40%) towards COVID 19 among health science students

Keywords: **Knowledge, Attitude, Corona virus, COVID 19, Health science students.**

1. INTRODUCTION

Corona virus disease 2019 (abbreviated "COVID-19") is a highly contagious and rapidly emerging respiratory disease that is caused by a pathogenic human novel corona virus SARS- CoV-2, the disease was first detected in December 2019 in Wuhan, China.[1] The outbreak was declared a Public Health Emergency of International Concern by WHO on 30 January 2020 and On 11 February 2020, WHO announced a name for the new corona virus disease: COVID-19.[2] since then the disease has caused serious illness and numerous deaths The ultimate scope and effect of this outbreak are unclear at present as the situation is rapidly evolving[3]

The important clinical features of the infection includes a respiratory illness (like the flu) with typical symptoms such as a dry cough, fever, fatigue, myalgia, in the first stages and in more severe cases, difficulty in breathing (dyspnea) septic shock, difficult-to-tackle metabolic acidosis, bleeding and coagulation dysfunction were reported to happen. COVID- 19 is highly contagious

with a certain mortality rate, Empirical clinical data have shown that the overall case fatality rate of COVID-19 is 2.3% in China but that has also increased in Europe andUSA.[1,4,5] The ongoing COVID-19 epidemic has spread very quickly, and by February 15, 2020, the virus had reached 26 countries altogether, resulting in 51,857 laboratory-confirmed infections and 1669 deaths, with nearly all infections and deaths occurring in China [6].but later on the diseases has spread to the rest of the world continents with a great prevalence in Europe and USA currently The outbreak of COVID-19 have been recorded in over 216 countries, with 4,735,622 confirmed cases and 316,289 confirmed deaths worldwide [7]. And On 11 March 2020, WHO changed the status of the COVID-19 emergency from public health international emergency (30th January 2020) to a pandemic. [8]

In Somaliland, context before any case was diagnosed the Somaliland President Appointed Anti-Corona virus Taskforce (national committee for prevention and control of COVID 19) and they made some early decisions including shutting down of educational centers also they have undertaken separate efforts to restrict travel and public gatherings. With almost nonexistent primary health services and no labs to test potential corona virus samples, on the early phases of the infection also the taskforce committee have launched public awareness campaigns to confront the deadly pandemic. Vehicles mounted with loudspeakers have circulated in Hargeisa with basic information about the virus. The first confirmed two cases of COVID-19 were reported on 31th March 2020, a local man who visited Britain and a Chinese man had tested positive for COVID-19[13]. On 10th May 2020, the Ministry of Health development officially started testing suspected cases inside the country using the RT-PCR machine for the first time since the diseases has emerged and since then the number of cases has increased currently according to the ministry of health development the current statistics of the infection shows 129 confirmed cases and a total of 10 deaths from the infection and 8 fully recovered [14]. The national committee increased their effort to tackle the infection and they also shut down religious places including mosques and restrict community gatherings including café's, market areas and sports fields which didn't work well again due to the socio economic status and the poor knowledge and perception of the population towards the infection. Besides all the efforts done so far and the decreased availability

of effective health care system Somaliland is in need of effective preventive measures against the disease [14]

The battle against COVID-19 is still continuing in Somaliland. To guarantee the final success the outbreak of COVID 19, people's adherence to the control measures are essential, which is largely affected by their knowledge and attitudes towards COVID-19 in accordance with KAP theory **[9,10].** More importantly health science students which are expected to take more responsibilities in this difficult time seemed not involving and participating in the ongoing efforts against COVID19. Lessons learned from the SARS outbreak in 2003 suggest that knowledge and attitudes towards infectious diseases are associated with level of panic emotion among the population, which can further complicate attempts to prevent the spread of the disease **[11, 12].** Therefore this study will determine the health science student's knowledge and attitude towards corona virus disease (COVID19) among selected universities in Hargeisa Somaliland.

2. METHODS AND TECHNIQUES

2.1. Research Design

A cross-sectional study design was conducted from 22nd may 2020 to 04th June 2020 to assess the knowledge and attitude level of health science students towards corona virus disease (COVID 19) among selected universities in Hargeisa, Somaliland

2.2. The study Area

The study area for this assessment was three main universities in the capital city of Somaliland one public university which was Hargeisa University. And two privately owned universities namely Gollis University and Edna Adan University

2.3 Study Population

The study population was all health science students of all levels from fresh to senior at three main universities in Hargeisa city.

2.4. Sample Size Determination and Sampling technique

2.4.1. Sample size determination

The sample was calculated using the formula for cross-sectional study. No previous study on the knowledge and attitude of corona virus in the country. Therefore we assumed a 50% proportion of knowledge and attitude towards corona virus disease. And Sample size for this is calculated as follows.

Based on this data the sample size is calculated as fallowing

Where**:** **Z** = Confidence interval 95%

P = positive prevalence 50%

Q = Negative prevalence 50%

d=Marginal error 5%

$$Ni = \frac{z^2pq}{d^2} = \frac{(1.96)^2(0.5)\,(0.5)}{(0.05)^2}$$

$$= \frac{(3.84)(0.25)}{0.0025}$$

$$= 384$$

The minimum sample size calculated was 384, approximately

2.4.2. Sampling Techniques

The study adopted an online based data collection system using Google platform in which the link was disseminated through students what's app groups and other social Medias and the first 384 students who fill the questionnaire were taken as a sample.

2.5. Data Collection

As we all know, social-distancing is the best way of prevention from COVID-19; therefore, instead of conducting a community-based survey, this study collected the data using Google form platform as an online survey. The link of Google form was posted and circulated using various social media platforms like Whatsapp Group, face book groups and e-mail address of the students. And author-designed questionnaire was prepared, which comprised three parts to collect demographic details of the participants along with Knowledge and attitude towards COVID-19. The questions were established on the basis of some published literature. [17] and the authors' experience of Knowledge and attitude. After the preparation of the questionnaire, it was sent to some experts to consult their opinions regarding the validity of the questionnaire followed by a small pilot study to test its simplicity and difficulty. However, the results of the pilot study were not included in the actual samples used for the study

The first part of the questionnaire covered socio-demographic information of the participants and the second part contained questions about Knowledge and attitude towards COVID19. Demographic variables included age, gender, name of university, department and academic year. The second part of the questionnaire comprised 10 questions regarding knowledge, and 10 about attitude, Knowledge questions of the questionnaire was mainly focusing on the participants' knowledge regarding clinical symptoms, transmission routes, prevention, and control of COVID-19. These questions were responded on a yes/no basis with an additional "I don't know" option and nearly similar options were assigned for the questions related to attitude using "agree", "Disagree" and "uncertain".

2.6. Data Processing and Analysis

Data was statistically analyzed using SPSS version 22. And statistical results were expressed as mean±SD and categorical data were expressed as frequency and percentage.

2.7. Ethical Consideration

The Ethics Committee of Gollis University approved our study protocol and procedures of informed consent before the formal survey. Participants had to answer a yes-no question to confirm their willingness to participate voluntarily. After confirmation of the question, the participant was directed to complete the self-report questionnaire. Were anonymity was ensured

2. RESULT AND INTERPRETATIONS

A total of 384 health science students from the selected universities have participated in this study. The following results provide the socio-demographic characteristics of the students and also the knowledge, and attitude, status towards corona virus (covid 19) among the selected universities (Hargeisa university, Gollis university and Edna Adan university), Hargeisa Somaliland.

3.1: Socio-demographic characteristics

The socio-demographic characteristics of the study participants were summarized in table 1. The mean age of the study participants was 21.2 ±1 years, majority (55.7%) of students in the study were between the ages of 21-23 years. Majority of student respondents 215(56%) in the study were females. Also the result shows that majority of the students enrolled in this study were from Gollis university 216(56.2%) and Edna Adan university 149(38.8%). And Almost the study involved nearly all the departments In the health science faculty including nursing 96 (25%), public health 71(18.5), medical laboratory 62(16%), MBBS and nutrition both 41(10.7), midwifery and dentistry both 26(6.8) and pharmacy 21(5.5%) and nearly 289(75%) of the students mentioned online social media including facebook whatsapp and similar applications were the medias which give much exposure to the news about covid 19 which is much greater than other media including the TV , radio and news papers.

Table 1: The socio-demographic characteristics of study respondents, Hargeisa, Somaliland, 2020

Age	Frequency	Percentage
18-20	114	29.7
21-23	214	55.7
24-26	44	11.5
>26	12	3.1
Total	**384**	**100**
Gender	**Frequency**	**Percentage**
Male	169	44
Female	215	56
Total	**384**	**100**
University	**Frequency**	**Percentage**
Gollis university	216	56.2
Hargeisa university	19	5
Edna Aden university	149	38.8
Total	**384**	**100**
Department	**Frequency**	**Percentage**
MBBS	41	10.7
Nursing	96	25
Midwifery	26	6.8
Public health	71	18.5
Nutrition	41	10.7
Medical laboratory	62	16
Pharmacy	21	5.5
Dentistry	26	6.8
Total	**384**	**100**
Academic year		
Year 1	55	14.3
Year 2	57	14.8
Year 3	143	37.2

Year 4	84	21.9
Year 5	21	5.5
Year 6	24	6.3
Total	**384**	**100**

Which media coverage gives much exposure to the news about covid 19		
News paper	15	3.9
Television	66	17.2
Radio	14	3.6
Online social media (facebook, whatsapp etc)	289	75.3
Total	**384**	**100**

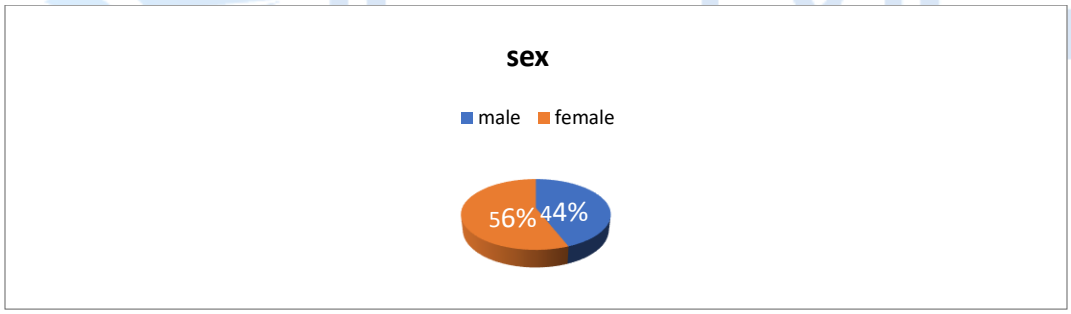

Figure 1: Distribution of the students by sex

This figure shows the sex distribution of the study subjects and the result shows that the majority about 56% of the students in the study were females and the rest 44% of the respondents were males.

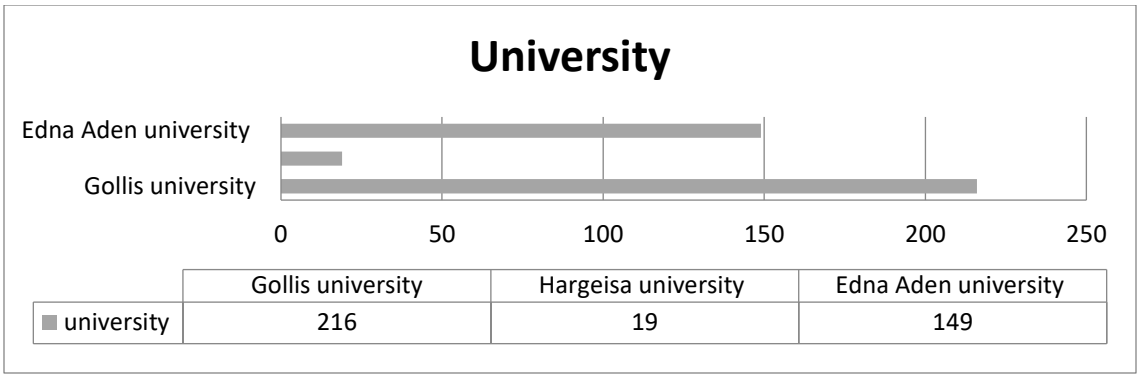

Figure 2: Distribution of students by university

This figure shows the distribution of students by their respective university the data was collected using online platform and the link of the questionnaire were shared using students group whatsapp meetings for all the students in the respective universities and the first 384 students who responded to the questionnaire were taken therefore out 384 respondents 216 (56.2%) were from Gollis university students and another 149(38.8%) were from Edna Aden university and the rest 19(5%) were from Hargeisa university.

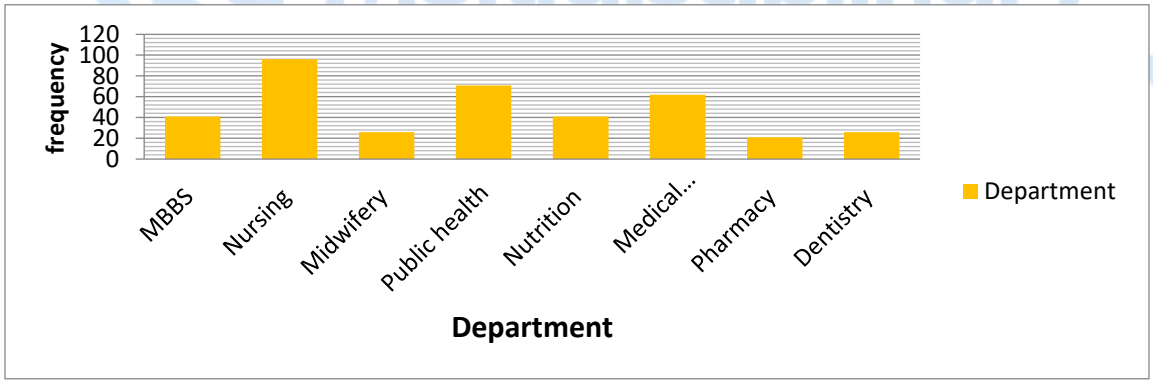

Figure 3: Distribution of students based on their department

This figure presents the distribution of students based on their department in the field of health science and the result shows that students were from nearly all the department of the health science field which is very important for the data to be representative of the entire students in the field of health science. Majority of the students 96(25%) were from the nursing department another 71 (18.5%) were from public health and nearly similar number 41,(10.7%) were from the MBBS and

nutrition departments and the rest 62(16%), 26(6.8%), and 21(5.5%) were from medical laboratory technician, midwifery//dental technician and pharmacy departments respectively.

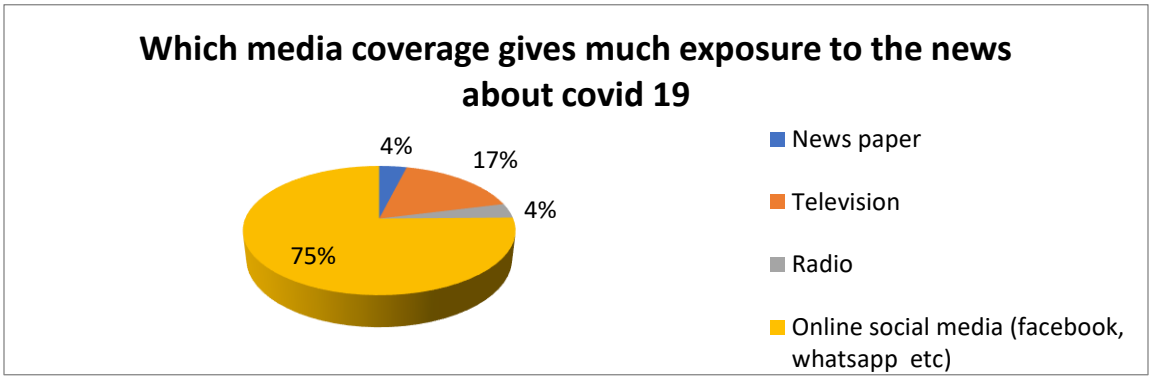

Figure 4: Which media coverage gives much exposure to the news about covid 19

This pie chart demonstrates the media that gives the information about corona virus and the result was that online social medias including facebook and whatsapp were the media that give the highest information (75%) related to corona virus which is very important source to deliver information for future use as Somaliland community is more of young population which is quite related to the online social medias other sources include television (17%), radio (4%) and news papers (4%) respectively.

3.2: Assessment of knowledge towards corona virus (COVID 19)

The result on the Knowledge of corona virus (covid 19) infection among health science students study was summarized in Table 2. Out of 384 respondents the result of average knowledge was found to be 80.3%. Which shows that majority of the students participated in the study had a good level of knowledge regarding COVD 19 infection.

Approximately 85.2% of the student participants mentioned that corona virus can spread from ill people to others through close contact. An estimated 87.2% of pregnant women participants indicated that currently, there is no effective cure for COVID 19, but symptomatic and supportive treatment can help most patients recover from the infection. But on the other side 52(13.5%) of the students respondent mentioned that COVID 19 can be spread through mosquito bite and

another 61(16%) mentioned that they don't have any idea about whether corona is related to mosquito.

Table 2: knowledge of health science students about corona virus (COVID 19) at selected three universities, Hargeisa, Somaliland, 2020

Corona virus (covid 19) Knowledge Items (Answers for positive knowledge)	Yes N (%)	NO N (%)	I don't know N (%)
1. corona virus has spread from ill people to others through close contact	327 (85.2%)	42 (10.9%)	15 (3.9%)
2. The main clinical features of COVID 19 are fever, fatigue, dry cough and myalgia	365 (95.1)	9 (2.3)	10 (2.6)
3. Currently, there is no effective cure for COVID 19, but symptomatic and supportive treatment can help most patients recover from the infection.	335 (87.2)	25 (6.5)	24 (6.3)
4. In order to prevent the infection by COVID 19 virus, individual should avoid going to crowded places such as Market places, bus stations and Mosques.	349 (90.9)	25 (6.5)	10 (2.6)
5. COVID 19 infection can be transmission through infected bats	201 (52.3)	128 (33.4)	55 (14.3)
6. Higher risk for getting COVID 19 or having a severe case include pre-existing conditions such as diabetes; cancer, renal failure and patients taking immunosuppressive drugs	344 (89.6)	17 (4.4)	23 (6)
7. The incubation period for COVID 19 is usually about 5 or 6 days but can be more	282 (73.5)	79 (20.5)	23 (6)

8. COVID can be spread through mosquito bite	52 (13.5)	271 (70.6)	61 (15.9)
9. Some infected people had no symptoms	261 (68)	90 (23.4)	33 (8.6)
10. COVID 19 infected patient need isolation	348 (90.6)	14 (3.7)	22 (5.7)

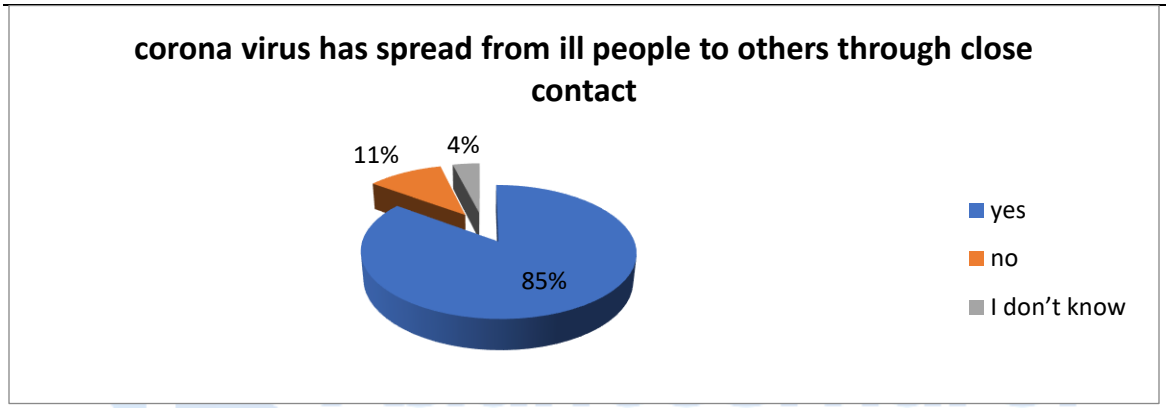

Figure 5: Transmission of corona virus through close contact

This figure demonstrates that most of the students 85% participated in the study had a good understanding on the transmission of corona virus through close contact and few of the participants 11% responded that the disease is not transited through close contact and the remaining 4% mentioned that they don't know about the transmission of the infection through close contact this result indicates that students had a good understanding on the transmission of the infection which is very important in the prevention and control of the disease.

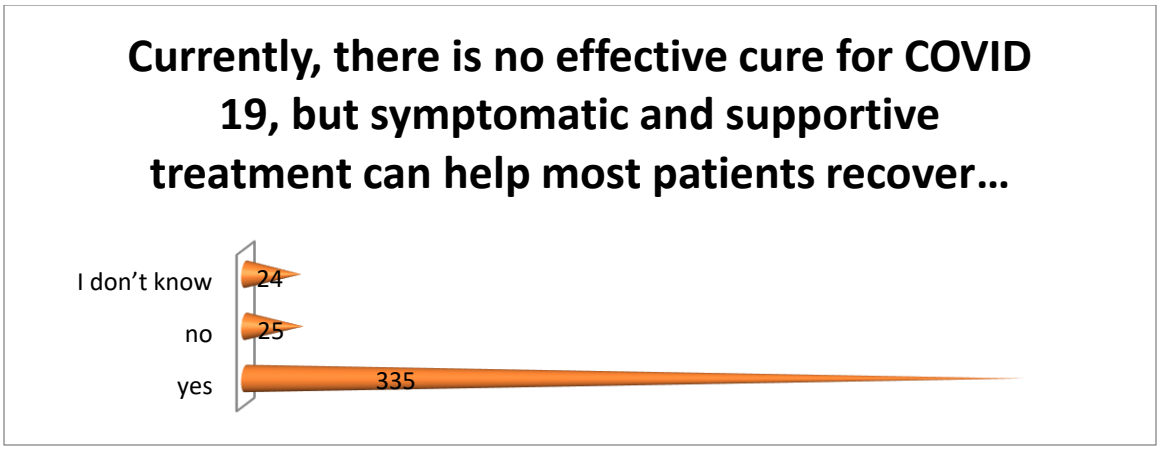

Figure 6: There is no effective cure for COVID 19, but symptomatic and supportive treatment can help most patients recover from the infection.

This bar chart shows the knowledge and understanding of the students about whether there is no effective treatment in the management of corona virus and that only some supportive treatment are available nearly most of the students 335 (87.2%) mentioned that they are aware of the difficulties in the treatment of corona virus and that there is no effective treatment except some supportive measures which is quite helpful for the students to maintain their health and develop the required fear against covid 19.

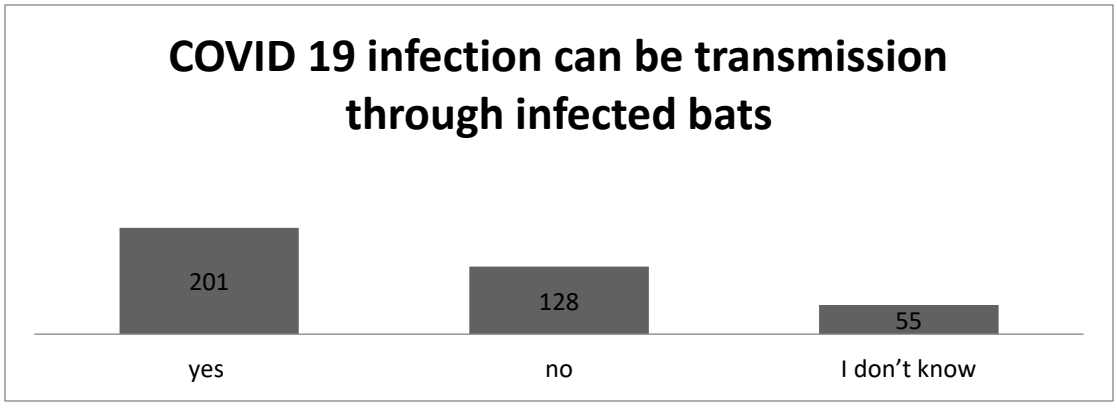

Figure 7: transmission of corona virus infection through infected bats

This figure shows that nearly 201(52.3%) of the students in the study mentioned that infected bats can transmit the disease and the remaining 128 (33.4%) and 55 (14.3%) mentioned that infected

bats not transmit the disease and don't have any information about how the infected bats are related to the disease respectively.

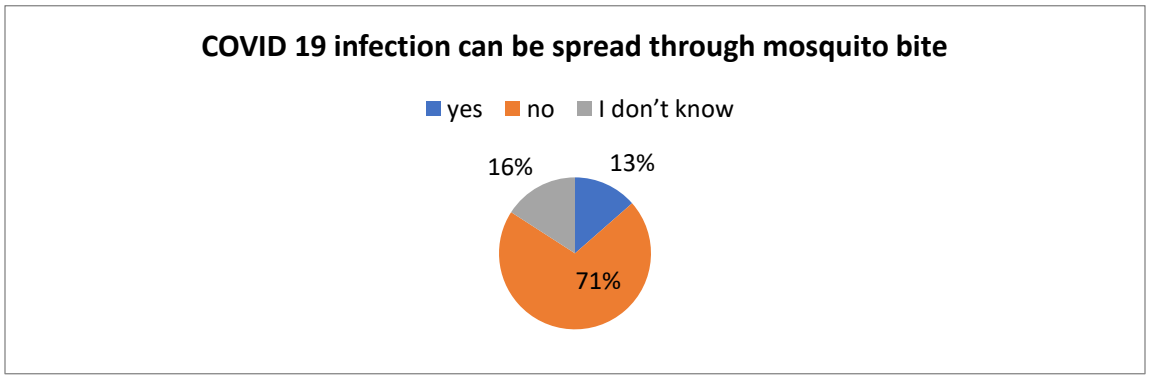

Figure 8: Transmission of covid 19 through infected mosquito

This pie chart demonstrates that nearly two third of the students 70% responded that mosquito is not important in the transmission of covid but the rest one third of the student about 30% mentioned that they either don't know or that mosquito can transmit the disease which is not a good sign from health science students to have this kind of impression.

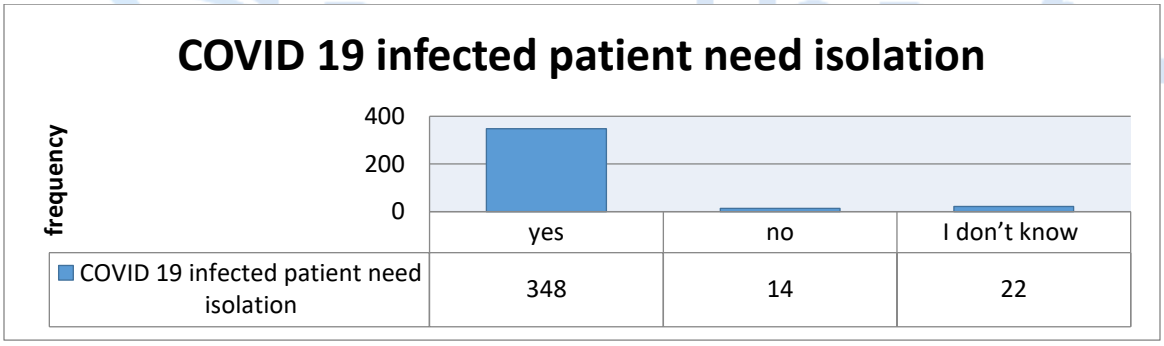

Figure 9: COVID 19 patients need isolation

This diagram demonstrates that students had a good understanding and knowledge on the need to isolate the patients of corona virus about 348(90.6%) mentioned that it is needed to isolate patients who develop covid 19 to save the rest of the community and the remaining 14 (3.7%) and 22 (5.7%) of the respondents mentioned that it either not needed to isolate or that they don't have information about the need of isolation in the management of covid 19 disease.

3.3 Assessment of attitude towards corona virus (COVID 19)

The result on the attitude of health science students towards corona virus (COVID 19) was summarized in Table 3. And Out of 384 Respondents In the study the result of the attitude found that average attitude 60.5% for positive attitude and the Renaming 39.5% as having a negative attitude of corona virus (COVID 19) infection.

The result revealed that majority of health science students participated in this study (88.5%) believed that the corona virus infections (COVID 19) is a biological war or uncertain about the root cause of the infection indicating the existence of negative attitude towards corona virus infection among study participants.

About 67.2% of students participated in the study demonstrated some sense of fear with regards to the transmission of corona virus (COVID 19) infection as they claim to run away and be as far as possible if some coughs or sneezes near to them Indicating a positive attitude essential in disease prevention.

Most students participated in the study (80.7%) believed that being away from the university this time will help them to be free from this infection which is a positive attitude towards disease prevention. Meanwhile majority (75%) were claiming that outbreak of COVID 19 would lead to breakdown of essential services in the hospital and more a preventive measures would help the community to win against the infection. And nearly 68.5% of students participated in the study suggested that Somaliland government should ban public gatherings in order to prevent the spread of COVID 19 which was considered to a positive attitude in the battle against covid 19.

Negative attitude was apparent in responses to questions relating to the cause of the infection and being a biological war to minimize the world's population size (question 4) and whether Somaliland could contain the infection (question 7). Correct answers to these questions were only 11.5% and 39.6% respectively. The result of this questions suggest negative attitude which could make difficult for health science students to participate actively in the ongoing community health educations provided by the government agencies.

About 69.8% of the health science students participated in the study also believed that the use of cultural foods to treat diseases including eating onion, meat, garlic and soup and other spicy foods can help a patient with covid 19 and this idea also widely accepted in Somali culture and community which is needed to be scientifically tested and proved.

Table 3: Attitude of health science students about corona virus (COVID 19) at selected three universities, Hargeisa, Somaliland, 2020

Corona virus (covid 19) Attitude Items (Answers for positive knowledge)	Agree N (%)	Disagree N (%)	Un certain N (%)
1. Do you think that being away from the university this time will help you to be free from this infection?	310 (80.7%)	38 (9.9%)	36 (9.4%)
2. Do you think that lock down of major cities in Somaliland will help control the spread of this infection?	319 (83.1)	42 (10.9)	23 (6)
3. Do you think that outbreak of COVID 19 can lead to breakdown of essential services in the hospital?	288 (75)	48 (12.5)	48 (12.5)
4. Do you think that COVID 19 is a form of biological war?	270 (70.3)	44 (11.5)	70 (18.2)
5. Do you think that eating onion, meat, garlic and soup and other spicy foods can help a patient with covid 19?	268 (69.8)	42 (10.9)	74 (19.3)
6. Do you think that Somaliland government should ban public gatherings in order to prevent the spread of COVID 19?	263 (68.5)	68 (17.7)	53 (13.8)

7. Do you think that Somaliland government will contain covid 19 outbreak successfully?	152 (39.6)	128 (33.3)	104 (27.1)
8. Do you think that you will run away if someone coughs near to you?	258 (67.2)	78 (20.3)	48 (12.5)
9. Do you think that people are anxious about COVID 19 outbreak?	303 (78.9)	41 (10.7)	40 (10.4)
10. Do you think that health care workers in Somaliland are not capable of managing COVID 19 cases?	215 (56)	118 (30.7)	51 (13.3)

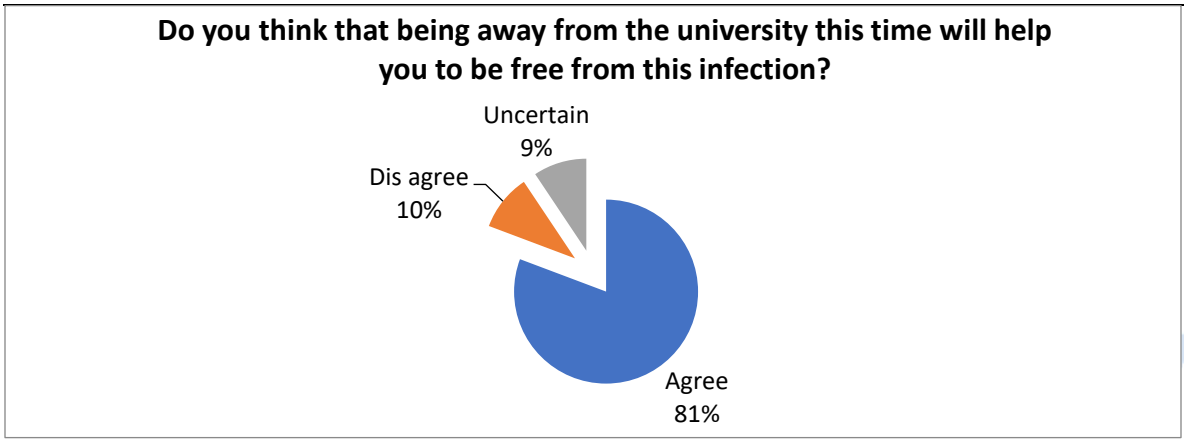

Figure 10: being away from the university this time will help to be free from covid 19

This diagram shows that students were somewhat positive about being away from the university during the pandemic time of corona virus as nearly 81% responded it is good to be away from the university to minimize or tackle the transmission of the infection but the rest nearly 19% mentioned that it is either not important to stay at home or that they don't know what is good for them and this result suggests that we still have some students who didn't actually understand the impact of the disease and have a negative attitude towards activities to prevent and control corona virus infection.

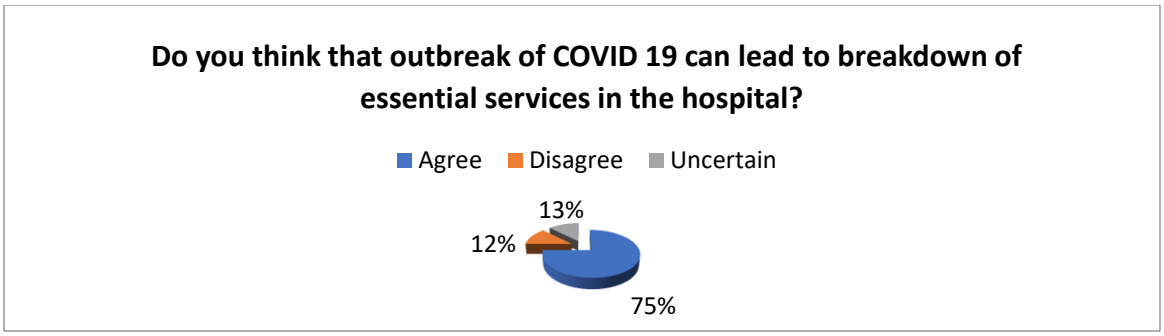

Figure 11: covid 19 can lead to breakdown of essential services in the hospital

This figure shows that students in the health science faculty have a relatively positive attitude and feeling about how corona virus can lead to breakdown of other essential services provided by the hospital other than the service provided to corona virus disease and that nearly 75% of the students believe that this infection will lead the breakdown of major services in the hospital but the rest one forth 25% mentioned that either corona virus will not affect other services of the hospital or that they are not certain about whether this disease could affect the disease.

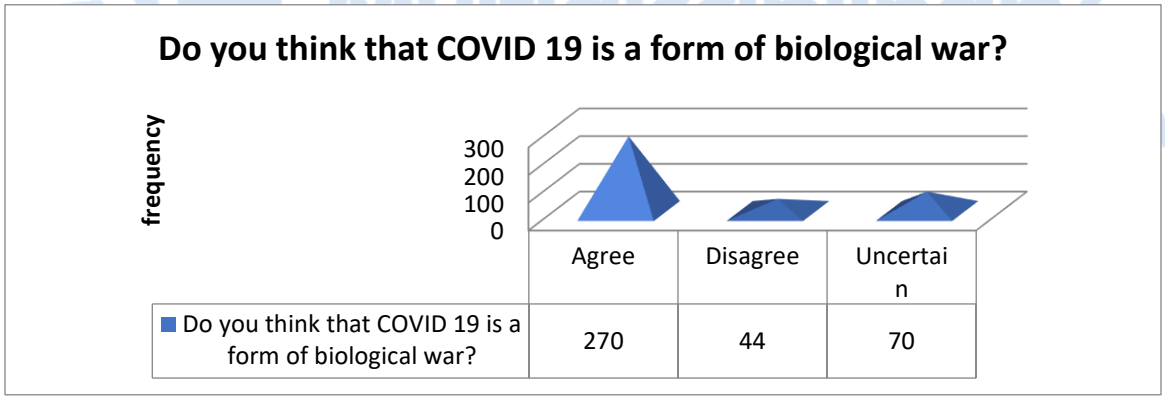

Figure 12: covid 19 is a form of biological war

This diagram demonstrates that nearly 270(70.3%) of the students participated in the study believe that this infection is a biological war between countries and that the virus was synthesized by humans to destroy major nations of the world which was considered to be a negative attitude in the prevention and control of the disease which was highly seen in the study population.

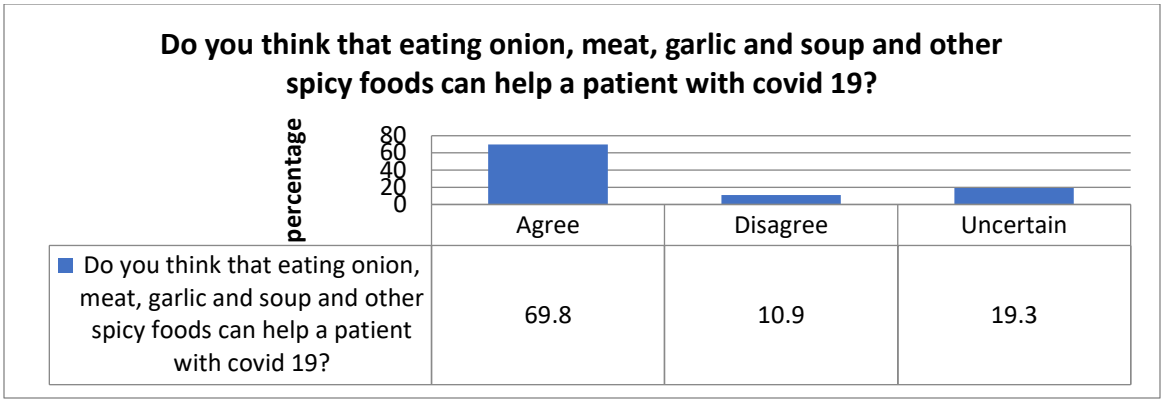

Figure 13: eating of onion meat, garlic and soup and other spicy foods can help a patient with covid 19.

This result shows that most of the respondents in the study 69.8% believe that use of spicy foods including onion, meat, garlic and soup can help a patient in the recovery from covid 19 infection and that the rest 10.9% and 19.3% believe either this foods to less helpful or that they are not certain enough to trust this foods in the recovery against covid 19 infection.

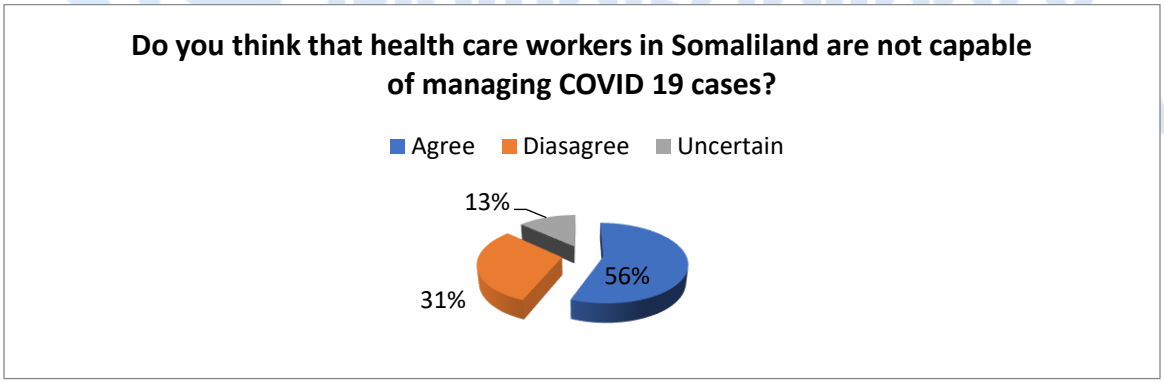

Figure 14: health care workers in Somaliland are not capable of managing covid 19.

This chart demonstrates that most of the students participated in the study 56% don't trust on the health provisions that the country have and only 31% of students believe in the health provisions that the country have this result suggests a negative attitude to the majority of students about the chance that the country has to beat corona virus impacts at the end of the day.

4. DISCUSSION

The present study assessed the knowledge and attitude of health science students about COVID 19 at three main universities in Hargeisa city Somaliland. And results showed that about 80.3% of the participants had a good level of knowledge towards COVID 19 which is quite similar with most of the studies done in the different part of the world including china which suggested that health science students have a good level of knowledge regarding COVID 19 in which the study also mentioned that gender played a significance role in the mean KAP level. (15)

This study also tried to identify the source of information in which most of the health science students used to get more information about COVID 19 and results showed a massive dependence on the online source of information (75%). including social medias like facebook whatsapp and other similar online platforms and This is in accordance with a similar study in Turkish university healthcare students where social media was a major information source for learning about the influenza pandemic.(16) This result would be very help full for decision makers in identifying the best possible way to deliver COVID 19 related information's to the community however the culture of using social media including facebook and whatsapp might not be a trusted and reliable source of information related to COVID 19 hence it would be ideal to advocate the use of official sites such as the CDC website and the medical related research search engines like pubMed for a better understanding of the disease nature and all the necessary precautions using a reliable and trusted sources.

The study also identified a satisfactory level of attitude toward COVID 19 among health science students at Hargeisa. (60%) of the study participants had a positive attitude related to COVID 19 infection which was quite different from a study done in India which showed that majority of the medical students (94%) had a positive attitude towards COVID 19 and differences might be related to the cultural and religious differences between the two countries. (17) Health science students in Hargeisa believed that the disease might be a kind of a biological war and that it has a specific countries to affect while others believed that the infection could be simple in Somaliland context

which can be managed simply by the use of onions garlic and other similar food items the same way they treat common cold and some student argued that being away from the university during the lock down wasn't important.

Major limitations of the study included the use of descriptive information only with minimal statistical tests and used the minimal possible sample size which might not represent the entire health science students at Hargeisa which can't be generalized although it can certainly help the state and the country to enhance the awareness regarding Knowledge and Attitude in the general population. On the other side due to the questionnaire being self-answered by the participants, there is also a high chance of errors or misrepresentation of information. Less demographic variables were also a limitation. In view of these, more studies should be conducted in the near future to investigate the KAP for COVID-19 at various states and countries.

5. CONCLUSION AND RECOMMENDATION

In general health science students at the three main universities in Somaliland showed a good level of knowledge about COVID 19 diseases in terms of its cause, transmission and high risk persons similar to most of the reports worldwide and obtaining important information related to COVID 19 tend to depend more on social medias including facebook, whatsapp rather than scientifically proved sources on the other side the study also showed significant result on negative attitude (40%) towards COVID 19 among health science students in which the study hypothesized that it could be due to the cultural norms of the society and the religious aspects which needs more investigation about the specific factors that affect the attitude of the students towards the infection.

In developing Countries where the epidemic is hitting hard currently should apply strategies to keep their medical students updated about emerging public health and medical emergencies. Students should also be properly guided to proper sources of information during these times. When push comes to shove, students should also be equipped with medical knowledge, proper attitude, and good precautionary measures. Given current global situation, more frequent utilization of

social media by medical schools to spread knowledge become a necessity and plans should be placed to implement such dissemination in early stages of medical and public health emergencies.

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