Knowledge, Attitudes and Practices towards COVID-19 among Expatriate Workers in Beledweyne/Somalia

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Abstract

Background: Coronavirus disease 2019 (COVID-19) is a contagious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first case was identified in Wuhan, China, in December 2019. The impact of the COVID-19 pandemic in Somalia is huge from the way people are working, some companies have changed the workplace, adopting the social distancing, putting in place the personal protecting equipment policy. We will assess the knowledge, attitudes and practices of the international workers in Beledweyne Somalia.

Methods: The study population is from the community of expatriate workers in Beledweyne/Somalia. A cross sectional study using a questionnaire administered to the sample population after an informed signed consent form. The data was collected, entered in Epidata Software and analyzed by the SPSS software. This study was conducted from December 2020 to March 2021.

Results: The study population was 108, 92.4% of male with a mean age of 37. Knowledge about COVID-19 was high with 93.5% with good knowledge on preventive measures, 75.9% able to identify vulnerable population, 80.4% have a good knowledge of modes of transmission and 88.9% could identify signs and symptoms of COVID-19. The population has positive attitude towards COVID-19 preventive measures with 93.5% on wearing masks, 95.4% on regular handwashing practice and 90.7% on social distancing. The positive perception on closure of businesses and school was low compared to other preventive measures. The acceptability of COVID-19 vaccine was 63% with a significance difference between the vaccine acceptance and level of education. Respondents with tertiary education had tendency to have a negative acceptance of the vaccine. The practice on prevention of COVID-19 is generally good with 79.7% on keeping always/often physical distancing, 77.8% always wear masks and 82.4% always avoid the handshaking. The availability of resources (Handwashing points, water, soap, hand sanitizer gel, facial masks) was estimated at 100%.

Conclusion: In general, the knowledge, attitudes and practices towards COVID-19 among the respondent were very good. The efforts from stakeholders have to focus on running continuous sensitization campaigns for COVID-19 preventive measures to keep the same stand in general to observe the preventive measures, and work on the acceptability of the COVID-19 vaccine within the community.

Keywords: *COVID-19; Knowledge; Attitudes; Practices; Workplace; Somalia; International Workers*

Abbreviations

COVID-19: Coronavirus Disease 2019; SARS CoV2: Severe acute Respiratory Syndrome Coronavirus 2; PCR: Polymerase Chain Reaction

Introduction

The pandemic of new coronavirus disease (COVID-19) has spread globally and caused a health crisis to the humanity. Originated from China in 2019, the COVID-19 is caused by a coronavirus SARS CoV2. The COVID-19 has already infected more than 84 million and 1.5 million of death worldwide. The World Health Organization declared a global pandemic due to the rise of COVID-19 on March 11 with over 118,000 cases of the disease [1].

The SARS CoV2 virus that causes COVID-19 is mainly transmitted through droplets generated when an infected person coughs, sneezes, or exhales. These droplets are too heavy to hang in the air, and quickly fall on floors or surfaces. You can be infected by breathing in the virus if you are within proximity of someone who has COVID-19, or by touching a contaminated surface and then your eyes, nose or mouth [2].

Most of the infected people with COVID-19 will not present any symptoms (asymptomatic) or present with mild to moderate signs and symptoms. Fever, cough, sore throat, headache and muscle aches are the most common features in COVID-19 patient. Patients with previous medical conditions and more than 70 years old have been the most affected and killed by the disease [3].

The diagnosis of COVID-19 may be determined by history of contact with COVID-19 case, the signs and symptoms of COVID-19. It may be diagnosed by the PCR test for the COVID-19 virus, a health care provider takes a sample from the nose (nasopharyngeal swab) or throat (throat swab) and Polymerase chain reaction (PCR) testing remains the primary COVID-19 diagnostic testing.

The main elements to contain the virus spread are hand washing, social distancing, and quarantine. Early screening, diagnosis, isolation, and treatment are necessary to prevent further spread. Preventive strategies are focused on the isolation of patients and careful infection control, including appropriate measures to be adopted during the diagnosis and the provision of clinical care to an infected patient. Currently all medications are still not approved or in contra version status, the mass vaccination have just started with a Moderna, AstraZeneca and Pfizer vaccine in USA, Europe and UK, in Russia with Sputnik V and in Africa and other parts in the world with CoronaVac Vaccine from China [4].

Problem statement

The COVID-19 pandemic has led to a dramatic loss of human life worldwide and presents an unprecedented challenge to public health, food systems and the world of work. The COVID-19 pandemic is far more than a health crisis: it is affecting societies and economies at their core. The economic and social disruption caused by the pandemic is devastating: tens of millions of people are at risk of falling into extreme poverty.

The COVID -19 pandemic has adversely affected the overall well-being of workers and has the potential to spread fast at the workplace. Adverse effects can include the following: The workforce can suffer from disease (death), stress, depression, fear, reduced productivity, loss of jobs due to decline of productivity. Companies are advised to put in place robust preventive measures and COVID-19 specific occupational safety and health policies to protect all workers.

The impact of the pandemic has been disastrous for the world and Somalia especially due to his pre-existing vulnerability related to insecurity, poor health system structure, lack of infrastructures and disrupted socio-economic environment [5,10,11].

Background and Literature Review

The COVID-19 pandemic has affected the workplaces for good and it has an impact on business and economy. Employers apart from increasing the awareness of COVID-19 among the workers they have also implemented extra measures to contain the spread of the disease. From raising water point for hand washing, physical distancing policy and Alternative Work arrangement with staff staying at home and work remotely away from workplaces.

According to the World Health Organization, the workplace is among COVID-19 vulnerable places and employers and workers should put in place risk assessment procedures to protect their communities and workplaces. Employers, workers, and their organizations should collaborate with health authorities to prevent and control COVID-19. The risk of exposure to COVID-19 in the workplace depends on the likelihood of coming within 1 meter of others, in having frequent physical contact with people who may be infected with COVID-19, and through contact with contaminated surfaces and objects [7].

The CDC has drafted guidance to employers to decrease the risk of contamination in workplaces; Conducting daily health checks, conducting a hazard assessment of the workplace, encouraging employees to wear cloth face coverings in the workplace, if appropriate, implementing policies and practices for social distancing in the workplace, Improving the building ventilation system [8].

In United Kingdom, at least 3354 (39%) of the notified COVID-19 cases were in people working in residential care and other social work, including 52 (42%) deaths. A further 3382 cases (39%) were among healthcare workers, including 50 (40%) deaths. Policy and guidelines for COVID-19 in workplaces were not existing in study done in Hong Kong at rate of 16% [12].

Although there is no rule, regulation or legislation that requires a workplace to implement a COVID-19 policy in South Africa, but for the safety and protection of the workers, companies are highly advised to put in place COVD-19 policy [13].

Significance of the study

The study will be conducted in Beledweyne, a city in central Somalia. Located in the Beledweyne District, the capital of the Hiiraan province. The town is situated in the Shebelle Valley near the Ethiopia border, some 210 miles north of Mogadishu. Beledweyne is divided by the Shebelle River into eastern and western sections.

(Lat: 4° 44› 09» N| Lon: 45° 12' 13» E) [6].

Beledweyne as the other cities in Somalia has been affected by the pandemic. Although the local health infrastructure doesn't dispose the tools to diagnose the samples are sent to Mogadishu for analysis. According to Ministry of health of Somalia, the Hirshabelle officially has 26 cases of COVID-19 so far [5,11].

Beledweyne city in Somalia has received among its own population, a community of international workers who came to support the peace, stability and prosperity journey the country has embraced since several years. Most of them are coming from neighboring countries like Kenya, Ethiopia, Djibouti and Uganda. Some of the workers are moving from their own countries to the workplace in Beledweyne and these cross-border movements put them at high risk of infection. some are coming from less or more affected countries. Most of the International workers live in groups and this make them vulnerable to the disease. Due to healthcare challenges and repatriation which can result from being affected by the disease, the study aim was to assess and evaluate the knowledge, attitudes and practices among the international workers in Beledweyne.

Due to small number of studies and research on COVID-19 in workplace other than the medical and healthcare workforce in East Africa and in Somalia and sensitivity of COVID-19 in workplace. Conduct a such study will give orientation to employers and stakeholders to take further measures to contain the spread of the virus which is one year old and not ready to be defeated very soon.

Materials and Methodology

Study design

Descriptive and cross section study.

Population and study sample

Adult male and female aged above 18 years and international workers in Beledweyne. The sample is randomly selected among the community of international workers.

Source of data

International Workers in Beledweyne/Somalia.

Sample size determination

With the population size of 150, confidence level of 95%, and error margin of 5% the estimation of sample size is 108.

Research question/hypothesis

What is knowledge, attitudes and practices of COVID-19 among International workers in Beledweyne?

Objectives

- To assess the knowledge, attitudes and practices on COVID-19 among the international workers in Beledweyne Somalia.
- To assess the knowledge on COVID-19.
- To evaluate the attitudes of participants towards COVID-19 disease.
- To assess the practices of participants vis à vis the preventives measures.

Data collection

The questionnaire is consisted of different parts with 37 questions: Socio-demographic information (7 Q), Knowledge of COVID-19 (13 Q), Attitudes towards preventive measures (8 Q), and practices regarding the pandemic preventive measures (9 Q).

I. Sociodemographic	Category
Age	
Age group	
Gender	Male
	Female
Marital status	Single
	Married
	Separated
	Widowed
Religion	Muslim
	Christian
	Other
	None
Occupational 1. Logistic, Transport and construction 2. Medical 3. Security 4. Facility management 5. Others	
Education	Primary
	Secondary
	Tertiary
Nationality	
1. Uganda 2. Chad 3. Kenya 4. DRC 5. Rwanda 6. Burundi 7. Ethiopia 8. Nigeria 9. Djibouti	

Attitudes	Positive and negative	
Lockdown/Stay home		
Wear mask		
Hand washing		
Social distancing		
Closing markets/bars		
Closing school		
Closing borders		

Vaccine acceptance		
Level of awareness	**Category**	**Yes/No**
Pandemic name (1)		
Know someone who got it (Y/N)		
Causes of the disease (1)		
Vulnerable population (2)		
At least 2 correct answers for Yes		
Signs of the disease (3) Y/N		
At least 3 correct answers for Yes		
Main site of infection (1) Y/N		
Mode of transmission (3) Y/N		
Treatment availability (Y/N)		
Vaccine availability (Y/N)		
If Yes name one vaccine you know		
Preventive measures (3) Y/N		
Measures by government (4) Y/N		
At least 4 answers for a Yes		
Main source of information		

Practices	**Always**	**Often**	**Sometimes**	**rarely**	**Never**
Cover the cough					
Wear facial mask					
Keep physical distance (1 m)					
Don't shake hands with others					
Stay at home when recommended					
Wash hands on a regular basis					
Do not touch eyes, nose and mouth by hands					
Look for medical support when sick					
Disinfect objects and surfaces					
Put gloves					
Availability of Resources (yes or no)	Masks	Gloves	Handwashing	Soap	Disinfect

Table 1: *Questionnaire.*

Data analysis

Data entry in Epidata 4.2 and analysis done by SPSS software version 25. Different questions on knowledge were asked and the right answers had given Yes and wrong answers had given No. For attitudes, the answers will be either a positive or negative perception or attitude. The questions on COVID-19 preventive measures practices were asked and the answers were the degree on which the respondents put them in practice (Always, Often, Sometimes, rarely, Never).

Ethics and Human Subjects Issues

Consent form: A research informed consent form will be signed before the interview and questionnaire is filled.

Title of the study: Knowledge, Attitudes and Practices on COVID-19 among international workers in Beledweyne Somalia

Primary researcher: KABERA René

Purpose of the study: A descriptive cross-sectional study, to assess the knowledge, attitudes and practices towards COVID-19 among international workers in Beledweyne

Procedures: Questionnaire with Sociodemographic information, attitudes and practices towards preventives measures to be filled by participant.

Risks: Participants don't have any risk by filling the questionnaire.

Benefits: To evaluate and monitor the awareness on COVID-19 in our community.

I confirm that I have read and understood the study purpose and understand that my participation is voluntary.

Participants signature and initials (name optional)

***Table 2:** Research consent form.*

Results

Socio-demographic characteristics of the study participants

A total number of 108 participants responded to our questionnaire. The range of ages is 24 to 57 years with a mean of 36.96 ± 5.51 years. The male group was majority with a percentage of 92.6. The number of respondents were married (69.4%), Christian (57.4%) and Muslim were 36.1%. The occupational status of our participants is the following: Security with 55%; Logistic, transport and construction with 37%, facility management with 7.4% and medical with 4.6%. Most of our respondents have tertiary education with 63%. Kenya and Uganda have the majority of respondents with a percentage of 62% both nationalities combined. The main source of information is from the health care provider with 49.1%, followed by social media with 19.4%.

	N	Minimum	Maximum	Mean	Std. Deviation
Age	108	24	57	36.96	5.511
Valid N (listwise)	108				

		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	100	92.6	92.6	92.6
	Female	8	7.4	7.4	100
	Total	108	100	100	
Marital status	Single	31	28.7	28.7	28.7
	Married	75	69.4	69.4	98.1
	Separated	2	1.9	1.9	100
	Total	108	100	100	
Religion	Christian	62	57.4	57.4	57.4
	Muslim	39	36.1	36.1	93.5
	Other	7	6.5	6.5	100
	Total	108	100	100	

Occupational	Logistic, transport and construction	40	37	37	37
	Medical	5	4.6	4.6	41.7
	Security	55	50.9	50.9	92.6
	Facility manage- ment	8	7.4	7.4	100
	Total	108	100	100	
Education level	secondary	40	37	37	37
	tertiary	68	63	63	100
	Total	108	100	100	
Nationality	Uganda	42	38.9	38.9	38.9
	Kenya	25	23.1	23.1	62
	DR Congo	3	2.8	2.8	64.8
	Rwanda	1	0.9	0.9	65.7
	Ethiopia	2	1.9	1.9	67.6
	Nigeria	22	20.4	20.4	88
	Djibouti	13	12	12	100
	Total	108	100	100	

***Table 3:** Socio demographic of the study participants.*

Knowledge of COVID-19

The Pandemic Knowledge was high among respondents. Almost 95.4% knew the name of the pandemic, 93.5% gave at least 3 right COVID-19 preventive measures and 45.4% participants knew someone who got infected with COVID-19 and no one got infected from COVID-19. The cause of the disease was known by 67.5% of respondents. The majority of the participants knew the vulnerable people to the disease (75.9%); knew at least three signs and symptoms of the diseases and fever and cough were the most common answers. Almost 76% responded the correct main site of infection, 80.6% gave a right answer of mode of transmission. More than 80% know that there is no treatment for COVID-19, about 71.3% know that there exists a vaccine for COVID-19, and 67.6% of respondents managed to give at least one name of a COVID-19 vaccine. The majority with AstraZeneca (28%) and Pfizer (22%). There was a significance difference between the level of education and the knowledge of COVID-19 Vaccine with a P-value of 0.014. The participants with university education tend to know the existence of COVID-19 vaccine than the rest of respondents.

		Frequency	Percent	Valid Percent	Cumulative Percent
Main source of information	Official websites and media of international health organizations (e.g. WHO)	11	10.2	10.2	10.2
	Official government websites and media e.g. Ministry of Health	3	2.8	2.8	13
	Your health care provider	53	49.1	49.1	62
	Social media, for example: WhatsApp, Facebook, Twitter, Instagram	21	19.4	19.4	81.5
	Newspapers, TV, Radio	19	17.6	17.6	99.1
	Leaders	1	0.9	0.9	100
	Total	108	100	100	
Pandemic Name	Yes	103	95.4	95.4	95.4
	No	5	4.6	4.6	100
	Total	108	100	100	
Know someone who got the disease	Yes	39	36.1	36.1	36.1
	No	69	63.9	63.9	100
	Total	108	100	100	
Cause of CO- VID-19 (SARS- CoV 2)	Yes	73	67.6	67.6	67.6
	No	35	32.4	32.4	100.0
	Total	108	100.0	100.0	

Vulnerable population	Yes	82	75.9	75.9	75.9
	No	26	24.1	24.1	100.0
	Total	108	100.0	100.0	
Signs and symptoms of covid-19	Yes	96	88.9	88.9	88.9
	No	12	11.1	11.1	100.0
	Total	108	100.0	100.0	
Main site of infection	Respiratory	82	75.9	75.9	75.9
	Others	26	24.1	24.1	100.0
	Total	108	100.0	100.0	
Mode of transmission	Yes	87	80.6	80.6	80.6
	No	21	19.4	19.4	100.0
	Total	108	100.0	100.0	
Treatment of COVID-19	No	89	82.4	82.4	82.4
	Yes	19	17.6	17.6	100.0
	Total	108	100.0	100.0	
COVID-19 Vaccine	Yes	77	71.3	71.3	71.3
	No	31	28.7	28.7	100.0
	Total	108	100.0	100.0	
Name a COVID-19 vaccine	Pfizer	24	22.2	22.2	22.2
	Moderna	6	5.6	5.6	27.8
	Astrazeneca	31	28.7	28.7	56.5
	Sinopharma	6	5.6	5.6	62.0
	Sputnik	6	5.6	5.6	67.6
	No vaccine	35	32.4	32.4	100.0
	Total	108	100.0	100.0	

Table 4: Knowledge of COVID-19 pandemic.

Secondary		Education level		Total	Chi-square	P value
		Tertiary				
Causes of COVID-19	Yes	27	46	73	0	0.576
	No	13	22	35		
Total		40	68	108		
Vulnerable population	Yes	27	55	82	2.468	0.091
	No	13	13	26		
Total		40	68	108		
Signs and symptoms of COVID-19	Yes	35	61	96	0.124	0.477
	No	5	7	12		
Total		40	68	108		
Main site of infection	Respiratory	30	52	82	0.03	0.52
	Others	10	16	26		
Total		40	68	108		
Mode of transmission	Yes	31	56	87	0.379	0.354
	No	9	12	21		
Total		40	68	108		
Vaccine for COVID-19	Yes	23	54	77	5.909	0.014
	No	17	14	31		
Total		40	68	108		
Treatment for covid-19	No	35	54	89	1.136	0.213
	Yes	5	14	19		
Total		40	68	108		

Table 5: Knowledge and level of education.

Attitudes and perceptions on COVID-19

The vast majority of study population have a positive attitude and perception towards COVID-19 preventive measures. On lockdown and staying at home measure, our respondents have a positive perception on a rate of 92.6%, a positive attitude on wearing mask at 93.5% and hand washing at 95.4%. The rate decreased slightly on perception of closure of borders, schools and markets/restaurants and bars with positive rates ranging from 76.9%, 86.1% to 89.8% respectively. The COVID-19 Vaccine acceptance among participants is 63%. During our study, we found significance difference between level of education and COVID-19 Vaccine acceptance, with tertiary education level respondents had a negative acceptance of the vaccine.

		Frequency	Percent	Valid Percent	Cumulative Percent
Perception on lockdown or stay at home	Positive Perception	100	92.6	92.6	92.6
	Negative Perception	8	7.4	7.4	100.0
	Total	108	100.0	100.0	
Attitude on wearing masks	Positive Attitude	101	93.5	93.5	93.5
	Negative Attitude	7	6.5	6.5	100.0
	Total	108	100.0	100.0	
Perception on closure of markets, bar and restaurants	Positive Perception	97	89.8	89.8	89.8
	Negative Perception	11	10.2	10.2	100.0
	Total	108	100.0	100.0	
Perception on closure of schools	Positive Perception	83	76.9	76.9	76.9
	Negative Perception	25	23.1	23.1	100.0
	Total	108	100.0	100.0	
Covid-19 Vaccine acceptance	Yes	68	63	63	63
	No	40	37	37	100.0
	Total	108	100.0	100.0	

Table 6: Attitudes and perceptions on COVID-19 preventives measures.

Secondary		Education level		Total	Chi-square	P value
		Tertiary				
Perception on lockdown or stay at home	Positive Perception	38	62	100	0.537	0.374
	Negative Perception	2	6	8		
	Total	40	68	108		
Attitude on wearing masks	Positive Attitude	38	63	101	0.23	0.483
	Negative Attitude	2	5	7		
	Total	40	68	108		
Attitude on handwashing	Positive Attitude	39	64	103	0.653	0.386
	Negative Attitude	1	4	5		
	Total	40	68	108		
Attitude on social distancing	Positive Attitude	34	65	99	3.696	0.061
	Negative Attitude	6	3	9		
	Total	40	68	108		
Perception on closure of markets, bar and restaurants	Positive Perception	36	61	97	0.002	0.618
	Negative Perception	4	7	11		
	Total	40	68	108		
Perception on closure of schools	Positive Perception	31	52	83	0.015	0.55
	Negative Perception	9	16	25		
	Total	40	68	108		
Perception on closing borders	Positive Perception	34	59	93	0.66	0.505
	Negative Perception	6	9	15		
	Total	40	68	108		
Covid-19 Vaccine acceptance	Yes	30	38	68	3.947	0.036
	No	10	30	40		
	Total	40	68	108		

Table 7: Attitudes vs education level.

Practices on COVID-19 preventive measures

Most of the practices to curve the spread of the COVID-19 pandemic were always observed. About 81.5% of respondents cover always their mouth when they are coughing, always wearing facial masks 77.8%, always keeping distance 59.3% with respondents who often and sometimes keep this measure 20.4% and 19.4% respectively, the participants who always avoid shake hands 82.4%.

		Frequency	Percent	Valid Percent	Cumulative Percent
Cover the mouth when coughing	Always	88	81.5	81.5	81.5
	Often	16	14.8	14.8	96.3
	Sometimes	3	2.8	2.8	99.1
	Never	1	.9	.9	100.0
	Total	108	100.0	100.0	
Wear facial mask	Always	85	78.7	78.7	78.7
	Often	12	11.1	11.1	89.8
	Sometimes	10	9.3	9.3	99.1
	Never	1	.9	.9	100.0
	Total	108	100.0	100.0	
Keep physical distance (1m)	Always	64	59.3	59.3	59.3
	Often	22	20.4	20.4	79.6
	Sometimes	21	19.4	19.4	99.1
	Never	1	.9	.9	100.0
	Total	108	100.0	100.0	
Avoid shake hands with others	Always	89	82.4	82.4	82.4
	Often	10	9.3	9.3	91.7
	Sometimes	8	7.4	7.4	99.1
	Never	1	.9	.9	100.0
	Total	108	100.0	100.0	
Stay at home when recommended	Always	95	88.0	88.0	88.0
	Often	2	1.9	1.9	89.8
	Sometimes	10	9.3	9.3	99.1
	Never	1	.9	.9	100.0
	Total	108	100.0	100.0	
Regular handwashing	Always	68	63.0	63.0	63.0
	Often	32	29.6	29.6	92.6
	Sometimes	7	6.5	6.5	99.1
	Never	1	.9	.9	100.0
	Total	108	100.0	100.0	
Look for medical support when needed	Always	79	73.1	73.1	73.1
	Often	23	21.3	21.3	94.4
	Sometimes	5	4.6	4.6	99.1
	Never	1	.9	.9	100.0
	Total	108	100.0	100.0	

Table 8: Practices on COVID-19 preventive measures.

Discussion

Workplaces outside healthcare facilities are among critical areas during the outbreaks due to the work environment, specifically during this COVID-19 Pandemic. WHO and ILO have worked together to brief and release documents with various recommendations to guide employers and employees on prevention and mitigation of COVID-19 to make workplace safe and healthy during the pandemic.

In Somalia, due to security context most international workers are based in confined camps and due to promiscuity, the preventive measures and mitigation of COVID-19 may seem complicated to put in place and to monitor. In Beledweyne with a community of 150 International workers living almost in the same zone dispatched in different camps, the risks of COVID-19 outbreaks are real.

The International workers bases in Beledweyne are mostly composed of male workers, we did not have many women engaging in such kind of work in Somalia especially within the international community. The male group is 92.6%, most of the workers have attended the university (63%) due to some requirements from employers, where more than half of our respondents have technical expertise in different field like construction, plumber, electricity, cooking, mechanic etc.

During our interviews with the study questionnaire, the respondents are highly knowledgeable on different aspects of the disease, with 88.9% able to recognize the signs and symptoms of the disease, and 80.6% know the mode of transmission of the disease. The same results are found in a study done in Nigeria where the knowledge about COVID-19 is estimated at 99.5%, and 99.2% of participants know about the transmission of COVID-19 [20].

Different findings were found in a study done in Cameroun in South West Region of Cameroun general population where the study revealed that 21.9% of participants only had good knowledge of the disease [17]. A study conducted in Sierra Leone, national wide the good knowledge of signs and symptoms of COVID-19 was at 33%, considered low [18]. A study Mozambique to assess the Knowledge of CHWs found that they were able to give correct answers of signs and symptoms at a rate above 90% which is almost similar to our findings although the category of the workers differs [19].

The good knowledge of the group is due to the information provided by the Medical team on ground through regular broadcast, posters, visits at the Clinic… the work environment with easy access to communication and media tools like internet network, TV with DSTV multichoice channels, another reason probably is the age (young) the mean age is 37 years, young generation using social media and effort put in place by employer to campaign for COVID-19 prevention and avail a special clinic for the community. The main source of information was the Health care provider (49.1%) and social media (19.6%). The employers have put too much energy to campaign for the preventive measures and dispatching posters all over the camps, regular briefing from medical team and COVID-19 preventive measures broadcast to all employees.

The attitudes and perceptions towards the COVID-19 preventive measures were highly positive on lockdown and stay home with 92.6%. On wearing mask, the positive attitude rate is at 93%. In Rwanda, a study to assess the attitudes of medical frontliners, they found that 100% understand and agree with the self-isolation and quarantine policy [21].

On practices we found in our study that the resources (masks, Hand sanitizer, soap, water…) were available at the rate of 100%. Fernandez., *et al*. found that essential workers 97 percent-report receiving at least one of those resources [16]. Avoid shake hands and stay at home when recommended are the most respected restrictive measures with 82.4% and 88% rates respectively. Due to the living conditions, to monitor the practices was easy both to employers and supervisors, thus most of practices were respected. In Sierra Leone the assessment of practices within the community national wide, the most commonly mentioned action taken by 87% (95% CI 81.9% to 90.5%) participants was washing hands with soap and water more often [22].

Conclusion

The study has highlighted that the international workers in Beledweyne have good knowledge on COVID-19, the respondents have positive attitude on restrictive measures put in place although the acceptance of the vaccine was still low compared to other indicators.

The practice of COVID-19 preventive measures was highly observed. Despite these results, the efforts to maintain the same picture are needed as the pandemic is evolving and new scientific perspectives are still coming. The workplace is a critical area during this period, as many employers need to continue their activities without disruption by the pandemic, we recommend many other studies in workplace other than healthcare facilities to allow employers implement correct interventions within their work areas to guarantee safety to their workforce.

Conflict of Interests

The authors declare that they have no conflict of interest.

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