

COVID-19 Vaccination Acceptance among Healthcare Staff in the West of Libya

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ABSTRACT

Healthcare workers (HCWs) are vital in providing guidance and recommendations to patients and the wider community about vaccination, which includes giving correct information on the risks and benefits of the vaccine. As they are crucial players in vaccine delivery and have a large impact on vaccine acceptability in the community, it is important to know their attitudes towards vaccination. In this study we aimed to assess acceptance rate and identify factors associated with vaccine hesitancy among Libyan healthcare staff in west region cities. We use questionnaire to the healthcare staff workers in the western district in Libya. A total of 150 respondents completed the questionnaire. This study showed that 60.66% of healthcare workers accepted the COVID-19 vaccine, 39.33% workers were hesitant. 42% of respondents were believed that origin of corona is man-made virus. 38.66 % stated that Pfizer-Biontech vaccine is the most accepted vaccine. 82% of participants in this current study were willing to encourage people for vaccination and only 18% were not encouraged.

KEYWORDS: COVID-19 vaccine, healthcare workers, vaccine resistant, vaccine acceptance.

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INTRODUCTION

In December 2019, a new coronavirus was discovered to be the cause of severe pneumonia cases in Wuhan, China, triggering a first-ever international response [1]. In February 2020, the WHO announced the disease coronavirus disease 2019 (COVID-19) [2]. On March 20, 2020, preliminary results of eight suspected corona virus infections were reported in Libya, but they were not confirmed officially [3]. High rates of mortality, injuries, and population displacement have been attributed to armed conflicts. The Syrian crisis saw the highest rate of mortality (7; 1000), followed by Libya (5; 1000) and Yemen (3; 1000). Such conflicts were exacerbated by the demise of the health-care system, a lack of food, and a dysfunctional daily life [4], this led to the development of highly infectious diseases such as hemorrhagic fever, cholera, and tuberculosis [5].

The introduction of the new COVID-19 has resulted in a large number of deaths in European countries such as Italy, Spain, and France, which were known to have health-care facilities of high quality and probably the highest standards. Concerning the infectious period, transmissibility, clinical severity, and the extent of community spread, European public health services are unable to completely contain the covid-19 outbreak, so they are hardly facing this epidemic

and needing international assistance [5]. On March 24, 2020, the first case of COVID-19 in Libya was reported [6]. Since then, the pandemic has spread rapidly around the world, with more than 146,000 cases and 2402 deaths as of March 16, 2021. However, Libya's healthcare system was not adequately geared for this epidemic and continues to be plagued by a shortage of personal protective equipment, a lack of medical education, and the inadequacy of testing centers in many cities.

Due to the ongoing civil war conflict and financial crisis, there have been many new financial, psychological, and social challenges for healthcare workers [7-8-9]. Vaccinations have been used as the best way to combat rapidly spreading infectious diseases for decades. Despite this, many groups and individuals have recently started to spread rumors and conspiracy theories against vaccination, placing more pressure on healthcare authorities and staff [10]. The research and supply of COVID-19 vaccines are ongoing [11]. COVID-19 has been vaccinated over a billion people. Vaccinating yourself against COVID-19 will help end the epidemic and discourage new variants from emerging. If you get COVID-19 after vaccination, you are more likely to experience mild or no symptoms than if you were not vaccinated. The pending COVID-19 pandemic has morphed

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into a deadly epidemic, due to its highly infectious nature. This is a global problem. Between February of 2020 and August of 2021, the virus has caused more than 4.6 million deaths worldwide [12]. Vaccinations are one of the most cost-effective and long-term strategies for preventing a public health crisis [12]. Vaccination rates have a direct effect on herd immunity. According to studies, the incidence of COVID-19 infections will decrease as a population's acquired immunity reaches 67% [13]. Around three billion doses of COVID-19 vaccines have been administered around the world as of July 2021. In at least one country, more than 11.48 billion doses of vaccines have been approved. Some of these have a high chance of being used in the real world, according to clinical studies, while others are tailored to the specific needs of specific groups (e.g., older adults). The vaccination rate varies between 50 percent and 77 percent. There is evidence that many vaccines may help minimize the likelihood of severe illness and asymptomatic disease, thus limiting the spread of SARS-CoV-2 [14, 15].

Therefore, vaccine hesitancy limits the success of a vaccination program's success; such hesitancy is defined by the indecision, reluctance, or refusal of vaccination [16,17]. The World Health Organization (WHO) has stated that vaccine hesitancy is a serious threat to public health [16]. Vaccine hesitancy has been linked to numerous factors, such as distrust in the government, fear of side effects, and religious convictions [18].

Healthcare workers (HCWs) are vital in providing guidance and recommendations to patients and the wider community about vaccination, which includes giving correct information on the risks and benefits of the vaccine. As they are crucial players in vaccine delivery and have a large impact on vaccine acceptability in the community, it is important to know their attitudes towards vaccination. Studies showed that recommendation by the HCWs was crucial in the community willingness to get vaccinated against COVID-19 [19, 20]. Moreover, HCWs are an important first target group for vaccination because they are at high risk of infection. In this study we aimed to assess acceptance rate and identify factors associated with vaccine hesitancy among Libyan healthcare staff in west region cities.

The effectiveness of vaccination against coronavirus fades gradually after a second dose. The protective effect of a vaccine against severe coronavirus disease nevertheless

remains very good for most of the population for at least six months. Getting vaccinated also prevents the spread of the virus, even if it doesn't completely prevent infections. The COVID-19 vaccination does not completely eliminate the risk of infection and transmission. Consequently, it is important that you keep a safe distance to other people, wear a mask where necessary, wash your hands and follow other instructions issued to prevent infections also when you have been vaccinated [21].

As a result of complex personal circumstances, the attitude toward vaccines is dynamic and dynamic, changing dramatically over time, including complacency (do not see a need for a vaccine, do not value vaccination), convenience (access to vaccines), safety, side effects, and the likelihood of COVID-19 exposure [12]. Healthcare workers (HCWs) are strong advocates for better dissemination of vaccine knowledge and increasing vaccine acceptance among the general population [13, 14].

METHOD

Multicenter hospital-based descriptive cross-sectional study was implemented to investigate the knowledge, perception, and acceptability of healthcare workers regarding covid-19 vaccination. The study examined the characteristics of healthcare staff who worked at government hospitals in Libya state, as well as their willingness to take the covid-19 vaccination identical questionnaire, made up of 150 participants. Questions were asked about the knowledge and attitude of Libyan medical staff regarding the covid-19 vaccine and their acceptance versus resistance. Interviewees were also asked about their theory of vaccinating for this disease. The data was then analyzed by Microsoft Excel software for analysis and descriptive statistics.

RESULTS

The total number of responses received was 150, and these responses were from different cities in the west of Libya. During 6 months' study 2021-2022.

The occupation percentage of the respondents is summarized in figure 1, 35.33% of participants were female and male physicians while 25.33% were female and male pharmacists, the percentage for laboratory technicians, nurses and others female and males were 11.33% whereas the least percentage for male and female Dentists were 5.33%.

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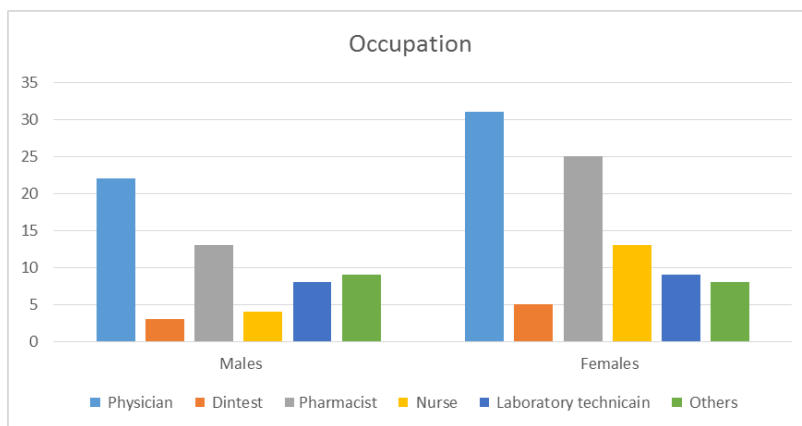


Figure1. the number of participants according to their occupation.

The following figure shows the ages of participants who got COVID-19 Vaccine or not, in west Libya

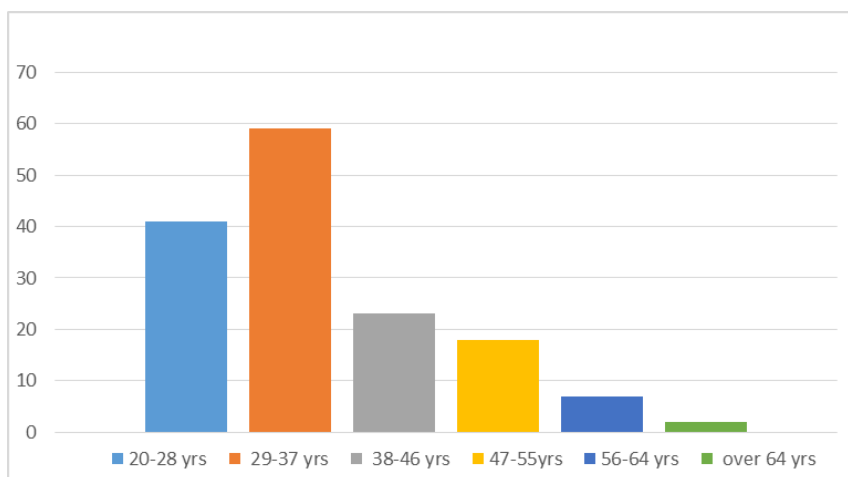


Figure2. the Number of participants according to their ages.

Figure 3 summarize that 21% of the physicians included in the current study were getting COVID-19 vaccine while 21.14% of the pharmacists were getting vaccine but 7.33%, 6.66%, 6% for Nurses, laboratory technicians and others were

getting respectively, and only 1.33% of the dentists were getting vaccine, thus generally most of older ages of this participants that not getting COVID-19 vaccine

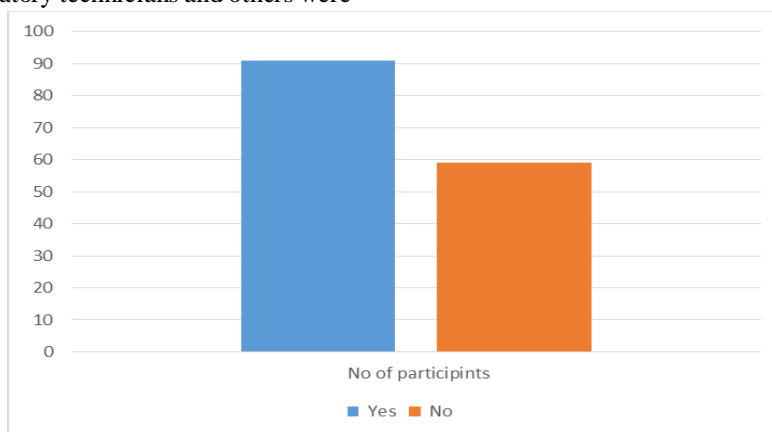


Figure 3. The number of getting COVID-19 vaccine participants.

The figure 4 highlights side effects or symptoms after vaccination, were 13,3% of participants mentioned that pain at site of injection and percentages for pain from joints & bones, Headache, fever were 9.33% , 5.33%, 4.66%. But

some participants had not any symptoms were 18% while 30% of participants had mixture of mentioned symptoms below in table 5, in addition, 1.33% for other symptoms

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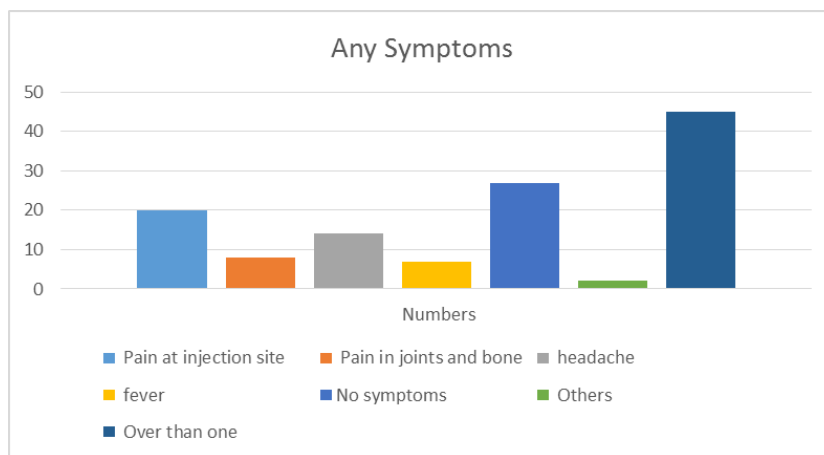


Figure 4. The symptoms after vaccination.

More detailed information about the participants belief about the origin of the current Corona virus in Humans was shown

in figure 5, were 42% of respondents were believed from man-made virus

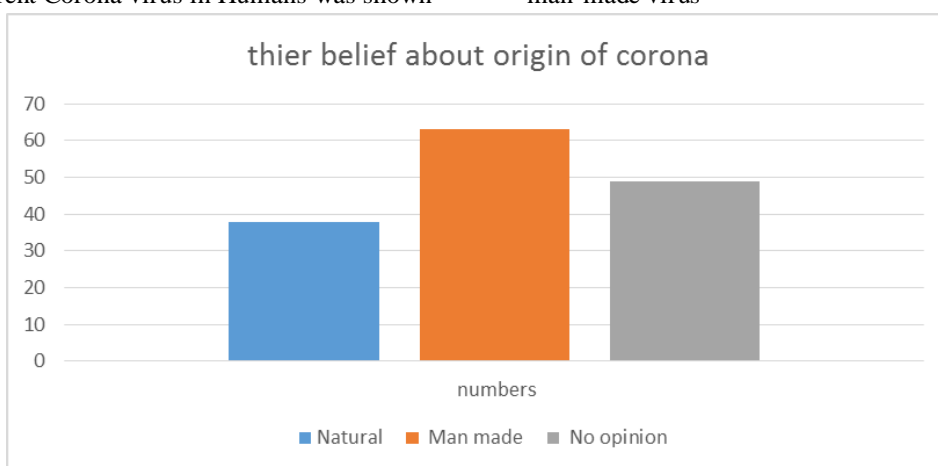


Figure 5. The participants' belief about origin of the current Corona virus.

Figure 6 highlights the different sources of information about COVID-19 vaccination . Whereas, 36.66% got the information through the social media but 20% from TV

programs news releases and the final source from Doctors was 43.33%.

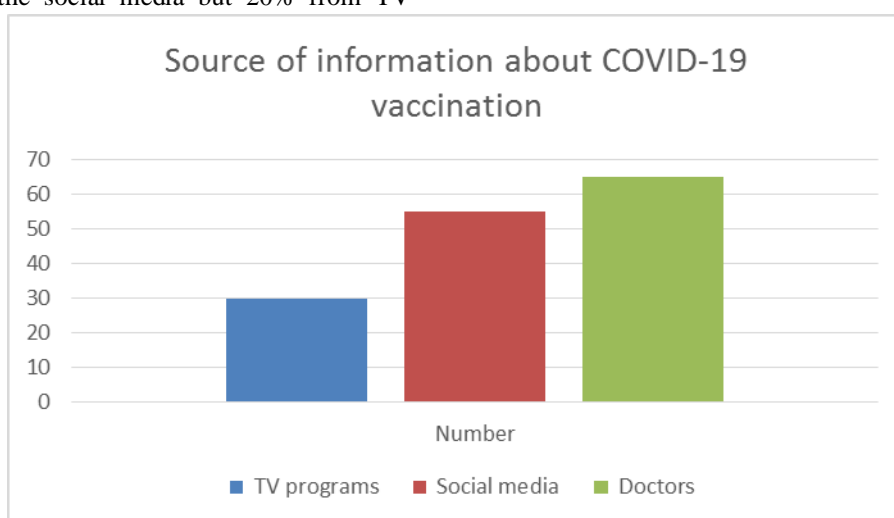


Figure 6. Source of information about COVID-19 vaccination.

The participant opinion regarding the acceptance vaccine based on vaccine developer is summarized in figure 7 . Where 38.66 % stated that Pfizer-Biontech vaccine is the most

acceptance. while, 30.66% mentioned the Oxford-Astrazeneca vaccine and 20% cited both Sinopharm vaccine and Sputnik-v vaccine and the Moderna vaccine were 2%.

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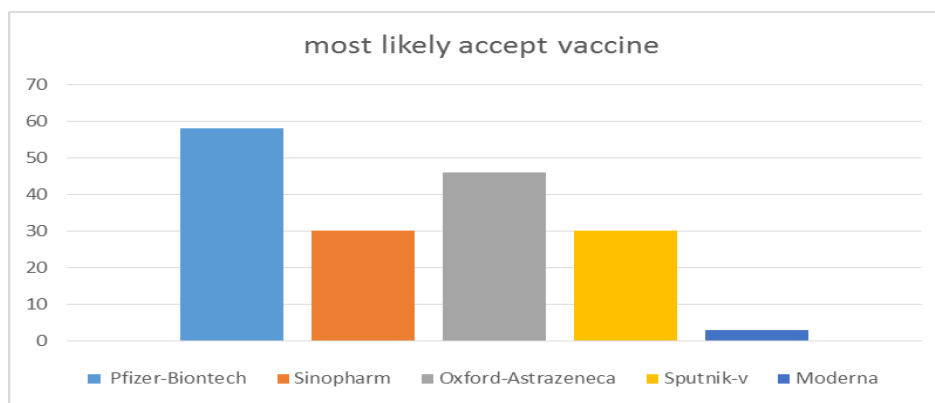


Figure 7. vaccine acceptance based on vaccine developer.

Figure 8 showed the health care opinion about the important things that make more confident in COVID-19 vaccine, were 30.66% of participants mentioned that the vaccine can not cause any immediate or long term injury , 27.33% for its impossible to get COVID-19 or any other disease from the

vaccine itself while 24.66% of participants mentioned to fast production of the vaccine did not compromise its safety . finally , 24% for agencies approving the vaccine are following strict rules.

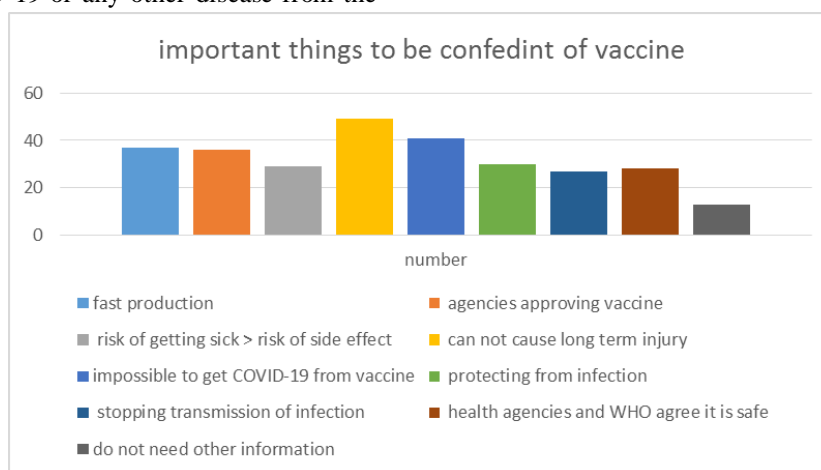


Figure 8: Things that increase confidence in COVID-19 vaccine.

The final question asked was if the participant encourage people to get vaccinated, were 82% of participants in this

current study was encouraged of people to vaccination and only 18% was not encouraged of people.

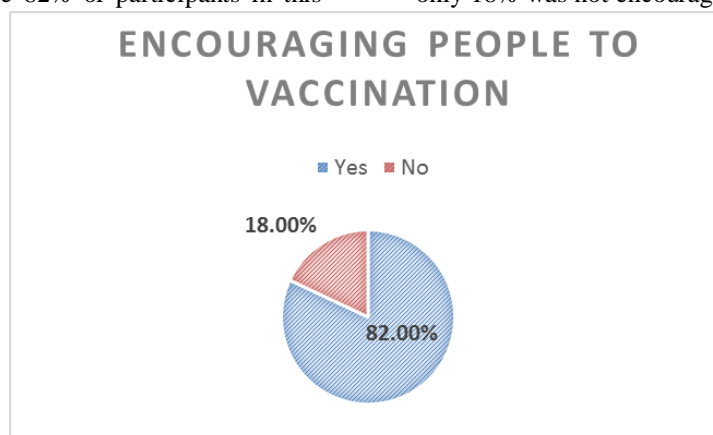


Figure 9. percentage of participant encouragement for vaccination.

DISCUSSION

The present investigation was conducted over 6 months (2021-2022). The targets were to find out the COVID-19 vaccination acceptance among healthcare staff in western

region of Libya, this includes their opinions on the origin of the virus, their occupation, reasons behind favoring a vaccine producer over the others, their hesitation toward vaccination (due to its side effects or due to political crisis). All the

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mentioned points have been covered to reach convenient answers for our questions. And as the healthcare workers are at a highest risk of getting COVID-19 infection, with the absence of curative treatment for COVID-19 infection, vaccinating HCWs against COVID-19 is critical.

When the questionnaire provided to the healthcare staff workers in the western district in Libya, we faced obstacles in filling the questions, were some of those workers do not have time to fill out the questionnaire and consider it a waste of time and some of them have a poor background regarding COVID-19 pandemic and its Vaccine. Furthermore, some of them responding but others did not responding to us. Eventually, despite the field were HCWs work they still have fearing from COVID 19 vaccination, and we have found most of them hesitated to receive vaccine and some of them don't consider the idea of taking the vaccine at all.

The question that was asked about their knowledge and getting of covid-19 vaccination, was 60.6% of respondents received the vaccine, this percentage considered high if we compared with countries with high population like China, where the virus has been discovered first. A study was done among HCWs in China showed the acceptance was 76.98% [22]. On the other hand 39.3% of our subjects refuse the vaccination for anonymous reasons

From the collected data, the percentage of HCWs according to their occupation represented as: The highest percentage of whom getting the vaccination were the pharmacists, which represents 21.14% out of 25.33% participants, followed by 21.33% of physician this was out of 25.33%. Moreover, 7.33% Nurses, 6.66% of laboratory technicians, 6% for others were getting vaccine against Corona virus disease

The participants were asked about their beliefs of origin for corona virus, 42% were man-made virus and part of conspiracy plot. So, the hesitancy among healthcare workers could return to their doubts of being this man made virus a weapon to damage the Population, due to political and biological conflicts [23].

Physicians and pharmacists aged 21-37 years were more likely to be vaccinated than older workers, according to the survey. This could lead to a return to their belief that the older people would be more vulnerable to the side effects of the vaccine.

From the data obtained, most of vaccinated healthcare workers suffer mixture of symptoms include pain at injection site, pain from joints and bone, headache and fever were about 30% but some of them did not suffer any symptoms were about 18%. So, this is another reason for refusing the vaccination among healthcare workers

According to vaccine acceptance based on technology question, the messenger RNA (mRNA) technology more accepted than other technology. On the other hand, and based on developer question: Pfizer-Biontech vaccine (US) was 38.66% while 30.66% for Oxford-Astrazeneca vaccine (UK)

but Moderna vaccine (US) was 2% only. Here, it is clear that HCWs in Libya prefer UK, and USA products to china and other countries

The healthcare workers were asked on the requirement and qualities that could increase confidence to covid-19 vaccines. 30.66% of participants mentioned that the vaccine can not cause any immediate or long term injury, 27.33% was impossible to get COVID-19 or any other disease from the vaccine itself, while 24.66% of participants mentioned the speed of vaccine production did not compromise its safety, also 24% for agencies approving the vaccine are following strict rules

Depending to responses received from above questions, 39.33% refused to be vaccinated. COVID-19 vaccine hesitancy among healthcare staff may return to: the side effects of the vaccine, concerns about the vaccine's safety, efficacy and effectiveness, short duration of the clinical trials, COVID-19 vaccination of limited information, and social trust.

Large percentage of HCWs encourages people to vaccinate. Where, 82% of our subjects said: we encourage any person to get the vaccine, but 18% healthcare workers did not encourage the vaccination. Therefore, this category in addition to social media will affect on the community's decision of receiving the vaccine and would change their opinion. Where, the spread of misinformation online impact HCWs and community attitudes towards vaccination, and lead to vaccine hesitancy.

Vaccination represents the most cost-effective measure in protecting and maintaining the sustainability and safety of this important sub-population. Healthcare professionals' acceptance of the COVID-19 vaccine will determine whether this important goal of protecting the health of this population is achieved. An understanding of the risk factors that influence HCWs' decision to be vaccinated is needed to guide a successful vaccination program [24].

In conclusion The efficacy and safety of vaccine represent important factors for healthcare staff acceptance, where the major challenges of regulatory agencies and organizations around the world are to ensure and save the lives of many people in this pandemic, but despite the challenges for COVID-19 vaccine, the results and benefits were higher than the risks and side effects led to organizations approval to start vaccination.

From the results of questionnaire conducted in the western regions in Libya about COVID-19 vaccine acceptance of Libyan healthcare workers, we are concluded that a large percentage getting covid-19 vaccination. On the other hand few percentage of the workers still refusing vaccination that could return to the fast production, short duration of clinical trials and their side effects after vaccination and social media trust.

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