

Level of Knowledge and Preventive Practices against Covid-19 Pandemic Infection among Pregnant Women Visiting Serbo Health Center, Jimma Town South West Ethiopia

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ABSTRACT

Background: Covid-19 infection may predispose pregnant women to higher risks of severe disease and poorer neonatal outcome. Novel-corona virus is currently a pandemic and public health emergency of international concern, stated globally by the World Health Organization (WHO). Ethiopia has become one of the affected countries as of October 15, 2020. However, the level of knowledge and preventive practice against Covid-19 infection among pregnant women visiting health facilities.

Objective: This study aimed to determine the level of knowledge and preventive practices against Covid-19 pandemic infection among pregnant women visiting Serbo health center, Jimma town south west Ethiopia.

Material and Methods: A cross-sectional study was conducted on 232 sampled visitors, from 20–28 October 2020. Consecutive sampling was used to recruit the participants. The study tools were adapted from WHO resources. The data were analysed using statistical package software for social science version 23.0. Descriptive statistics were used to describe the level of knowledge and preventive practices.

Results: Of the 232 respondents, 198(83.0%) knew the main clinical symptoms. 68.5% knew that older people who have chronic illnesses was at high risk of developing a severe form of Covid-19 disease. About 73.3% knew that the virus spread via respiratory droplets of infected people. Only 55(23.7 %) knew that children and young adults had to involve preventive measures. Overall, 63.1% of the visitors had high knowledge. The majority, 170(68.8%), felt self-efficacious to control Covid-19. 207(83.3%) believed that Covid-19 pandemic is a stigmatized disease. Frequent hand washing (73.7%) and avoidance of shaking hands (53.0%) were the dominant practices.

Conclusions: The status of knowledge and desirable practices were not sufficient enough to combat this rapidly spreading virus. Risk communication and public education efforts should focus on building an appropriate level of knowledge.

Keywords: Knowledge, Preventive measures, Covid-19, Pregnant women & Serbo health centre

INTRODUCTION

Formerly novel-corona virus disease is currently a global health threat and public health emergency of international concern [1]. The severe acute respiratory syndrome outbreak that was linked to Novel corona virus was first reported in 2003 [2]. Sixteen years later, a closely similar outbreak, which first received the name novel corona virus, was detected. The outbreak was first reported in late December 2019, when clusters of pneumonia cases of unknown

etiology were found to be associated with epidemiologically linked exposure to the seafood market and untraced exposures in the city of Wuhan in China province [3].

It was by far the largest outbreak of atypical pneumonia since the SARS outbreak. In the initial stage of the outbreak, the total number of cases and deaths exceeded those of SARS [2]. Subsequently, the spread of the virus has shown exponential growth and spread to all continents and received a unique name from the World Health

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Organization (WHO) [4]. On January 30, 2020, the WHO declared that the virus was a pandemic disease [1-7]. As of December 2019 until May 7, 2020, the pandemics registered 8,862,301,425 cases and 268, 908 deaths in the world.

Ethiopia has become among affected countries as of March 15, the date on which one imported case was first detected. On May 7, 2020, there were 191 total notified cases and four deaths. The effects in pregnancy were initially based upon previous experience with Middle East Respiratory Syndrome-related coronavirus (MERS) [8, 9]. However, virus turns out to be far more infectious, albeit with lower mortality and similar morbidity to women of reproductive age [10-13]. Hospital recommendations on infection control, screening and isolation protocols change rapidly in accordance with the latest evidence. The physiological and immunological changes in pregnancy make women more susceptible to severe illness from respiratory infections [14,15]. A recent Centre for Disease Control and Prevention report demonstrated that pregnant women with more likely to be hospitalized, admitted to the intensive-care unit and receive mechanical ventilation albeit with similar risk of mortality compared to non-pregnant women [16]. Pregnancy itself poses logistical challenges and conundrums for obstetricians managing pregnant women with suspecting or diagnosed with. The ROG suggests that the pandemic increases the risk of perinatal anxiety, depression and domestic violence in pregnant women [11]. Hence, pregnant women deserve a more sensitive approach and mutual understanding during this global pandemic among clinicians and their partners.

Therefore, this study aimed to determine the level of knowledge and preventive practices against Covid-19 pandemic infection among pregnant women visiting Serbo health center, Jimma town south west Ethiopia. There are limited studies on the subject matter since the pandemic was recently recognized [17,18]. Consequently, this will enable clinicians to provide appropriate counselling to reassure and clarify doubts of pregnant women during the antenatal, intra-partum and post-partum period.

MATERIAL AND METHOD

Study setting and period

This study was conducted in Serbo health centre during October 22-28, 2020, i.e. after eight months of the first case in Ethiopia. Serbo health centre is located in Jimma town, the capital of the Jimma zone in Oromia National Regional State. Serbo health centre provides diagnostic and treatment services.

Study design

A facility-based cross-sectional study design was conducted to rapidly assess knowledge and preventive practices on Covid-19 infections among pregnant women who visited the health centre.

Population and sample

- All consenting eligible pregnant women who attended Antenatal care during the study period

Study criteria

- All women who gave informed consent to participate in the study were included in the study.
- Participant who had a verbal communication problem and complete loss of hearing were excluding

Sample size determination and sampling

The single population formula was used to determine the sample size. Accordingly, the formula for sample size determination uses

is: $n = (Z\alpha/2)^2 * [(p/q), (d)^2]$, where n denotes the sample size, $Z\alpha/2$ is the reliability coefficient of standard error at 5% level of significance=1.96, p=proportion of pregnant mother who visit health centre who is knowledgeable about (50%, no previous study found), and d refers to the level of standard error tolerated (5%). Hence, the calculation yielded a sample size of 232 visitors after adjusting for the total visitors' population that was expected to visit the hospital in a one-week period. Finally, consecutive sampling was applied until the allocated sample size was filled.

Study variable

Dependent (outcome) variable

- Level of knowledge and practice of preventive measures against Covid-19 pandemic infection.

Independent variable

- Socio demographic characteristics
- Educational status

Instrument and measurement

The survey was conducted using tools that were adapted from WHO resources and similar studies [14-16,19]. The knowledge questions had 14 items covering issues such as symptoms, risk conditions, prognosis, and modes of transmission, safety, and precautions in Covid-19 infection.

Data collection, management, and analysis

The data were collected through an exit interview at clinics, wards in Serbo health centre by trained and experienced enumerators. A minimum of one-meter distance was kept between interviewers and interviewees. A pretested translated version of the instrument was used for data collection. Data analysis was managed using software for the statistical package for social science package version 23.0. Before further data analysis, reverse scoring for negatively worded items, normality curve, and tests of homogeneity of variances were checked.

Ethical clearance

The study was ethically approved by the institutional review board of Jimma University. The ethical clearance letter was obtained. Verbal informed consent was sought from every respondent. Data collectors were observed for 14 days after the completion of the survey. The interviewers wore protective face masks. Reasonable physical distance was kept between the involved individuals during data collection. The potential risk was minimal at the time of the study. The data were collected in a private condition and kept confidential.

RESULTS

Socio-demographic characteristics of the respondents

A total sample of 232 pregnant mothers' visiting health centre was approached. The respondents' mean age was 30.5 ± 10.2 years. A higher proportion of respondents were married (84.6%), Muslims (59.9%), and farmers (67.7%). 71.1% were unable to read or write (Table 1).

Knowledge of virus infection among the pregnant mother visiting health centre

One hundred ninety-eight (83.0%) of pregnant mothers visiting the centre knew the main clinical symptoms as fever, fatigue, dry cough, and myalgia. 42.7 % of the respondents mentioned other symptoms such as the stuffy nose, runny nose, and sneezing, which distinguishes from common cold or the flu. Table 2 presents the

Table 1: Socio-demographic characteristics of Serbo health center visitors, Jimma, October 2020 (n=232).

Variable	Frequency (n)	%
Age		
<19	22	9.5
20-29	110	47.4
30-39	65	28.0
40-49	35	15.1
Educational status		
Cannot read and write	165	71.1
Read and write	17	7.4
Primary (1-8 grade)	23	9.9
Secondary (9-12)	19	8.2
Collage and above	8	3.4
Marital status		
Single	29	12.7
Married	197	84.6
Divorced	4	1.8
Widowed	2	0.9
Occupation		
Farmer	157	67.7
Student	14	6.0
Unemployed	41	17.7
Government employee	12	5.2
Private business	8	3.4
Religion		
Muslim	139	59.9
Orthodox	54	23.3
Protestant	35	15.1
Others	4	1.7

Table 2: Knowledge of COVID-19 among Serbo health center visitors, Jimma, Ethiopia, October 2020 (N=232).

Variable (n=232)	Frequency (%)	
Knowledge of pregnant mothers on symptoms COVID-19	Correct	Incorrect
Symptoms of COVID-19 are fever, fatigue, dry cough, and myalgia	198(83.0)	37(17.0)
Nasal congestion , runny nose, and sneezing are less common in persons infected with the COVID-19 virus	99(42.7)	133(57.3)
Knowledge of pregnant mothers of risk groups of COVID-19		
Those who are elderly, have chronic illnesses & are obese are more likely to be severe cases	159(68.5)	73 (31.5)
Currently is no effective cure for COVID-2019, but early symptomatic and supportive treatment can help most patients recover from the infection	143(61.6)	89 (38.4)
Knowledge of pregnant mothers on Mode of transmissions		
Spreads via respiratory droplets of infected individuals	170 (73.3)	62 (26.7)
Eating or contacting wild animals would result in the infection by the COVID-19 virus	109 (46.9)	123(53.1)
Persons with COVID-19 cannot infect the virus to others when a fever is not present *	64 (27.6)	168(72.4)
Knowledge of pregnant mothers about ways of prevention		
Proper washing hand with soap and water is one method of preventing COVID-19	191 (82.3)	41 (17.7)
One way of prevention of COVID 19 is not touching the eye, nose by unwashed hands	184 (79.3)	48 (20.7)
Individuals should avoid going to crowded places such as train stations and avoid taking public transportations	178 (76.7)	54 (23.3)
Ordinary residents can wear general medical masks to prevent the infection by the COVID-19 virus	166(71.6)	66 (28.4)
People who have contact with someone infected with the COVID-19 virus should be immediately isolated in a proper place	156 (67.2)	76 (32.8)
Isolation and treatment of people who are infected with the COVID-19 virus are effective ways to reduce the spread of the virus	182 (78.4)	50 (21.6)

Table 3: Pregnant mothers visiting Serbo health centre on COVID-19 preventive practices, Jimma, Ethiopia, October 2020 (n=232).

Variable (n=232)	Frequency (%)	
	Yes (%)	No (%)
Over the last few days following the report of COVID-19 in Ethiopia, I . .		
Am frequently washing hands with water and soap	171 (73.7)	61 (26.3)
Stopped shaking hands while giving greeting	123 (53.0)	109 (47.0)
Avoided proximity including while greeting (within 1 meter)	183 (78.9)	49 (21.1)
Have not been going to crowded place	102 (43.9)	130 (56.1)
Wore a mask when leaving home	65 (28.0)	167 (71.9)
Avoid touching eye, nose, mouth before washing hands	88 (37.9)	144 (62.1)
Used cover /elbow for coughing/sneezing	89 (38.4)	143 (61.6)
Others (alcohol-rubbing, no contact with surfaces)	74 (31.9)	158(68.1)
Have started to stay home	54(23.3)	178 (76.7)

details of knowledge of pregnant mothers visiting health centre about Covid-19. A high proportion (73.3%) of pregnant mothers visiting health centre knew that the virus spread via respiratory droplets of infected people. However, 27.6% of the respondents reported that asymptomatic transmission was possible.

Properly washing hands with soap and water 82.3%, not touching the eye, nose and mouth with unwashed hands (79.3%), and avoiding crowded places (76.7%) were commonly known methods of preventing virus transmission. However, 78.4 % of respondents, Isolation and treatment of people who are infected with the virus are effective ways to reduce the spread of the virus.

One hundred fifty-six (67.2%) of mothers responded people who have contact with someone infected with the virus should be immediately isolated in a proper place. One hundred fifty-nine (68.5%) of pregnant mothers visiting health centre knew that elderly people who have chronic illnesses and obesity are at higher risk of developing a severe form. Around 61.6% of respondents knew that the virus had no effective cure yet early seeking of treatment increases the chance of recovery.

One hundred seventy-one (73.7%) of pregnant mothers visiting health centre were predominantly engaged in frequent hand washing with water and soap, stopped shaking hands while giving greeting (53.0%), avoiding physical proximity (78.9%) and going to crowded places (43.9%), to protect themselves from (Table 3).

DISCUSSION

Despite a significant proportion (83.0%) Of, health centre visitors knew the main clinical symptoms. Only 42.7% of them were able to identify symptoms like (stuffy nose, runny nose, and sneezing) that, distinguish it from common cold, flu. Moreover, confusion can intensify bias and social stigma related to disease infection.

Concerning knowledge of risk factors, good proportions (68.5%) of the health centre visitors knew that elderly people who have chronic illnesses and obesity are at high risk of developing a severe form. Moreover, 61.6% knew that early seeking of treatment increases the chance of recovery, despite the lack of effective cure developed till the moment. A study in Wuhan, China, revealed that deaths are can reach up to 16.7% (9.4-23.9%) for patients in an intensive-care unit [20,21]. The provisional case fatality rate by WHO is approximately 3.4% [4]. Although this level of knowledge is promising to safeguarding the most at-risk population segment, it could divert the attention of the young, adult public to adopt preventive measures. The misperception that young, children are at low risk of contracting infection is found under the WHO's list of rumours that could grant false assurances [14,22]. The findings

from the current study support this idea, as only 55(23.7%) of the respondents perceived that children and young adults must take measures to prevent infection by the virus.

The study found out that the knowledge about the major mode of transmission was as high as 73.3% i.e. the visitors knew that the virus spreads via contamination with respiratory droplets of infected people. Although the current study did not investigate potential sources where infections can be acquired, a study conducted in Wuhan, China, presented 10(9.8%) of human-to-human transmission of as familial clustering of cases, and 34(33.3%) nosocomial infections [22]. Concerning the knowledge about methods of preventing infection by, Health centre visitors dominantly mentioned proper washing of hands (82.3%), not touching before washing hands (79.3%), and avoiding crowded places (76.7%). If the above knowledge is executed in self-care practices by individuals and the public at large, it can help prevent the spread of the virus in the country.

Nevertheless, there were huge gaps between the magnitude of knowledge of preventive methods and the practices. For example, only 82.3% of visitors had reportedly frequently washed their hands with water and soap, although the knowledge was as high as 95.5%. In the same manner, those who reported that they had not been going to crowded places were 76.7%, although the knowledge that avoidance of crowded places prevents infection by novel-coronavirus was 90.3%. Perhaps, in resource-limited settings, several reasons can be mentioned as to why people cannot frequently and properly wash their hands and easily avoid crowded places. For instance, to mention some, Ethiopia is known by modest coverage and intermittent continuity of water supply and hand washing facilities, a high rate of overcrowded living conditions, frequent social and religious ceremonies, and high unemployment rate calling for urgent efforts to bridge the gap between knowledge and practices [20,22]. This study found out that hand washing and avoidance of shaking hands for greeting as two dominantly practiced methods of preventing infection. Still, avoidance of non-careful touching of face parts that are used for the entrance of the virus, wearing masks, cover while coughing, sneezing, use of sanitizers, and stay at home was very low (1.6-11.3%). The entire practices were not as high in contrast to the contagiousness natures of the virus. In the absence of adaptation to these practices as packages, the entire public is at a high to contract the infection [8-10].

CONCLUSION

The magnitude of the visitors' knowledge and preventive practices such as hand washing, avoidance of handshaking, and physical distancing were modest to protect themselves from this highly

contagious virus. Notably, some knowledge about the virus was very low and needs an urgent improvement: “children, young adults must take measures to prevent the infection (23.7%)”, “symptoms that distinguished it from the common cold (61.6%)”. There were huge discrepancies between knowledge of prevention methods and actual practices, especially hand washing. In such highly contagious viruses with no effective cure, high-level knowledge must be achieved in the population to stop the spread of the virus.

Therefore, community engagement efforts for combat should emphasize addressing key preventive methods, use dissonant messages to close the gaps between existing knowledge and actual behaviour's, and keep advancing knowledge status based on the contexts of significant socio-demographic characteristics for designing effective and tailored communication strategies. The finding also suggests interventions on the pandemic should simultaneously address the issue of social stigma and discrimination before it gets out of control.

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