International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Khwasaen S. Int J Reprod Contracept Obstet Gynecol. 2022 Apr;11(4):1262-1265
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20220916

Original Research Article

Infection prevention among pregnant women in the community by participating village health volunteers

Sujira Khwasaen*

Department of Obstetrics-Gynecology, Regional Health Promotion Centre-7 Khonkaen, Thailand

Received: 10 March 2022
Accepted: 24 March 2022

***Correspondence:**
Dr. Sujira Khwasaen,
E-mail: sujira_jew@hotmail.com

ABSTRACT

Background: Corona virus is an emerging disease that is spreading rapidly and spreading all over the world. Pregnant women are a risk group that needs to be monitored. This study aimed at learning about the self-protection behaviours of village health volunteers in preventing COVID-19 infections, roles and community management for preventing COVID-19 infections among pregnant women and studying the self-protection knowledge and behaviours of pregnant women in preventing COVID-19 infections.
Methods: This study was mixed method research. The sample was 48 village health volunteers and 10 pregnant women. The research instruments consisted of questionnaires. This study was conducted in April-August 2021. Data were analysed using descriptive statistics, Wilcoxon Signed Ranks test, and Correlation (Kendall's tau-b).
Results: According to the findings, most of the village health volunteers had self-protection behaviours such as wearing masks, eating hot food, using private spoons, washing hands with soap, alcohol gel or sprays, maintaining social distancing and not entering community areas with COVID-19 outbreaks at a high level. Village health volunteer roles and community management with participation from village health volunteers to monitor, prevent and control COVID-19 outbreaks were at a high level (100%). In the area of pregnant women, most of the pregnant women had high overall knowledge of self-protection against COVID-19 infection in the area of COVID-19 infection prevention behaviours (=13.90, SD=0.73). Analysis of correlations found a positive correlation at the high level (r=0.770) with statistical significance (p=0.008). One pregnant woman was found to be infected with COVID-19 (10%).
Conclusions: The findings showed There was a significant correlation between knowledge and behaviour in prevention of coronavirus 19 infection. Therefore, it is necessary to promote knowledge and behaviour in preventing corona virus 19 infection. to pregnant women continuously and effectively.

Keywords: Village health volunteers, COVID-19 infection prevention, Pregnant women

INTRODUCTION

Coronavirus 2019 is a new and rapidly spreading disease worldwide. It is a contagious disease belonging to the coronavirus family, or SARS-CoV-2. The first outbreak was encountered in Wuhan, China, in December 2019.[1] A report on the situation of the global pandemic on 2 September 2021 stated that 218,502,500 patients had contracted the disease worldwide with deaths numbering at 4,544,546, and that the nation with the highest number of confirmed cases is the United States of America. For Thailand, there were 1,234,487 cases and 12,103 deaths.[2] The disease is mostly spread by contact with vapours from coughs and sneezes along with other bodily secretions, and patient symptoms may include fever, cough, breathing congestion, muscle aches, and sore throat, with a small number of cases experiencing runny noses and severe cases potentially leading to pneumonia.[3,4] Statistics on the spread of the new coronavirus strain worldwide have also indicated increasing number of cases in Thailand, especially following the second and third outbreaks in the country in which total case numbers became multiple

times higher. Furthermore, pregnant women have greater risk for the disease and require monitoring, although the severity of coronavirus (COVID-19) varies depending on each patient according to multiple factors such as age and presence of chronic diseases.[5] Pregnant women who contract SARS-CoV-2 experience more severe disease symptoms than non-pregnant women.[6] In addition, a study into new-borns born from mothers who contracted COVID-19 found that 5.3% of patients contracted the disease from their mothers (95% CI, 1.3-1.6), that the rate of confirmed cases in new-borns was 8% (95% CI, 4-16), and that 33% of new-borns experienced symptoms (95% CI, 13-62). Additionally, the disease has been detected in vaginal secretions in 4.6% of cases, the placenta in 12% of cases, amniotic fluids in 5.6% of cases, the umbilical in 6% of cases and breast milk in 5% of cases.[7] Furthermore, systematic research review through study of 936 new-borns of infected mothers found infection in the nasopharynx in 27 new-borns or 3.2% (95% CI, 2.2-4.3) and the IgM antibody was present in the blood of 3.7% of the new-borns, that the disease was found in umbilical blood in 2.9% of the new-borns, in the placenta in 7.7% of the new-borns, and in the stool or rectal swab of 9.7% of the newborns.[8] The effects of the disease on pregnancy include premature labor, hypoxia in the fetus, heart arrythmia in the fetus, increased incidence of caesarean sections, post-partum haemorrhaging, new-borns death, fetal death, still birth and low birth weight.[7] Community management of the spread of COVID-19 results through the collaboration of provincial public health offices, local hospitals and sub-district health promotion hospitals, as well as sub-district administrative organizations and multidisciplinary teams from every agency, all of which provide patient care and community management in the prevention of the spread of the disease according to the guidelines for community isolation of COVID-19 patients, COVID-19 patient care while waiting for inpatient treatment or while under 14-day quarantine or after early discharge from hospital or a designated governmental facility (home isolation).[9]

For this article, the researcher presents the personal prevention behaviours of village public health volunteers in the prevention of COVID-19 and the role and management of communities in the prevention of COVID-19, as well as a study into the knowledge and behaviours of pregnant women in the prevention of COVID-19. Data from this study can be used to set appropriate working guidelines in the prevention of COVID-19.

METHODS

This study had a mixed method research design, and the sample group consisted of 48 village public health volunteers and 10 pregnant women in the vicinity of Khlong Hok Sub-district Health Promotion Hospital at Khlong Luang District, Pathum Thani. The study was conducted from April to August 2021. The research was conducted through the gathering and studying of data in village public health volunteers by the use of questionnaires related to- the preventive behaviours of village public health volunteers; the roles played by village public health volunteers in the prevention of COVID-19; community management in the prevention of COVID-19 in pregnant women with the involvement of village public health volunteers; and knowledge and prevention behaviours of pregnant women in protecting themselves from COVID-19. The pregnant women received four scheduled follow-up visits at one-week intervals. The demographic data and knowledge in the prevention of COVID-19 were analysed by the use of descriptive statistics and distribution frequencies, percentages, mean values and standard deviations with comparison of the knowledge of the pregnant women before and after the participation of village public health volunteers in care by the Wilcoxon Signed Ranks Test. Data were also analysed to determine the relationship between knowledge in COVID-19 prevention and COVID-19 prevention behaviours in pregnant women by determination of correlation by the use of Kendall's tau-b statistics.

RESULTS

The COVID-19 prevention behaviours of village public health volunteers were at a high level and included the wearing of face masks, eating hot foods, using private utensils, washing hands by using soap, sanitizing hands by using alcohol gel or spray, practicing social distancing, and avoiding communities in which there is a COVID-19 outbreak.

Table 1: Comparison of the knowledge of pregnant women before and after involvement of village public health volunteers in care.

Pregnant Women's COVID-19 Prevention Knowledge	Pre-test		Post-test		Z	P
	$\bar{x}$	S.D.	$\bar{x}$	S.D.		
	11.9	0.99	13.9	0.73	-2.87	0.004

For the roles of village public health volunteers and community management through participation in the prevention and control of the spread of COVID-19, practices were encountered in 100% of the volunteers. Meanwhile, the overall knowledge in COVID-19 prevention in pregnant women was highest. Upon evaluating individual aspects, correct answers in the knowledge that COVID-19 can spread immediately without displaying any symptoms were found in 70% of the informants, and 80% of the informants correctly answered that the disease belongs to the SARS-CoV and MERS family, which can be very severe, that the disease is an acute respiratory virus, that most patients experience fever, dry coughs, fatigue, muscle aches, nasal congestion, runny nose, sore throat and diarrhoea as symptoms, and that this virus has an incubation period of around 3-14 days. In addition, 90% of the informants correctly answered that illness and mortality rates are higher in older

adult patients than other demographics. Meanwhile, in regards to comparison of the knowledge of pregnant women before and after the involvement of village public health volunteers in care, it was found that the pregnant women gained increased COVID-19 prevention knowledge with statistical significance (Table 1).

The COVID-19 prevention behaviours of pregnant women were found to be at a high level (=4.48, SD=0.33). Upon examining individual items, it was found that the item with the least score was in always discarding used face masks in plastic bags before disposing them in sealed trashcans (=3.8, SD=0.78), while the item in which the informants received full scores was to wear a face mask every time when making hospital check-up visit.

Analysis of the correlation between knowledge and COVID-19 prevention behaviours found a positive correlation to a high degree (r=0.770) with statistical significance (p=0.008). It was also found that one pregnant woman was infected with COVID-19 (10%).

DISCUSSION

Analysis of the prevention behaviours of village public health volunteers found a high level of COVID-19 prevention behaviours. For the roles of village public health volunteers in community management, the village public health volunteers were involved in the monitoring, prevention and control of the spread of COVID-19 and 100% of the volunteers followed set measures. This indicates that the volunteers were performing their roles, duties and responsibilities strictly and as good role models. The finding also reflects the robustness of the work, supervision, monitoring and collaboration of local sub-district health promotion hospitals and in response to the first confirmed case of COVID-19 in pregnant women, and coordination of village public health volunteers, pregnant women and sub-district health promotion hospitals, including coordination of local sub-district administrative organizations in the referring of pregnant women for treatment, environmental management to ensure hygiene and to prevent the spread of COVID-19 in line with the guidelines for isolating patients with COVID-19 in communities.[10] The findings demonstrate the effective work performed by the village public health volunteers in COVID-19 prevention and confirm that extensive training and education of personnel and the public, including those belonging to risk groups, and the strong presence of village public health volunteers and sub-district health promotion hospital staff can play a major role in helping to curb the spread of COVID-19 in Thailand.[11,12]

As for the COVID-19 prevention knowledge of pregnant women, the overall knowledge level was highest. This was due to the fact that the pregnant women received information and news through every channel, whether from online media, hospitals in which they received antenatal care, including local sub-district health promotion hospitals and village public health volunteers, both of which were able to provide knowledge continuously. Upon examining individual aspects, however, it was found that the pregnant women answered most incorrectly on the fact that COVID-19 can spread immediately after exposure even without the presence of symptoms; this can potentially impact prevention behaviours. Therefore, in campaigning for the promotion of knowledge in pregnant women, emphasis should be placed on important issues to ensure focus and awareness about prevention behaviours and consistency with data obtained from interviews with the pregnant women, as it was found that they had good self-care, did not leave their homes except only for antenatal care, and there was only one case in which a pregnant woman came into contact with the disease from an asymptomatic friend. During this occasion, the parties removed their masks, drank water and engaged in conversation. This led to saliva vapours containing the virus in the form of droplets >5 microns in size to be expelled in to the air.[13] As a result of said close-proximity conversation, there were risks of breathing said germs into the body. Nevertheless, the overall COVID-19 prevention behaviours of the pregnant women were at a high level, and in individual aspects the pregnant women gained full scores in wearing a face mask during every hospital visit for antenatal care, with the least score being for always discarding used face masks into plastic bags and then disposing them in sealed trashcans. The study shows that the pregnant women possess prevention knowledge and that this influenced prevention behaviours in the form of wearing face masks to prevent contact with the disease but that the women still had incorrect understanding about discarding used face masks, which created potential risks for the disease to spread, since the disease can spread by small vapours by floating in the air over distances greater than five meters.[13] In addition, improper disposal of face masks can be a cause for contact with secreted substances in face masks. The analysis of the correlation between knowledge and COVID-19 prevention behaviours found a high positive correlation (r=0.770) with statistical significance (p=0.008). This shows that a certain level of prevention knowledge can contribute to a high level of COVID-19 prevention behaviours.

Limitations

The limitation of this research is the difficulty of collecting data in areas where the coronavirus is spreading.

CONCLUSION

This study found that knowledge and COVID-19 prevention behaviours are correlated with statistical significance. Therefore, it is necessary to continuously and effectively promote knowledge and COVID-19 prevention behaviours in pregnant women.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Wang C, Horby PW, Hayden FG, Gao GF. A novel coronavirus outbreak of global health concern. Lancet. 2020;15(395):470-3.
2. Department of Disease Control : Emergency Management, Incidence Command System and Emergency Operation Center. COVID-19 situation report. Available at: https://www. ddc.moph.go.th/ viralpneumonia/ index.php. Accessed on 3 September 2021.
3. Chen N, Zhou M, Dong X, Qu J, Gong F, Han Y, et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: A descriptive study. The Lancet. 2020;395(10223):507-13.
4. Yan CH, Faraji F, Prajapati DP, Ostrander BT, DeConde AS. Self-reported olfactory loss associates with outpatient clinical course in COVID-19. Int Forum Allergy & Rhinol. 2020;10(7):821-31.
5. World Health Organization. Q&As on COVID-19 and related health topics [Internet]. Geneva: WHO; 2021. Available at: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub. Accessed on 3 September 2021.
6. Zambrano LD, Ellington S, Strid P, Galang RR, Oduyebo T, Tong VT, et al. CDC COVID-19 Response Pregnancy and Infant Linked Outcomes Team. Update: Characteristics of Symptomatic Women of Reproductive Age with Laboratory-Confirmed SARS-CoV-2 Infection by Pregnancy Status – United States, January 22-October 3, 2020. MMWR Morb Mortal Wkly Rep. 2020;69(44):1641-7.
7. Jafari M, Pormohammad A, Sheikh Neshin SA, et al. Clinical characteristics and outcomes of pregnant women with COVID-19 and comparison with control patients: A systematic review and meta-analysis. Rev Med Virol. 2021;e2208.
8. Kotlyar AM, Grechukhina O, Chen A, Popkhadze S, Grimshaw A, Tal O, et al. Vertical transmission of coronavirus disease 2019: a systematic review and meta-analysis. Am J Obstet Gynecol. 2021;224(1):35-53.
9. Department of Medical Sciences, Ministry of Public Health. Guidelines for medical practice, diagnosis, care and prevention of infection in hospitals. Case of coronavirus disease 2019 (COVID-19). 2021. Available at: https://ddc.moph.go.th/viralpneumonia/eng/guidelines.php. Accessed on 3 September 2021.
10. Department of Disease Control : Emergency Management, Incidence Command System and Emergency Operation Center. COVID-19 situation report. Available at: https://www. ddc.moph.go.th/ viralpneumonia/ index.php. Accessed on 3 September 2021.
11. Krasaniyarawiwong T, Suwannit C, Pongpirun K, Tangsanga K. The Role of Community Healthcare Workers of Thailand during the COVID-19 Pandemic Period. Journal of The Department of Medical Services. 2564;46(1):5-8.
12. World Health Organizaion. The Ministry of Public Health and the World Health Organization Review Thailand's COVID-19 Response. Available at: https://www.who.int/thailand/news/ detail/14-10-2020-Thailand-IAR-COVID19. Accessed on 3 September 2021.
13. Liu L, Li Y, Nielsen PV, Wei J, Jensen RL. Short-range airborne transmission of expiratory droplets between two people. Indoor Air. 2017;27(2):452-62.

Cite this article as: Khwasaen S. Infection prevention among pregnant women in the community by participating village health volunteers. Int J Reprod Contracept Obstet Gynecol 2022;11:1262-5.