

Intervention on Self-care in Reproductive Health in Reducing the Risk of Novel Coronavirus Disease (COVID-19) in Pregnancy: A Mini Review

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Abstract

Introduction: The outbreak of the new Coronavirus in China in December 2019 (COVID-19) and subsequently in various countries around the world has raised concerns about the possibility of vertical transmission of the virus from mother to fetus. The present study aimed to review published literature in this regard.

Methods: In this narrative review, we searched for all articles published in various databases including PubMed, Scopus, Embase, Science Direct, and Web of Science using MeSH-compliant keywords including COVID-19, Pregnancy, Vertical transmission, self-care, Coronavirus 2019, SARS-CoV-2 and 2019-nCoV from December 2019 to March 18, 2020 and reviewed them. All type of articles published in the field of COVID-19 and vertical transmission in pregnancy were included.

Results: A review of 86 final articles published in this area revealed that COVID-19 can cause fetal distress, miscarriage, respiratory distress and preterm delivery in pregnant women but does not infect newborns. There has been no report of vertical transmission in pregnancy, and it has been found that clinical symptoms of COVID-19 in pregnant women are not different from those of non-pregnant women.

Conclusion: Overall, due to the lack of appropriate data about the effect of COVID-19 on pregnancy, it is necessary to monitor suspected pregnant women before and after delivery. For confirmed cases, both the mother and the newborn child should be followed up comprehensively.

Keywords: COVID-19, Pregnancy, Infectious Disease Transmission, Vertical, Coronavirus, Severe Acute Respiratory Syndrome

Introduction

Pregnancy is a state of partial immune suppression which makes pregnant women more vulnerable to viral infections, and the morbidity is higher even with seasonal influenza. Therefore, the COVID-19 epidemic may have serious consequences for pregnant women. Although the vast majority of the cases of COVID-19 were currently in China, the risk of outward transmission appears to be significantly raising global concern. Human to human transmission of the virus has been proven^{1,2} perhaps even from asymptomatic patients^{3,4} and the mortality has been proven to be substantial, especially among frail, elderly patients with comorbidities.⁵ There have been some criticisms surrounding suppression of early warnings, and slow initial response followed by heavy-handed quarantine measures, as well as concerns expressed about the

capacity to cope with the large number of patients, and shortage of protective equipment and in-hospital infections leading to deaths among a substantial number of health-care professionals.^{6,7} China's effort to contain the disease and slow down its spread in China and world-wide has been commendable. A large number of cases requiring hospitalization and intensive care is a serious burden even for affluent countries with well-developed healthcare systems. However, the Chinese government, its health professionals, and the public, have set a new standard for handling the epidemic, and have certainly contributed to reducing the potential risk of outbreak in neighboring countries with weaker healthcare systems. Furthermore, Chinese researchers and health professionals have generously shared their data, knowledge, experience and expertise

that has helped to develop diagnostic tools, clinical management algorithms, set up clinical trials, and accelerate vaccine development.⁸ Clinical course and outcome of a substantial number of COVID-19 patients have been reported, and recommendations regarding the care of such patients have been issued by several national health authorities across the world. However, the practices seem to vary considerably. Research is currently underway to understand the impacts of the COVID-19 infection on pregnant women. Data are limited, but at present there is no evidence that they are at higher risk of severe illness than the general population. While most experts recommend that the issue of reproductive health must be considered in societies,¹² however, due to the low level of health awareness, reproductive health is one of the most important health problems in developing countries.¹³ In a 2006 study entitled "Knowledge and Behavior of Skin Protection", Tanki et al. showed that there is a significant relationship between awareness and protective measures.¹⁴ In fact, it is unavoidable to be unaware of and follow the correct health behaviors in any society. Individuals and communities need to be taught the right behaviors to recognize and practice the right lifestyles, and in this regard, the role of health education is a key.¹⁵ There is also a correlation between efficacy and belief in the protective role of adhering to the correct principles of reproductive health behavior. There is also a positive correlation between awareness and efficiency. The more people are aware of the principles that protect the correct behavior of reproductive health and the effect of observing it in preventing the occurrence of disorders caused by infertility, the more people try to follow these principles. On the other hand, they will have a better health status, which has been reported in the research of Mohammadi Zeidi et al.^{16,17} The results of this study are related to self-efficacy with the findings of Mohammadi et al.'s study,¹⁸ Lynn et al.'s study in Taiwan with the aim of influencing the effect of training on safe and unsafe sexual behavior.¹⁹ Self-efficacy enables one to adopt health-promoting behaviors and quit harmful behaviors. Thus, the understanding of self-efficacy can maintain health-promoting behaviors.²⁰ Self-efficacy is an important prerequisite for behavior. Self-efficacy affects a person's motivation and forces them to persevere in their behavior.²¹ The results of this study are consistent

with the findings of Mohammadi et al.'s study on the protective activity of cancer on female students in Yazd in relation to the motivation of protection studies.¹⁸ Marvati Sharifabad's study of the predictions of unsafe driving in Yazd was consistent with the theory of protection motivation.²² In a preliminary study, Moghaddam et al. in Yazd have shown that beliefs play a major role in predicting protective behaviors. The results in this study are consistent with a previous study.²³ Given the importance of family, friends and community support, adult awareness and effective communication, especially parents with their adolescents on various topics of healthy living, and empowerment in self-care among individuals to achieve the highest quality of reproductive health, this study has been done. According to this study, family, friends and community support among 80.7% of respondents did not preclude self-care among individuals. Accordingly, 80.7% of the respondents had a very high rate, which indicates the positive and desirable importance of the effect of family support, friends and society, awareness and effective communication in increasing empowerment in self-care among individuals. By educating people at different levels of elementary, guidance and high school, equipping them with the necessary information and messages in various fields of reproductive health and communication and life skills so that they can provide the necessary and correct guidance and advice. To have with them throughout life and be able to pass on the above information to their children and be considered a reliable and trustworthy source in the family. It is also hoped that the training provided through this study will have a positive impact on how parents relate to their children in terms of healthy lifestyles and healthy health behaviors, especially in the parents themselves. Teachers, on the other hand, can be very helpful and reliable guides for teens in the school environment. The ultimate educational goals of this research included educating people, especially young people, to have a healthy lifestyle, creating a suitable and supportive environment for young people who can receive answers to their questions in accordance with the cultural and environmental conditions of adults, helping young people to make positive and responsible decisions about reproductive health, helping effective adults to acquire the necessary skills to communicate with adolescents and young people about teaching a

healthy lifestyle, helping adults get information about healthy lifestyles (such as effective strategies for girls' puberty health, effective strategies in boys' puberty health, corrective actions and tackling poverty to improve the health of girls and boys, prevention of addiction, smoking, AIDS and hepatitis, and the role of communication skills in healthy parent-child relationships).

Self-awareness means the ability to know oneself and to be aware of one's characteristics, weaknesses, strengths, desires, fears, goals, values, and in general to be aware of one's existential dimensions. In other words, what do you look like? Emotionally, what are you in a situation where you are usually isolated and isolated or crowded and noisy. How do you look at the world? What thoughts and beliefs do you have in mind? What goals do you pursue in life? What are your strengths/weaknesses?

Awareness of oneself and its characteristics is a skill, and forcing oneself to look at oneself is the first step to getting to know one's positive and negative aspects. It is very difficult to deal with the real self, but it is absolutely necessary to become a sufficient person. Acknowledging the fact that we are human allows us to take responsibility for our personal growth and destiny. People who seek self-awareness and accept their positive and negative points are people who have high self-esteem. In fact, self-awareness provides a platform for self-esteem and a sense of worth. Self-esteem is an assessment of one's self-esteem. An assessment of one's own characteristics that leads to one's self-esteem. Actually, self-esteem is the center and core of each individual's personality, which affects all aspects of life, including education, occupation, and even social communication, and is in fact the basis of a child's feelings and perceptions of life. It helps children to avoid future serious problems and injuries. Self-esteem is an important aspect of performance and is directly related to our mental health. These results illustrate the importance of focusing on awareness skills.²⁴ It can be stated that the history of reproductive health has been an opportunity for the Middle East and North Africa, as well as other countries in the world, since the holding of the International Conference on Population and Development (ICPD) held in Cairo in 1994, to examine the challenges. The plan of the International Conference on Population and Development, adopted by 179 participating countries, provided a conceptual framework for reducing population growth

and improving people's lives. The conference focused on human development, extensive investment in health improvement, education and law, especially for women and girls, in order to provide family planning services in the field of extensive reproductive health care. Consensus was also made publicly available until 2015.²⁵

Conclusion

The results of this study showed that awareness leads to protective and self-care behaviors in individuals, which promotes reproductive health in individuals. As the COVID-19 epidemic continues to spread around the world, we need to plan and prepare ourselves proactively. Providing appropriate clinical management and support to patients while adequately protecting healthcare professionals should be our goal. A multi-disciplinary team approach should be adopted in managing these patients as it allows to effectively share the expertise as well as responsibility, and treat our patients with dignity and compassion. However, there are many challenges to overcome, such as shortage of protective equipment, depleting supply of medicine and blood products (reduced blood donations), infected pregnant women showing up directly to delivery rooms in advanced labor, psycho-logical pressure and panic, just to mention a few. In hospitals, the transmission of the virus and deaths among healthcare professionals are serious concerns. Improving healthcare governance, as well as supporting, educating and training healthcare personnel in infection control and self-protection need to be prioritized. Clinical recommendations for managing COVID-19 infection in pregnancy should be based on data from the current epidemic rather than drawing on limited experience from previous outbreaks of different types of corona viruses, as their epidemiology, clinical course and response to treatment may differ. Guidelines will evolve as more data become available and experience is gathered. Therefore, complete data on all pregnancies affected by COVID-19 should be collected and must be made publicly available. Sharing data, knowledge and expertise, and help-ing countries with poor resources and weaker healthcare systems are important in this respect. Given that in the present study, awareness was one of the effective factors in adopting protective and self-care behavior in individuals, the need for effective planning in compiling educational content based on increased awareness will be related to

promoting protective behavior in promoting reproductive health. Presenting a roadmap and developing a transformation package based on the axes set out in this study is the main solution to the problems raised in the present study. Creating a database of knowledge in this field, the existence of specialized counseling teams for individuals and the establishment of fertility health counseling offices in order to promote reproductive health, will be among the other proposed measures in this field (26-30). As Iran, like many other countries in the world is going through a new era of change, increasing global competition, sudden changes, and the need to increase the health and quality of life of people in societies are becoming more apparent. On the other hand, in order to go through the stages of growth, societies must adapt to different situations and learn new methods so that people can take responsibility for their health with commitment. Improving the environment and creating a positive attitude in people is an important issue that has already been considered in many societies. This issue is more important in developing countries and is one of the important programs of governments. Considering that promoting the sanitation of human resources of societies is one of the tools for transformation and improvement of societies and has attracted the attention of government officials and officials, the present research and the results can be used by respected officials and all the members of societies.

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Conflict of Interest

The authors declare that they have no conflicts interest.

References

- Chan JF, Yuan S, Kok KH, To KK, Chu H, Yang J, et al. A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. *lancet*. 2020;395(10223):514-23. doi:10.1016/S0140-6736(20)30154-9
- Li Q, Guan X, Wu P, Wang X, Zhou L, Tong Y, Ren R, Leung KS, Lau EH, Wong JY, Xing X. Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. *N Engl J Med*. 2020;382:1199-1207. doi:10.1056/NEJMoa2001316
- Rothe C, Schunk M, Sothmann P, Bretzel G, Froeschl G, Wallrauch C, et al. Transmission of 2019-nCoV infection from an asymptomatic contact in Germany. *N Engl J Med*. 2020;382(10):970-1. doi:10.1056/NEJMc2001468
- 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. *lancet*. 2020;395(10223):507-13. doi:10.1016/S0140-6736(20)30211-7
- Wu Z, McGoogan JM. Characteristics of and important lessons from the coronavirus disease 2019 (COVID-19) outbreak in China: summary of a report of 72 314 cases from the Chinese Center for Disease Control and Prevention. *JAMA*. 2020;323(13):1239-42. doi:10.1001/jama.2020.2648
- Phelan AL, Katz R, Gostin LO. The novel coronavirus originating in Wuhan, China: challenges for global health governance. *JAMA*. 2020;323(8):709. doi:10.1001/jama.2020.1097
- Zhang M. Protecting healthcare workers in China during the coronavirus outbreak [internet]. *BMJ*. 2020. Available from: <https://blogs.bmj.com/bmj/2020/02/14/min-zhang-protecting-healthcare-workers-china-coronavirus-outbreak/> [Accessed Feb 28, 2020]
- World Health Organization (WHO). Clinical management of severe acute respiratory infection when Novel coronavirus (2019-nCoV) infection is suspected: Interim Guidance. 2020. <https://apps.who.int/iris/handle/10665/330893> [Accessed Feb 28, 2020]
- Centers for Disease Control and Prevention (CDC). Interim Considerations for Infection Prevention and Control of Coronavirus Disease 2019 (COVID-19) in Inpatient Obstetric Healthcare Settings. <https://www.cdc.gov/coronavirus/2019-nCoV/hcp/infection-control.html> [Accessed Feb 28, 2020]
- Ramezanzadeh F, Shariat M, editors. *Comprehensive General Health Book*. fourth edition. Chapter 11, Reproductive Health, 2009.
- Nourizadeh R, Bakhtariagdam F, Sahebi L. Knowledge, health beliefs and breast cancer screening behaviors of women referring to health centers of Tabriz. *Iran J Breast Dis*. 2010; 3(3):43-51.
- Barron T, Berg C, Bookman L. How to select and use safe janitorial chemicals: Project completion report. Pollution prevention incentives for states. US EPA Region IX, California, County of Santa Clara, 1999.
- Meyer S, Eddleston M, Bailey B, Desel H, Gottschling S, Gortner L. Unintentional household poisoning in children. *Klin Padiater*. 2007;219(5):257-70.
- Filiz TM, Cinar N, Topsever P, Ucar F. Tanning youth: knowledge, behaviors and attitudes toward sun protection of high school students in Sakarya, Turkey. *J Adolesc Health*. 2006;38(4):469-71. doi:10.1016/j.jadohealth.2005.01.016
- Zareban I, Heidarnia AR, Rakhshani F. The effect of health education program on the knowledge and practice sailors towards HIV/AIDS in Chabahar, Zahedan. *J Res Med Sci*. 2006;8(1):29-33.
- Mohammadi Zeidi I, Heydarnia A, Niknami S, Safari Variani A, Varmazyar S. The effects of an educational intervention on knowledge, attitude and ergonomic behaviors. *J Inflamm Dis*. 2010;14(1):33-40.
- Mohammadi Zeidi I, Mohammadi Zeidi B. The effect of stage-matched educational intervention on reduction in musculoskeletal disorders among computer users. *J Babol Univ Med Sci*. 2012;14(1):42-9.
- Baghianimoghaddam MH, Mohammadi S, Mazloomi SS, Norbala MT. The effect of Educational intervention Based on Protection Motivation Theory on Skin Cancer Preventive Behavior in Female High School Students in Yazd. *Ofogh-E-Danesh*. 2011;17(2):27-34.
- Lin P, Simoni JM, Zemon V. The health belief model, sexual behaviors, and HIV risk among Taiwanese immigrants. *AIDS Education & Prevention*. 2005;17(5):469-83. doi:10.1521/aeap.2005.17.5.469
- Jalilian F, Allahverdipour HA, Moeini B, Barati M, Moghimbeigi A, Hatamzadeh N. Relation of self-efficacy and perceived behavior control on gym users' anabolic steroid use related behaviors. *Avicenna J Clin Med*. 2012;19(1):45-52.
- Shakibazadeh E, Rashidian A, Larijani B, Shojaezadeh D, Forouzanfar MH, Karimi Shahanjarini A. Perceived Barriers

- and Self-efficacy: Impact on Self-care Behaviors in Adults with Type 2 Diabetes. *HAYAT*. 2010;15(4):69-78.
22. Sharifirad G, Yarmohammadi P, Sharifabad MA, Rahaei Z. Determination of preventive behaviors for pandemic influenza A/H1N1 based on protection motivation theory among female high school students in Isfahan, Iran. *J Educ Health Promot*. 2014;3:7. doi:10.4103/2277-9531.127556
23. Vahedian Shahroudi M, Pourhajifi F, Ismaili H, Pourhaji F. Investigating the Effectiveness of Protection Motivation, Perceived Self-Efficacy and Perceived Response Costs by Behavior of Breast Self-Examination. 2012;15(40):1-9.
24. Farideh Khalajabadi Farahani (Technical Editorial). Educational guide for healthy lifestyles in adolescents for the use of educators and parents in educating parents with the cooperation of the Central Organization of Parents and Teachers Association, Shahid Beheshti University of Medical Sciences, Office of Adolescents and Schools Health, Ministry of Health and Medical Education Nations of December 2008.
25. International Conference on Population and Development (ICPD), Cairo, Egypt. 1994.
26. Prosser LA, Kong CY, Rusinak D, Waisbren SL. Projected costs, risks, and benefits of expanded newborn screening for MCADD. *Pediatrics*. 2010;125(2):e286-94. doi:10.1542/peds.2009-0605
27. Shirvani Farahabadi Z, Damani E, Damani E, Mohammadi N. Management and evaluation of personal values and attitudes of personnel of health centers to social and environmental accountability in Iranshahr. *J Appl Res Manage Account*. 2018; 2(12):108-14.
28. Aminifard MM, Damani E, KhosrowShiri A, Damani E, Rahimidadkan A, Movahed T, et al. Evaluation of planning, monitoring and monitoring of officials' time and implementation activities in Iranshahr educational, health and medical centers. *Iran J Psychol Behavior Sci*. 2018;2(16):9-13.
29. Ordookhani A, Minniran P, Najafi R, Hedayati M, Azizi F. Congenital hypothyroidism in Iran. *Indian J Pediatr*. 2003;70(8):625-8. doi:10.1007/BF02724251
30. Shojaezadeh D. The models of behaviors- study in health education. Department of communications and health education, First Edition, Spring 2000.