



# Women's Health in Post-COVID Era: A Report from the 11th International Conference on Women's Health

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## 1. Introduction

Women's health is the main foundation of the family and society's health and plays a fundamental role in the growth and development of societies. Although healthy women are the central axis for healthy communities, focusing on the health of communities should not divert attention from the unique health challenges of the women. These challenges need more attention in health programs.

Women's health promotion could only be achieved with research-informed policies, continuous evaluation of the situation, and implementation of programs. In this regard, Health Policy Research Center (HPRC) in Shiraz, Iran, launched the International Conference on Women's Health in 2011 to focus on an interdisciplinary approach to this crucial issue.

Due to the significance of women's health and its role in the health of the family and the entire society, the Islamic World Educational, Scientific, and Cultural Organization (ICESCO), as the leading partner of this conference, recommended the tagline "Healthy Women, Healthy World" and mentioned that based on ICESCO approaches, women's health is a priority in our activities in the future. Islamic World Educational, Scientific, and Cultural Organization has focused on different dimensions of women's health, giving the highest priority to the social health of women. The conceptualization of social health is very complicated. Social health is a significant part of individual health, which forms in society. Although there is a lack of

adequate research on the social health of women, it is recommended that scholars, scientists, and talented experts allocate space for women's social health in their studies and research, especially field-based research and training.

In the previous conferences, many issues important to women's health were discussed, including environmental hazards for women's health, reproductive health, nutrition of women especially during pregnancy, lactation, disasters, and pandemics, communicable and non-communicable diseases in women, work conditions of women, the impact of the millennium and the later-announced sustainable development goals on women's health programs. At this conference, the central theme was women's health after the COVID-19 pandemic. With the relative containment of the COVID-19 pandemic, we can look back at the women's health issues neglected during the pandemic and the new "post-COVID" challenges. At the 11th International Conference on Women's Health (ICWH 2022), lecturers with different expertise shared their experiences and knowledge. During this two-day hybrid conference, held on Nov 30th and Dec 1st, 2022, in Shiraz, Iran, the invited speakers discussed different aspects of women's health. The following topics were discussed at ICWH 2022:

## 2. Maternal Health During the Pandemic

Pregnant women infected with SARS-CoV-2 experience more severe disease and are classified as one of the high-risk groups for severe COVID-19 (1). Meanwhile, the risk of

adverse pregnancy outcomes is higher in pregnant women infected with COVID-19 than in healthy pregnant women. The unpublished results from the national study on the effectiveness of COVID-19 vaccination among pregnant women indicate that mothers vaccinated against COVID-19 had a significantly lower rate of hospitalization (21.2% vs. 29.4%, OR: 0.648, P: 0.0001), ICU admission (3.7% vs. 7.8%, OR: 0.453, P: 0.0001), and need for mechanical ventilation (19.4% vs. 26.2%, OR: 0.677, P: 0.063) compared to those not vaccinated. The benefits of vaccinating pregnant women or those with expected pregnancy far outweigh its possible risks (2-4).

### 3. Maternal Health New Approaches

Life expectancy has decreased during the pandemic in many countries (5). These changes were not prominent in Iran and many Islamic countries considering the younger age of their population and concentrated mortality among the elderly. However, there is accumulating evidence that during the first two years of the pandemic, maternal mortality increased in our region. Part of this was due to decreased care during pregnancy due to fear of COVID-19. Another factor might be the reduced capacity of hospitals to provide intensive care to needy pregnant mothers due to a large number of admitted COVID-19 patients. New approaches need to be implemented to address new problems such as COVID-19. Even during pandemics, there is a need to establish a secure pathway for maternal care. The expansion of telehealth could be part of these new programs. The Ministry of Health of Iran has started such a program. The initial results were promising in the early detection and reduction of pregnancy complications such as preeclampsia, especially in remote areas.

### 4. Sustainable Development Goals and Maternal Health

The COVID-19 critical situation forced almost all health systems to change their policies and programs to control the pandemic. Maternal and child health were neglected during the pandemic in many regions, and there is an urgent need to refocus the efforts. Therefore, with the mitigation of the crisis, now is the time to recall the previously defined goals so that we will not stop pursuing them.

### 5. Mental and Physical Health During the Pandemic

All mental illnesses increased during the pandemic, including depression, anxiety, and post-traumatic stress disorders (6-9). This increase was prominent in women.

Depressive symptoms were directly associated with a perceived threat of COVID-19 by women. In a study on underserved African-American and Latino women residing in South Los Angeles, California, during the pandemic, it was found that symptoms of depression were reported in one out of three caregivers of young adults with mental illness. Almost 30% of caregivers indicated that their most tremendous stress was related to financial difficulties imposed by the COVID-19 pandemic. During the second phase of the COVID-19 pandemic, almost one out of three African-American older women indicated that they delayed at least one type of medical care due to the COVID-19 pandemic.

The health system should have programs and policies for improving the prevention and treatment of women's psychiatric/psychological disorders and reducing suicide rate, mental health rehabilitation promoting the mental health of women and families with the emphasis on life, marital, and parental skills, psychosocial support for women in disasters and critical/violent situations such as spousal abuse, child/elder abuse, or attempting suicide, Patients suffering from chronic diseases and cancers need particular attention. Guidelines to form an executive committee to start implementation were presented in this congress. Screening for mental health disorders and referral when needed should be integrated into the primary health package. At the community level, governments should expand social programs and a supportive environment for mental health promotion.

### 6. Burnout Experience Among Female Nurses During COVID-19 Pandemic; the Need for Policy Action

The mental health of healthcare providers, especially women, further deteriorated. A study done by HPRC showed that the prevalence of burnout in healthcare providers increased to 64% in nurses, 60% in medical students, and 47% in general physicians and specialists. Those directly involved in the care of COVID-19 patients and those who suffered from COVID-19 had a higher burnout rate. The health authorities should recognize this problem and have support programs for those affected.

### 7. Intimate Partner Violence Against Women

In the era of social isolation, a change in interpersonal relationships is expected. The loss of social support and pastimes due to lockdowns, economic instability, fear of disease, and mental health problems can contribute to a change in the rate of intimate partner violence against women. Two surveys at HPRC showed that during the first two years of the pandemic, domestic violence against

women increased from 10% to 37% (10, 11). About 25% of victims experienced violence for the first time (10). Significant drivers were economic and social (10). This issue has been insufficiently acknowledged in the Iranian community, and it needs to be prioritized with programs focused on capacity building of the families and legal support for victims.

Empowering women and girls can increase the health and well-being of the whole family and society. Girls and young women should benefit from educational services in schools and universities. Promoting gender equality and female rights awareness among boys and girls in different educational stages can reshape their attitudes toward intimate partner relationships. Distance education programs or hotlines should be promoted to compensate for the reduced access of women and girls during the pandemic or in the case of controlling partners. Educational processes must address the unique needs of girls and young women for safety, health, and well-being.

## 8. Long COVID Syndrome

The novel coronavirus can affect multiple organs, primarily the respiratory system. When signs and symptoms persist in patients beyond three months for at least two months, the condition is called long COVID (12). Up to 63% of long COVID patients are women (13). Persistent dyspnea, exercise intolerance, chest pain, and chronic cough are frequent respiratory symptoms, which contribute to impairment in function and long sick leaves in the affected. Except for exercise intolerance and shortness of breath, which virtually occurs equally in both genders, women are found to suffer all other symptoms more, including fatigue, brain fog, poor memory, headache, loss of smell, dizziness, and sleep and mood disorders (13).

The research conducted by HPRC showed that at least 60% of those who had confirmed COVID-19 infection suffered from long COVID syndrome in a one-year follow-up. The rate was 25% higher in women. Some of their complaints were related to mental health and persistent physical complaints, including pulmonary and cardiac diseases, new-onset diabetes, and chronic fatigue syndrome. Treatment with ineffective or minimally effective medications imposed further problems. Overuse of imaging techniques, especially chest CT scans, contrary to scientific recommendations, is believed to be associated with long-term risk of malignancy, especially lung and breast cancer. This new phase of the pandemic needs special programs to avoid long-term consequences of disability and even death. There is a need for active follow-up of all those hospitalized with severe COVID-19 and screening them for

mental and physical diseases. This mission should be integrated into the primary health care package urgently.

## 9. Nutritional Challenges During the Pandemic and Aftermath

The COVID-19 pandemic has increased both obesity and malnutrition and had a detrimental effect on food security (14). Recent research has shown that the post-COVID-19 era is accompanied by malnutrition, loss of fat-free mass, or weight gain. Nutrients like high-quality proteins,  $\beta$ -hydroxy-methyl butyrate, creatine, or leucine may benefit patients with post-COVID-19 syndrome by restoring muscle mass. Difficulties with the following behaviors were found to be predictive of weight gain during this period:

- (1) Selecting healthy or low-calorie food options;
- (2) eating when bored;
- (3) restricting types of food at home;
- (4) engaging in regular physical activity;
- (5) avoiding sedentary behavior;
- (6) keeping track of one's calorie or food intake

The Dietary Approaches to Stop Hypertension (DASH) diet and the Mediterranean Diet were suggested to manage obesity in the post-COVID era.

Food security needs continuous evaluation, cultural promotion, increasing literacy regarding diet, controlling nutritional risk factors, and designing and implementing appropriate interventions. Overall, the mentioned issues should be approached at regional and national levels with a focus on the most vulnerable groups, among whom women are significant, especially pregnant and elderly ones.

## 10. Health Systems and Women's Health

Like in most countries, this pandemic affected people's access to healthcare services in Iran. In Iran, the Primary Health Care (PHC) system was a valuable tool for providing health services to women. However, there are still technical and operational challenges in responding to the health needs of women. As evidence implies, women's primary healthcare and preventive service visits declined during the pandemic. Particularly during the first months of the COVID-19 pandemic, utilization of cancer screening services decreased, including breast and cervical cancer screening. There was a delay in urgent care. There is an urgent need to empower the health system so that the usual care is not disrupted as much as possible in any other event. Telemedicine and telehealth could be a solution, although their implementation needs infrastructures and

empowerment of health care providers and the communities (15). A disaster management plan in PHC is of utmost importance to avoid interruption in health care services for both men and women. In a nutshell, given the vulnerability and susceptibility of women, special attention should be paid to their needs while designing and re-evaluating health systems.

## 11. Conclusions

Although the COVID-19 pandemic seems to decline, its long-term consequences will be with us for years and may grow at individual and organizational levels. Access to adequate health services and equal opportunities for health care regardless of gender are women's fundamental rights. Policymakers and senior health system managers should put women and girls at the center of reforms and pay attention to their needs and expectations. Women should have access to sexual and reproductive health services during pandemics.

Empowering women and girls can increase the health and well-being of the whole family and society. This needs a long-term plan by the health system. The health system should also motivate other sectors to promote health after this pandemic and guide what other sectors should do for this goal.

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## References

1. Grunebaum A, Dudenhausen J, Chervenak FA. Covid and pregnancy in the United States - an update as of August 2022. *J Perinat Med.* 2023;**51**(1):34-8. [PubMed ID: 36117400]. <https://doi.org/10.1515/jpm-2022-0361>.
2. Halasa NB, Olson SM, Staat MA, Newhams MM, Price AM, Pan-naraj PS, et al. Maternal Vaccination and Risk of Hospitalization for Covid-19 among Infants. *N Engl J Med.* 2022;**387**(2):109-19. [PubMed ID: 35731908]. [PubMed Central ID: PMC9342588]. <https://doi.org/10.1056/NEJMoa2204399>.
3. Rasmussen SA, Jamieson DJ. Covid-19 Vaccination during Pregnancy - Two for the Price of One. *N Engl J Med.* 2022;**387**(2):178-9. [PubMed ID: 35731898]. [PubMed Central ID: PMC9258746]. <https://doi.org/10.1056/NEJMe2206730>.
4. Lagosi T, Gkentzi D, Geropeppa M, Tsagkli P, Spoulou V. Protecting the Offspring, the Gift of Maternal Immunization: Current Status and Future Perspectives. *Vaccines (Basel).* 2022;**10**(11). [PubMed ID: 36423047]. [PubMed Central ID: PMC9692240]. <https://doi.org/10.3390/vaccines10111953>.
5. Scholey J, Aburto JM, Kashnitsky I, Kniffka MS, Zhang L, Jaadla H, et al. Life expectancy changes since COVID-19. *Nat Hum Behav.* 2022;**6**(12):1649-59. [PubMed ID: 36253520]. [PubMed Central ID: PMC9755047]. <https://doi.org/10.1038/s41562-022-01450-3>.
6. Mowla A, Ardekani A, Feili A, Rahimian Z. Effects of COVID-19 pandemic and lockdown on mental health of Iranian people. *Przegl Epidemiol.* 2021;**75**(4):484-9. [PubMed ID: 35543421]. <https://doi.org/10.32394/pe.75.44>.
7. Hessami K, Romanelli C, Chiurazzi M, Cozzolino M. COVID-19 pandemic and maternal mental health: a systematic review and meta-analysis. *J Matern Fetal Neonatal Med.* 2022;**35**(20):4014-21. [PubMed ID: 33135523]. <https://doi.org/10.1080/14767058.2020.1843155>.
8. Bottemanne H, Vahdat B, Jouault C, Tibi R, Joly L. Becoming a Mother During COVID-19 Pandemic: How to Protect Maternal Mental Health Against Stress Factors. *Front Psychiatry.* 2021;**12**:764207. [PubMed ID: 35368728]. [PubMed Central ID: PMC8964966]. <https://doi.org/10.3389/fpsy.2021.764207>.
9. Wall S, Dempsey M. The effect of COVID-19 lockdowns on women's perinatal mental health: a systematic review. *Women Birth.* 2023;**36**(1):47-55. [PubMed ID: 35798661]. [PubMed Central ID: PMC9212959]. <https://doi.org/10.1016/j.wombi.2022.06.005>.
10. Fereidooni R, Mootz J, Sabaei R, Khoshnood K, Heydari ST, Moradian MJ, et al. The COVID-19 Pandemic, Socioeconomic Effects, and Intimate Partner Violence Against Women: A Population-Based Cohort Study in Iran. *Am J Public Health.* 2023;**113**(2). [PubMed ID: 36302221]. <https://doi.org/10.2105/ajph.2022.306839>.
11. Bagheri Lankarani K, Hemyari C, Honarvar B, Khaksar E, Shaygani F, Rahmanian Haghighi MR, et al. Domestic violence and associated factors during COVID-19 epidemic: an online population-based study in Iran. *BMC Public Health.* 2022;**22**(1):774. [PubMed ID: 35428293]. [PubMed Central ID: PMC9012434]. <https://doi.org/10.1186/s12889-022-12536-y>.
12. Hoffer EP. Long COVID: Does It Exist? What Is It? We Can We Do For Sufferers? *Am J Med.* 2021;**134**(11):1310-1. [PubMed ID: 34237305]. [PubMed Central ID: PMC8257397]. <https://doi.org/10.1016/j.amjmed.2021.05.023>.
13. Perlis RH, Santillana M, Ognyanova K, Safarpour A, Lunz Trujillo K, Simonson MD, et al. Prevalence and Correlates of Long COVID Symptoms Among US Adults. *JAMA Netw Open.* 2022;**5**(10). e2238804. [PubMed ID: 36301542]. [PubMed Central ID: PMC9614581]. <https://doi.org/10.1001/jamanetworkopen.2022.38804>.
14. Fedele D, De Francesco A, Riso S, Collo A. Obesity, malnutrition, and trace element deficiency in the coronavirus disease (COVID-19) pandemic: An overview. *Nutrition.* 2021;**81**:111016. [PubMed ID: 33059127]. [PubMed Central ID: PMC7832575]. <https://doi.org/10.1016/j.nut.2020.111016>.
15. De Simone S, Franco M, Servillo G, Vargas M. Implementations and strategies of telehealth during COVID-19 outbreak: a systematic review. *BMC Health Serv Res.* 2022;**22**(1):833. [PubMed ID: 35764980]. [PubMed Central ID: PMC9238134]. <https://doi.org/10.1186/s12913-022-08235-4>.