




Impact of Climate Change, Environmental Toxins and Pollution on the AFOG region: What can OBGYNs do?

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Abstract

Climate change is occurring rapidly, and this crisis should now be recognized as a “global emergency”. It is one of the major global health threats brought about by global warming, resulting from human activity due in large part to increasing levels of greenhouse gases. The ongoing climate crisis poses significant risks to women, pregnant mothers, unborn fetuses and offspring, who were exposed in-utero to climate stressors, especially those in marginalized communities where effects are magnified. A focus on education, research, and advocacy in responding to changing health consequences and global awareness are key to educating our professional healthcare providers, patients, the lay public, key personnel in the government and other leaders, and by making the changes necessary to address this crisis. Building on the pillars that FIGO has identified (advocacy, research interpretation, capacity building, and education), and following the footsteps of the FIGO Committee on “Climate Change and Toxic Environmental Exposures”, the baby steps yet focussed efforts taken by AFOG through its recently formed “Climate Change & Pollution Working Group” will be highlighted in this review article. After all, investing in the health of women is investing in the health of current and future generations, and we, as healthcare providers along with health professional organizations should be in the forefront of environmental health advocacy to save the present generation and future generations through engagement as public opinion leaders.

Keywords Climate change · Environment · Advocacy · Education · Women’s health · AFOG

Introduction

Climate Change is a reality and occurring at a rapid pace. A recent assessment by the United Nations Intergovernmental Panel on Climate Change (IPCC) states that climate change is happening faster than expected and that the window to act is quickly closing [1].

The COVID-19 pandemic has forced the global community to face its universal vulnerabilities to the forces of nature. The experience of this dreadful pandemic has contributed to an outpouring of opinion that the next global disaster is not rooted in nature, but rather is the result of

human activity changing the climate of the earth, a conclusion supported by abundant and credible scientific data [2].

Climate change now appears to be the ‘next pandemic’ indeed, with increasing global temperatures and frequency and intensity of extreme weather events, changes in precipitation patterns and rising sea levels and huge impacts on human disease and mental health. These events are predicted to have devastating effects on global food and water supplies and quality, economic sustainability, forced population migrations and civil conflict and thus physical and mental health-related illnesses [3].

More importantly, climate change poses the most significant threat to women’s health and is expected to disproportionately affect women, unborn children and children, making them vulnerable to numerous adverse health effects. Its sequelae may lead to a worldwide public health disaster whose impact will be widespread.

We are aware that heat and air pollution exposure can result in congenital health issues. From physiological problems to anatomical defects, alterations in the environment such as ambient temperature and particulate matter play a

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significant role in this process [4, 5]. Similarly, air pollution exposure has been linked to cardiac complications, alterations in the epigenetics and other pregnancy problems [6].

As women's healthcare providers in the Asia & Oceania region, it is our responsibility to protect the health of our patients and assist them through political advocacy, providing family planning services, focusing on nutrition with special emphasis on lifestyle counselling. If we strive to adopt definitive strategies to both empower our patients and educate ourselves, we will have the opportunity to mitigate the potentially devastating effects of climate change on women. In addition, the International Federation of Gynecology & Obstetrics (FIGO) joins a broad coalition of international researchers and the medical community in stating that the current climate crisis presents an imminent health risk to pregnant women, developing foetuses and reproductive health, and recognizing that we need society-wide solutions, government policies and global cooperation to address and reduce contributors, including fossil fuel production, to climate change [7].

What can we OBGYNs in the AOFOG Region do?

Following the footsteps of FIGO and its vibrant Committee on Climate Change and Toxic Environmental Exposures (C2TE2) [8], the Asia & Oceania Federation of Obstetrics & Gynaecology (AOFOG) during the Council Meeting during the AOFOG 2022 Congress in Bali, Indonesia, established the Climate Change & Pollution Working Group (CCPWG) in May 2022 which was ratified in the Executive Board Meeting in July 2022.

Climate Change & Pollution Working Group (CCPWG) of AOFOG

The main objectives and focus of the CCPWG of AOFOG are to promote awareness and improve knowledge in the field of 'Climate Change, Pollution and Environmental Toxins' in the AOFOG region by means of conducting webinars, lectures, workshops, publications or any other activities and to formulate workable strategies to address the problems.

The CCPWG for 2022–2024 comprises of the following:
Advisor: Dr Ravi Chandran (Malaysia).

Chair: Professor Krishnendu Gupta (India).

Members: Professor Ditas Cristina D Decena (Philippines) [7], Professor Seiichi Morokuma (Japan) [9, 10].

The activities of the CCPWG from inception till date have been both physical and on-line meetings, with the common theme "Climate Change, Environmental Toxins and Reproductive Health". The first physical meeting after the COVID pandemic was the "FOGSI—AOFOG Session" during the 65th All India Congress of Obstetrics

& Gynaecology (AICOG) 2023 in Kolkata, West Bengal, India, in January 2023. This was followed up with the "AOFOG Session" during the 75th Annual Congress of The Japan Society of Obstetrics & Gynaecology (JSOG) in Tokyo, Japan, in May 2023. Subsequently, yet another "AOFOG Session" on the same theme was conducted during the 109th Annual Congress of Korean Society of Obstetrics and Gynaecology (KSOG) & 28th Seoul International Symposium in Seoul, South Korea, in November 2023. A similar session on Climate Change will be held at the 66th AICOG 2024 in Hyderabad, Telangana, India, in January 2024, followed by "AOFOG—FIGO Session" during the 32nd International Conference of the Obstetrical & Gynaecological Society of Bangladesh (OGSB) in Cox's Bazar, Bangladesh, in February 2024. A joint WebCME of the FIGO C2ET2 Committee and AOFOG CCPWG, with stalwarts focussed in the field of climate change, is planned in the first quarter of 2024, with a similar themed "AOFOG Session" planned during the 63rd Annual Congress of Taiwan Association of Obstetrics & Gynecology (TAOG) in Taipei City, Taiwan (ROC), in March 2024. A dedicated "FIGO Session" on the "Role of Obstetrician-Gynaecologist in Environmental Protection", along with a focussed symposium on the "Hazards of Environmental Toxins" have also been confirmed during the AOFOG 2024 Congress in Busan, South Korea, in May 2024.

It is noteworthy to place on record the tremendous work being done in the area of climate change by many National Societies within AOFOG, with a special mention of the Philippine Obstetrical and Gynaecological Society (POGS) to educate, empower and engage their members to bring about awareness about the effects of climate change and environmental toxins, both among themselves and in the community at large. POGS has come full circle from learning, research and capacity building to advocacy. It is with this experience that CCPWG will partner with POGS in the future to prepare "learning modules" for the members of AOFOG through on-line and physical meetings. The CCPWG will continue its efforts to involve more National Societies in the AOFOG region to focus on the ill effects of climate change and ensure advocacy to its members.

What can we as Citizens do?

As citizens of the world, we can do our bit for "mother earth" by following a few simple measures:

1. Water conservation and rejuvenation of waterbodies
 - Creating awareness among us and our surroundings.
 - Rejuvenating waterbodies that have silted over time is excavated, creating new lakes/reservoirs. It is used as an organic

manure for better crops and is taken away by farmers, thereby eliminating expense for disposal of the excavated silt.

- Rejuvenated water bodies recharge depleted aquifers, during monsoon season. The water is used for better irrigation and multiple crops, as well as for starting Pisciculture, etc.

2. Check-dams

- Check-dams accumulate rain water in seasonal rivers in arid areas and utilized during the remaining seasons.
- The advantages of check-dams are:

- Recharge aquifers.
- Water available for a greater period for irrigation leading to multiple crops.
- Water table rises, helps to get water in household borewells.
- Better vegetation, leading to better output by cattle.

3. Mangroves ecosystem conservation

- Mangrove is a shrub or tree that grows in coastal saline or brackish water (halophytes), occurs worldwide in the tropics and subtropics and even some temperate coastal areas, *e.g.* Sundarbans, West Bengal, India.
- Mangrove restoration is critical as it sustains coastal and marine ecosystems, protecting coastal embankment and nearby areas from tsunamis and cyclones, very effective at carbon sequestration, and they help mitigate climate change.
- Plantation of various mangroves species: 26/50 broad types found in the Sundarbans (dominant mangrove species *Heritiera fomes* is locally known as *sundri* or *sundari*).
- Creating awareness to the villagers regarding the tremendous benefits of mangroves; reducing deforestation by promoting traditional alternate livelihood like apiaries (honey cultivation), crab fattening, creating alternate sources for firewood.

4. Renewable energy/solar projects

- Driving awareness in society related to climate change and energy conservation by usage of renewable energy resources.
- Encouraging solar energy projects for providing much needed electricity in deprived communities particularly

in remote hilly and rural areas, in schools which poor access to electricity, etc.

5. Solid waste management

- Segregation of waste at source.
- Setting up system and distribution of bins.
- Community composting.
- Say “NO to Plastic”!!
- Recycling of plastic / polyethylene terephthalate (PET) bottles, etc.

6. Celebrate “World Environment Day” on 05 June every year.

7. Co-advocate with reputed local NGOs, namely, Rotary International (RI), Save the Environment (STE) and other focused organisations to spread awareness on the current alarming situation.

What are we OBGYNs Doing?

An area of interest where OBGYNs can do amazing work and still help in protecting the environment is in the field of “menstrual health and hygiene (MHH) management” by:

- Raising awareness for creating a culture of healthy MHH practices.
- Conducting large-scale MHH programs for rural underprivileged women, through distribution of free “reusable” sanitary pads.

It is in this space and keeping co-advocacy in mind that a “Memorandum of Understanding (MOU)” between The Bengal Obstetric & Gynaecological Society (BOGS), a founder society of The Federation of Obstetric & Gynaecological Societies of India (FOGSI) and multiple Rotary Clubs of Rotary International District 3141 (Mumbai), 3291 (Kolkata), 3310 (Singapore), 1320 (Scotland) and 6890 (Florida) for MHH management in Sundarbans, West Bengal, was signed on 03 August 2023 in Kolkata, West Bengal, India. The MOU has four verticals:

1. Supplying “reusable sanitary pads” for about 20,000 women and girls in various coastline villages of Sunderbans, West Bengal, India;
2. Training and awareness of Accredited Social Health Activist (ASHA) workers, medical and para-medical healthcare workers regarding various gynaecological and obstetric problems prevalent in this target population and management thereof;

3. Medical camps and awareness of general population; and
4. Providing gynaecological solutions to needy patients—medical and surgical.

The pilot project will be worth US Dollars 93,267 (equivalent to approximately INR 77.50 Lacs), the entire cost of which is being organised through a Global Grant (GG) of Rotary International (GG# 2345755). The project is scheduled to commence from April 2024 and is expected to be completed by June 2025. An added advantage of the project: it also addresses “Sustainable Development Goal (SDG)—3”: “Ensure healthy lives and promote well-being for all at all ages”.

Summary

It is very important to acknowledge that “climate solutions ARE health solutions”. Knowing that the healthcare industry is responsible for 5% of global emissions and 8.5% of US emissions, we must encourage our respective healthcare institutions to implement ‘green policies’ [11]. The cycle of what we do here impacts climate change, which impacts our environment, which then impacts our patients. The only plausible answer is to scale up solution oriented interventional strategies through reproductive and environmental health: early warning and preparedness (monitoring risks), prevention or reduction of disease, illness and injury (primary prevention), community engagement (cross-sectoral action), education and awareness raising (capacity building), adoption of strategies and integration, in addition to a very important variable, “political will” [12]. In addition, we must leverage emerging technologies to provide telehealth, asynchronous care and care where the patient lives and works. This will reduce inequities and improves access to care while reducing emissions, and, as much as possible, become a personal example of the change we seek to implement to garner support. The *power of one* can transform into the *power of many*!!

Health is *more* than doctors, midwives and nurses caring for patients—it is the society working collectively to promote the health of all individuals. As women’s health providers, we can promote health solutions that have synergy with climate solutions. The climate crisis is tilting the risk balance unfavourably for women’s sexual and reproductive health and rights as well as newborn and child health. Obstetricians & Gynecologists have the unique opportunity to raise awareness, educate and advocate for mitigation strategies to reverse climate change affecting our patients and their families. It is vital for us to remember that:

- Each clinician can address health holistically with her/his patient.

- Each clinician—patient interaction becomes an opportunity: each patient becomes an agent of change.
- Each clinician—clinician interaction becomes an opportunity: each clinician becomes an agent of change.

Conclusion

A focus on education, research, and advocacy in responding to changing health consequences and global awareness are key to educating our professional healthcare providers, patients, the lay public, and ministers of health and other leaders, and making the changes necessary to address the climate crisis, which in reality, is now a “global emergency” [7]. The ancient Chinese philosopher, *Lao Tzu*, once said, “A journey of a thousand miles must begin with a single step”. It is this wonderful step that the Office Bearers of AOFOG decided upon to form the CCPWG, and it is now time, that we, OBGYNs of the AOFOG region, through our numerous National Societies, take this momentum forward, many times over, be the voice of our women that we care for, and spread awareness among our members and our communities about the perils of climate change and the environmental toxins around us, their negative impact on our health, and in addition, strongly advocate to take immediate remedial measures to protect our environment at all costs, to ensure and a better and brighter future for our next generation. After all, “environmental health and human health are one in the same”.

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Declarations

Conflict of interest The author has no conflict of interest.

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