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Editorial

The role of women as past and present advocates for vaccinations: Relevance in the COVID-19 setting



The COVID-19 pandemic has a global mortality of >965,000 deaths to date. Safe distancing, social isolation, and proper hygiene can reduce transmission, but a globally available vaccine could potentially eradicate the virus and significantly reduce mortality. The uptake of a vaccination is dependent on the attitude of the population, which is hindered by a growing number in the community who are hesitant or refusing to be vaccinated, claiming that immunization is responsible for autism, miscarriages, and autoimmune diseases (Geoghegan et al., 2020). Influential celebrities and sportspeople using social media to propel their unfounded views can negatively affect the safety of the community. It is the role of all health care professionals to advocate for the use of vaccines to prevent diseases. Women in medicine are in a prime position to advocate for vaccinations and counter the antivaccination sentiment. Women as individuals, family members, part of a social group, or influential leaders can affect vaccination uptake, with health care providers (HCPs) being the most influential in vaccination decisions (Paterson et al., 2016).

Women have historically played a crucial role in the research and development of vaccinations. Lady Mary Wortley Montagu (1689–1762) inoculated her child against smallpox after seeing Turkish doctors perform the procedure, and she introduced smallpox inoculation to Western medicine despite criticism and resistance. She advocated for the poor to have the same treatment as the wealthy and fought against medical and religious traditions (Stone and Stone, 2002; Strohl, 1964). Drs Pearl Kendrick (1890–1980) and Grace Eldering (1900–1988) pioneered research in whooping cough, which resulted in the first pertussis vaccine (Shapiro-Shapin, 2010). Dr Margaret Pittman (1901–1995) was also involved in pertussis research and discovered the polysaccharide capsule of *Haemophilus influenzae* strains, which eventuated in vaccines against meningitis and pneumonia (Kroll and Booy, 1996).

Isabel Morgan (1911–1996) investigated live attenuated versus inactivated microbes, which were used in the development of polio vaccines. Morgan discovered three serotypes of the poliovirus, resulting in a more effective vaccine (Morgan, 1949). Dorothy Horstmann (1911–2001) researched different routes of transmission of polio, showing that the poliovirus was present in fecal samples for weeks (Carleton, 2011) and establishing the fecal-oral route of transmission. Dr Anne Szarewski (1959–2013) was instrumental in the research and testing of the human papillomavirus vaccine to prevent cervical cancer and genital warts (Szarewski,

2005). Dr Ruth Bishop (1933–) discovered the rotavirus in Australia, which resulted in the oral vaccine to prevent diarrhea-induced mortality among children worldwide (Bishop, 2009).

Women are generally exposed to more vaccinations than men, with antepartum and postpartum vaccines and human papillomavirus vaccines to prevent cervical cancer. They are also more involved with the health and vaccination status of their children. HCPs who are vaccinated are more likely to recommend vaccinations to others (Paterson et al., 2016).

Biological and immunological differences make women less susceptible to COVID-19 (Salvati et al., 2020; Murrell and Murase, 2020). Behavioral differences also exist: Compliance with basic hygiene practices is higher in women (Guzek et al., 2020), who also demonstrated more knowledge than men. Women tend to be more aware of their own health needs, as well as those of their families.

In the days of chivalry, women and children were prioritized first, but in the race to be vaccinated, those at the highest risk should come first: Health care workers at the frontline, the elderly, teachers, the immunosuppressed, those with comorbidities, military personnel, healthy adults and children, and perhaps last of all should be those who have loudly campaigned against vaccination.

Women in medicine have a privileged role as HCPs to pioneer vaccines and scientific research, advocate for the health of the community and their families, teach and mentor others in social groups about the relevance of vaccinations and herd immunity, and encourage patients to be vaccinated.

Conflict of Interest

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Study Approval

The author(s) confirm that any aspect of the work covered in this manuscript that has involved human patients has been conducted with the ethical approval of all relevant bodies.

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