

The Battles of Women's Healthcare in a Man's World

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For decades, women have been fighting an unseen battle with healthcare representatives for fair and safe treatment. Often, when women go into a doctor's office, describe their symptoms, and express their pain and discomfort, they are given medical advice that is based on someone else's body. Someone who does not share their biology, hormones, body parts, or physiology. Someone of another sex. For years, the male body has been treated as the default, or as the norm, while women have been categorized as special or abnormal. Despite making up half the population, women have historically been sidelined in medical research with studies predominantly focusing on men. As a result, medications do not work as well for women as they do for men, diseases go undiagnosed, and the unique needs of the female body are often ignored. Throughout this paper, I will dive deeper into the consequences of the sex-related stigma present in biomedical research, and the consequences women may face because of it.

To begin, there is ample evidence showing that men, women, and intersex individuals differ significantly from each other biologically. They differ physiologically, metabolically, and hormonally. This can affect many things, including the way many diseases present themselves. For example, when a man is about to have a heart attack, often they will describe the feeling of an elephant sitting on their chest. Women, on the other hand, often describe having back pressure and jaw pain, which are not commonly known symptoms by medical professionals or patients. Therefore, women are more likely to suffer a heart attack because they don't experience the stereotypical symptoms that men do. They are also less likely to receive the correct treatment in a timely manner because medical professionals are not educated on the variability of heart attack symptoms based on sex differences (Sachdev, 2023).

These physiological differences can also influence pharmaceutical drug effectiveness. Women generally have greater sensitivity to many drugs, specifically antipsychotics and sedatives. This is because women typically have a slower metabolic rate than men and more frequently fluctuating hormones. Due to this, women are 50 to 75% more likely than men to experience an unfavorable reaction to drugs (Whitley, 2009). Women also typically have smaller kidneys than men, which slows the excretion rate of drugs. However, because many early research studies were conducted primarily on men, drugs are often overprescribed to women. This happened in the case of Zolpidem (Ambien), where the recommended dose was based on male bodies, and impaired female patients' alertness putting them at risk for a multitude of accidents (ABC, 2013). This opened many medical professionals' eyes to the overprescription problem facing many female patients in the United States and convinced them to call for a reform in prescription protocols.

Now, you're probably wondering, just how underrepresented women are in the field of research. How did these problems go unnoticed for so long? In a recent study conducted by Harvard graduates, it was found that across 1,433 trials including over 300,000 participants, on average, about 41% of them were female. This is compared to the 50% of the world that is made up of women. Women were predominantly underrepresented in clinical trials for cardiovascular disease, psychiatry, and cancer, leading biological causes of death for women worldwide (Sosinsky et al., 2022).

However, the lack of women in research doesn't just stop with human clinical trials. Sex-based discrimination can be traced all the way back to the rodent testing stages. Many medical researchers avoid conducting studies on female mice due to costs associated with purchasing and housing both sexes. There is also significant worry that the fluctuating hormones and reproductive systems of female mice might confound the study results (Beery, 2018). The use of predominantly male

animal research subjects was found to be significantly bias in 8 of the 10 biological fields surveyed by the NIH. In surgical literature specifically, 80% of studies that specified sex used only male subjects (Beery 2018).

The myth that female rodent estrous cycles could confound results has been discredited, however. It was found that for most traits, females are no more variable than males (Beery, 2018). If they were, isn't this an important factor to note in a research setting? This, once again, begs the question: why are women still so underrepresented in research?

This question can be answered by tracing back to 1977 after the Thalidomide tragedy. In the early 1960s, doctors began prescribing Thalidomide to treat morning sickness and nausea in pregnant women. After the babies were born, they suffered severe impairments ranging from sight and hearing loss to deformities and facial paralysis. In response to this crisis, the FDA created a policy to exclude women of reproductive potential from phase 1 and phase 2 clinical trials unless they had a life-threatening condition. This excluded nearly all premenopausal women from research including those who were on birth control, had sterile partners, or simply weren't having sex. This ruling was not reversed until 16 years later, meaning that almost all medical advancements during this time were tested exclusively on men.

Not all hope is lost, however, for women's representation in biomedical research. Since the FDA's reversal decision in 1993, efforts have been made by many institutions to include women equally to men in their research. More research has been done on female-specific fields, such as menopause, breast cancer, female mental health, hormone regulation and safe methods of contraception. While these are steps in the right direction, there is still a long way to go for completely equal representation of women in a research setting. Thankfully, it's a challenge many researchers are willing to take on. You can fight for stronger representation of women in biomedical research by supporting institutions that value whole-women care, increasing the visibility of unseen or ignored women's health issues, or encouraging more women to apply for research grants for topics that affect them directly.

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