

# Specific Needs for Healthcare on Gender Basis in Infectious Diseases and Cancers

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## Abstract:

Males and females required different types of health care, though some are common. These needs are age and diseases based too. From maturity to adulthood and then at menopausal phase females endocrine functions are entirely different than that of males. For example a gynaecologist nothing to do with male but a cardiologist has to differentiate cardiac disorders in males and females. Lately it is recognised that microbiota has an important role to play in human physiology and pathology from birth to death. It is also due to different hormonal milieu in males and females. Globally it was surveyed and established that gender bias and inequalities exist in healthcare.

**Key words:** importance of gender based health care; health issues; inequalities in health care; hormones

## Introduction

Men and women are different. Females have ovaries and produce eggs, whereas males have testes and produce sperm though most of the reproductive organs of both sexes develop from similar embryonic tissue; All this is due to their genetic makeup (xx) in female and (xy) in male, and endocrinological differences. Because of all these their health issues are also different.

### Gender Differences in the Susceptibility to Diseases

A susceptibility to a disease is associated with an increased, or in some cases, decreased chance of developing depends genetic makeup, environment, age, life style and gender (1). Growing evidence shows gender-specific differences in the incidence and mortality associated with various cancers. Prostate, lung, and colorectal cancer occur most in males, while breast, lung, and colorectal cancer are predominant in females (2).

The gender difference in cancer susceptibility is one of the most consistent findings in cancer epidemiology. Similar gender differences in non-malignant diseases including autoimmunity, are attributed to hormonal or behavioral differences. Even in early childhood, however, where these differences would not apply, there are differences in cancer incidence between males and females. (3) In childhood, few cancers are more common in females, but overall, males have higher susceptibility. The pattern that autoimmune disorders are more common in females, but cancer and infections in males suggests that the known differences in immunity may be responsible for this dichotomy.

### Gender Differences in Childhood Cancers

In childhood cancer, sex differential in the incidence is well established worldwide (4). The M:F ratio for all incident cancers is around 1.2.

Exceptions to the male excess in childhood cancer include infant leukemia, thyroid carcinoma, malignant melanoma, and alveolar soft part sarcoma (5).

Autoimmune diseases are characterized by an exaggerated immune response leading to damage and dysfunction of specific or multiple organs and tissues for most autoimmune diseases there is a clear sex difference in prevalence, whereby females are generally more frequently affected than males. Most autoimmune diseases are more prevalent in women than in men. Though, genetic, epigenetic and environmental factors may also contribute to sex-related differences, sex hormones have a crucial role in gender differences (6). Sex specific differences in immune response and organ vulnerability reproductive capacity including pregnancy, sex hormones, genetic predisposition, parental inheritance, and epigenetics are reported. Evidence demonstrates that gender has a significant influence on the development of autoimmune disease (7)

Osteoporosis is a growing health concern worldwide and its complications are as prevalent as other common chronic disease complications. Osteoporosis is less common in men than it is in women. This is due to several factors including: men generally have a larger skeleton. men don't experience the sudden drop in estrogen levels that women do at menopause. (8)

### Gender Differences in Infections

There are differences in males and females levels of susceptibility towards infections. The most relevant one is the increased incidence of infections in males; women also survive sepsis at higher rates than men (9). the difference may lie in the male and female immune system. Although infections are generally more common in males, morbidity and mortality rates may be higher in females for some infections such as HIV

infection and influenza, especially in those where immune activation and cytokine storm have deleterious effects on prognosis (10). The greater severity of post-infectious immunopathologic events in females is due to their ability to generate higher proinflammatory cytokine and chemokine responses than males. This should not be confused with the lower primary susceptibility of females to infections due to enhanced immune response capability.

### Health issues

Health is Individual's responsibility, however, without state's involvement individuals cannot keep themselves healthy. Health issue means any physical, mental, or emotional condition, including alcohol or substance use disorder and use of prescription medications that could adversely affect an individual's ability to live healthy and useful to the society. Through the prevention of diseases individuals can remain for long time in good health and work for the welfare of the society and contribute in nation's development.

Relationship between sex, gender and health is very complex, and by understanding this complexity, professionals can understand which groups are most suffered by which illness (11). Some examples of conditions that are more common in one sex over the other include male and female physiology: The major difference in their physiology is due to their different endocrinology. Gender has implications for health across the course of every person's life. The gender differences in the biological determinants of health and illness include differential genetic vulnerability to illness, reproductive and hormonal factors, and differences in physiological characteristics during the life-cycle. Women spend about 15 percent of their lives in unhealthy conditions, compared with about 12 percent for men (12). Thus, they carry a heavier disease burden than men, and, given their crucial role in the health of their spouses and children, this burden is shared by many. It has contributed to 19 % of maternal deaths. Infect, in nearly three-quarters of cases where a disease primarily affects one gender knowing this even then the so-called "men's diseases" are overfunded, while the "women's diseases" are dramatically underfunded. Abortions are major manse of maternal morbidity and mortality.

Aging is a long and complicated process, and an aging person's needs can change time to time. Some health needs are not common to all individuals. However, some common conditions in older age include hearing loss, cataracts and refractive errors, back and neck pain and osteoarthritis, chronic obstructive pulmonary disease, diabetes, depression and dementia. As people age, they are more likely to experience several conditions at the same time (13). The reasons why certain diseases and conditions are more common in one particular sex or gender than the other can be complex. Factors such as genetics, behaviours and hormones can all play a part.

Lifestyle changes can often reverse or undo the progression of many of the most common and costly chronic diseases and even begin reversing aging at a cellular level. Fight cancer, diabetes, heart disease, weight gain, and even the aging process itself with one simple, scientifically proven plan to reverse chronic disease as well as prevent and reduce symptoms from the world-renowned pioneer of lifestyle medicine Dean Ornish, has directed revolutionary research proving, for the first time(14).

### Gender bias in health care

Males and females are genetically different; females have two X chromosomes in their pair, while males have one X and one Y chromosome. A gene on the Y chromosome is responsible for the cascade of developmental events that cause bodies and brains to take on male characteristics and have different health issues.(Mothering a cause) Various phobias affect expecting mothers. All these happen due to stress hormone cortisol which is secreted during stress. This along with cortisol and other stress hormones lead to endocrine disorders like Graves' disease, gonadal dysfunction, psychosexual dwarfism and obesity (15-17) . The whole health programming of the individuals starts even before birth.

C-section or fed formula fed babies are immunologically weaker than that of normal delivered and breast fed babies. For the lifelong good health of babies (18) Microbiota is a life line for human being, however if the balance in interspecies of microbiota is disturbed, it can cause notably serious diseases but can kill also. Collectively the microbial species act as epigenetic factor for humans. First exposure to microbiota is in utero. Mothers should opt for vaginal delivery and breastfeeding for healthy newborn (19)

Gender bias creates dangers in medical treatment. When both genders are not offered equal quality treatment and care for the same medical complaints or when different manifestations of disease are not considered based on sex, we can expect patient outcomes to suffer. Gender bias is seen across many specialties.

"Because of social and biological differences, women and men face different health risks, experience different responses from health systems, and their health-seeking behaviour, and health outcomes differ according to Regitz-Zagrosek"(11). Even so, women bear exclusive health concerns, such as pregnancy, menopause, cervical and breast cancer. Women suffer higher heart attack deaths compared to men. Depression and anxiety exhibit more frequently among females. Gender inequality disproportionately affects women and girls. 2 to 3 times more women than men experience mental health problems like depression and anxiety. Harmful stereotypes about sexuality and body image play a part in this. The gender pay gap and Inequality at work puts women at higher risk of physical and mental illness. Many workplaces don't offer men extended parental leave or flexible hours. Men are more likely to drink too much, take unhealthy risks and engage in violence. They are less likely to seek professional help or talk about their problems with friends or family. Men are more likely to commit suicide. Tiny Corona has no brain but still it is very choosy, it does not infect equally to all the human population. It infects more men than women more older population than younger one. There are reasons for that. Men are on the priority list because of certain reasons; if they are bald more venerable. Bald man with blood group 'A' is worst hit. It is not yet certain but data show that sex steroid hormones and X chromosome products are able to keep this virus away besides immunity, life style, environment and genetic reasons(19,20). The relationship between sex and health affects a person's risk of disease, disease progression, the treatments given and the overall health outcome. For example, a particular enzyme found in men that binds to the SARS-COV2 virus (COVID-19) may be responsible for more severe outcomes and hospitalisations for men with the virus than women (21, 22) .

Gender bias creates dangers in medical treatment. When both genders are not offered equal quality treatment and care for the same medical complaints or when different manifestations of disease are not considered based on sex, we can expect patient outcomes to suffer. Gender bias is seen across many specialties. In fact, in nearly three-quarters of cases where a disease primarily affects one gender, the so-called "men's diseases" are overfunded, while the "women's diseases" are dramatically underfunded (23).

### Gender Health Inequalities

Gender inequality is discrimination on the basis of sex or gender causing one sex or gender to be routinely privileged or prioritized over another. Gender equality is a fundamental human right and that right is violated by gender-based discrimination. 2 to 3 times more women than men experience mental health problems like depression and anxiety. Harmful stereotypes about sexuality and body image play a part in this. The gender pay gap and Inequality at work puts women at higher risk of physical and mental illness

Almost everyone has some form of gender bias, whether or not they are aware of it. This is because bias can be conscious or unconscious. Bias that a person recognizes is "explicit," while bias that a person is unaware of is "implicit." Implicit bias comes from the messages that people unknowingly absorb about gender throughout their lives. Both explicit and implicit biases influence behavior, which leads to discrimination and

reinforces inequity. Gender bias creates dangers in medical treatment. When both genders are not offered equal quality treatment and care for the same medical complaints or when different manifestations of disease are not considered based on sex, we can expect patient outcomes to suffer. Gender bias is seen across many specialties. In addition to disparities in health care between older persons and the rest of the population, disparities are also evident among older persons themselves, such as by gender

Health care inequities in the quality of health experienced by groups based on social, racial, ethnic, economic and environmental characteristics—persist across the globe. Many factors contribute to health disparities, including genetics, access to care, poor quality of care, community features (e.g., inadequate access to healthy foods, poverty, limited personal support systems and violence), environmental conditions (e.g., poor air quality), language barriers and health behaviours. However between genders, studies have shown that women use more health care services than men (24).very recently on black maternal health care in the United States, Gynaecologists, Frances Gatta in her interview which is published in Nature(25) said that there is obvious discrimination exists with the black race.

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