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## Sex - A Biological Variable in the ICU



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Dr Marlies Ostermann from Guy's and St Thomas' NHS Foundation Trust in London presented a tutorial at ISICEM 2024, highlighting the historical disparities and inequalities faced by different sexes in the ICU. These challenges encompass lower ICU admission rates, variations in medical care provision, inadequate personalisation, limited representation in clinical trials, and biases.

Biological disparities in physiology and anatomy between men and women, influenced by genes and sex hormones, contribute to divergent risks of critical illness. However, clinical data is complicated by gender-related factors such as sociocultural, behavioural, and economic influences.

There are significant gender-related disparities in critical care, including differences in disease patterns such as sepsis, acute respiratory distress syndrome (ARDS), cardiac arrest, cardiogenic shock, acute kidney injury (AKI), and ICU delirium. These variations are influenced by biological, anatomical, and behavioural factors, leading to distinct clinical outcomes between men and women. The complexity of clinical data due to gender-related confounders is important to consider, and there is a need for better representation and understanding of biological differences in research.

The impact of sociocultural, lifestyle, and behavioural factors on health equity must be acknowledged, as should the reality that race, ethnicity, education, employment, socioeconomic status, and environment influence patient outcomes. Gender disparities exist in ICU admissions. For example, men are more likely to be admitted due to trauma, while women with myocardial infarctions tend to present later. Cultural differences also play a significant role, with variations in treatment availability based on gender, such as the shortage of female doctors in some countries like Afghanistan.

It is important to understand how sex influences key disease areas like sepsis, shock, ARDS, AKI, and delirium. Addressing these disparities requires heightened awareness among all stakeholders, including clinicians, educators, industry, academics, and policymakers.

Dr Ostermann advocates for clearer documentation in healthcare records, comprehensive data registries, and further research to drive policy changes and improve clinical practices.

Source: ISICEM  
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Published on : Thu, 21 Mar 2024