

A Step Towards Precision Medicine

As clinicians, we notice sex differences in epidemiology of various diseases, as well as disparities in diagnostic and therapeutic responses. These disparities are noted in clinical manifestations and disease progression, but sex disparity guides patient, society and health-care provider behaviours that interact with pathobiology and have an additional impact on response to treatment.

Most of our knowledge about diagnosis, treatment, and prevention of disease derives from studies mostly performed on male cells, male mice, and men. Assumption that women and man are biologically identical and share the same physiology led to research focused

on male physiology. Multiple reasons led to exclusion of female cells, female animals and females from clinical trials. Less influence of fluctuating hormone levels enables a uniform response, which makes research simpler, cheaper, faster and shorter. Exclusion of females from clinical trials, as for greater safety of women and their offspring, led to development of drugs that were withdrawn from the market because they “posed greater health risks for women than for men”.

The aim of these issue to raise awareness about sex differences in clinician approach to diagnosis, prevention, and treatment of the whole spectrum of the diseases which have an impact on brain health. Such approach is a crucial step towards precision medicine.

Professor Arijana Lovrenčić-Huzjan, MD, PhD