



THE PAIN GAP

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IN ENCOUNTERING PAIN, psychologist Jennifer Patterson states, "**Pain is sexist.**" Increasing number of studies reveal how bias against women's expressions of pain hampers and is even detrimental to effective diagnosis and treatment. Terms like "sensitive" or even "hysterical" are used to describe pain reports from women.

The impact of dismissing women in pain can be quantified: Harvard Publishing House reported that women wait an average of 16 minutes more in the emergency department compared to men before receiving an analgesic for acute abdominal pain. This is also reflected in research. It has only been in the recent decade that some pain researchers are studying the spectrum of responses across sexes. However, prior, and still to this day, most biomedical pain researchers and behaviorists use only male mice in their experiments. Clearly, gender bias, while uncomfortable to admit, is prevalent in medical knowledge, practice, and research.

The mindset of pain being an attribute to womanhood can be traced back centuries to Hippocrates who promoted the idea of "the wandering womb."

A women's uterus would "free" itself from her pelvic region and roam around the body, causing many pathologies in women.

Understanding women's pain had not fared better by the 1800s. Women were diagnosed with hystericalgia and viewed as disruptive and dysfunctional.

These limiting perspectives has laid the foundation for bias against female bodies and their illnesses in modern medicine. Today, this is called "the gender pain gap."

Incorrect beliefs about racial difference pain sensitivity have created bias even within the female population. A white woman's pain is taken more seriously compared to a woman of color. Studies have shown that physicians are twice as likely to underestimate a Black woman's pain.

20% of the world experience chronic pain - the majority of which are women - and this number is increasing. It is imperative to raise awareness of the repercussions of disproportionate clinical response and to do further research into how pain is processed.

Faculty Focus

Prof. Dr. Mingjie Wang

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PROF. DR. MINGJIE WANG 王铭洁 is a faculty member of the Department of Physiology and Pathophysiology of the School of Basic Medical Sciences in Fudan University. Completing her PhD in cardiovascular physiology at Fudan, she was a research scholar at John Hopkins University. She is an advocate for education, and has taught Physiology for the English MBBS program for nearly a decade.

Some students have expressed frustration of a language barrier. In your many years of teaching the English MBBS program, have you also experienced this?

To some extent there is a language barrier. However, I believe both teachers and students can overcome it. The majority of professors have studied and carried out their research abroad, and it is required to have a certain level of English to write scientific papers and attend academic conferences.

Sometimes we struggle to explain concepts in a way that is accurate and understandable for students, especially when we are giving lectures on topics that are not within our research field. There is [also] the pressure [we] may feel when we are unable to express [ourselves] as fluently in English.

I think it is imperative that students continue to ask questions despite the language barrier. I believe asking questions and communicating with professors are effective approaches to thoroughly understand the material and accomplish learning goals as a medical student.



You briefly mentioned your time at JHU. What would you say is the biggest difference between the Chinese and American education systems?

There are no fundamental differences. The American system promotes and encourages active participation. But nowadays, as you can see, universities in China are also paying more attention to active learning.

From a researcher's perspective, it was easier to obtain reagents and materials as major pharmaceutical companies are based in the US. I had access to the latest equipment and techniques at JHU. Today, with continuous investment from the Chinese government and companies in research and talent recruitment, we now carry out top research in China as well.

I should point out that as a visiting scholar at JHU, I had little chance to apply for research funding. All my projects were supported & funded by China under the "National Natural Science Foundation of China" and "Shanghai Municipal Commission of Science and Technology." These funding opportunities have allowed me to continue my research in cardiovascular physiology.



Beyond Social Understanding:

Women with Fragile X Syndrome

Darren Alex Li Liong Sen, MBBS21

Fragile X Syndrome (FXS) is a hereditary genetic disorder, called so because when viewed under the microscope, the X-chromosome looks "fragile" or "broken." When CGG triplet repeat in the *fmr1* gene of the X-chromosome repeats more than 200 times, the nervous system is affected, resulting in FXS. Worldwide, 1 out of 4000 to 5000 males are affected, making FXS the leading cause of inherited intellectual disabilities, like autism.

When researching FXS online, most sites state: *Females have milder symptoms than males.* This is true - FXS is also less common for girls, affecting about 1 in every 7,000 to 8,000 girls. However, variance in functioning exists. There are women that face severe difficulties, albeit different than what men with FXS face. Emotional issues that girls encounter may be just as debilitating as developmental delays in males.

Because their deficits are not as physically noticeable, girls are often underdiagnosed. Further, educators do not notice the mental problems in young girls as they are more focused on their male counterparts. These women are downplayed in educational settings, associated with an unwillingness to take risks.

Women with FXS often misunderstand

information shared orally, but nod their head to disguise their confusion. Many are good readers, but often fall short when asked to explain what they have read.

Anxiety is a the root of this deceptive behavior. Not understanding what you are asking from them leaves room for uncertainty. At first glance, they may not look nervous, but it is in fact taking a toll on their mental stability. Eventually, anger ensues. At a younger age, this manifests by pounding their fists against a wall or even chewing their clothes. To prevent this, many women depend on exact scheduling to know what to expect in the hours ahead. Women with FXS also rely on good visual cues and a consistent, unchanging environment to feel encouraged.

Knowledge is Power.

Today, addressing FXS unfortunately mainly prioritizes the autism factor and ignores the intricacies of how this syndrome impacts the individual. Despite this, information available through the etiology of those with Fragile X Syndrome is greater than people with autism.

Access to trusted and valuable sources like the National Fragile X Foundation or the Fragile X Society in the UK can bring comfort to families. This way, we can better understand our daughters, mothers, aunts, and sisters with the disease.



This issue is edited by:
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March '23 Events highlights

AcadCom's Cruising Through Overseas Rotations (March 25), SocCom's Haidilao Welcome Back Dinner (March 5), AcadCom's Anatomy Museum Tour (March 22), and ProfCom's A Stitch to the Heart (March 05).

Offline events resumed with full force this semester, organized by students for students. From top to bottom: