

## Differences of sexual differentiation: A place under the sun

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Binary rubrics are used to differentiate between living and non-living, animal and plant, vertebrate and invertebrate, mammalian and non-mammalian, as well as male and female organisms. While this approach helps in classifying the vast majority of the target population, we must remember that these frameworks are man-made. Many human beings may be born with phenotypic, karyotypic, gonadal and/or genital characteristics that “do not fit typical binary notion of male or female bodies”.<sup>1</sup> Such births may as frequently as once in every 50 births, though 1 and 2 per 1,000 live births require, and/or receive “corrective” genital surgery.<sup>2</sup>

Intersex conditions are defined in various ways. Ambiguous genitalia and atypical genitalia occur if genetic and hormonal development are disturbed, and genital differentiation is hampered. A more inclusive term, difference of sexual development (DSD) uses karyotyping to classify such conditions. Types of DSDs include 46XX and 46XY sex chromosome DSD, XX and XY sex reversal, and ovotesticular disorders.<sup>3</sup>

Though frequently confused with transgender persons, and those with non-heterosexual orientation, persons with DSD are different from these. Hence, distinct advocacy for DSD needs to be carried out. As United Nations Human Rights states, “intersex children and adults are often stigmatized and subjected to multiple human rights violations, including violations of their rights to health and physical integrity, to be free from torture and ill-treatment, and to equality and non-discrimination.”<sup>1</sup>

While South Asian countries have progressive legislation for transgender rights, awareness about the unique challenges faced by intersex people is lacking.<sup>4</sup> Considering

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the near ubiquitous presence of endocrine disruptor chemicals in our environment, it may be prudent to expect, and prepare for, and increase in the incidence of differences of sexual differentiation.<sup>5</sup>

The case of persistent Mullerian duct syndrome, published<sup>6</sup> in the current issue of the Journal of Pakistan Medical Association, should serve as a stimulus to enhance awareness and advocacy of this, as well as other DSD. Apart from ensuring accurate and appropriate diagnosis, one must focus on person sensitive communication, psychological support and social modulation.<sup>7</sup>

We commend the authors<sup>6</sup> for their work in the field of DSD. Much more needs to be done, however. Policy makers, planners, members of the public, and persons living with DSD should work collectively to ensure that persons living with DSD should get their rightful place under the sun.

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### References

1. Intersex. Available at: <https://www.unfe.org/wp-content/uploads/2017/05/UNFE-Intersex.pdf>. Last accessed on 13 August 2023
2. Blackless M, Charuvastra A, Derryc A, Fausto-Sterling A, Lauzanne K, Lee E. How sexually dimorphic are we? Review and synthesis. *Am. J. Hum. Biol. The Official Journal of the Human Biology Association.* 2000;12:151-66.
3. Lee PA, Mazur T, Houk CP. DSD/intersex: historical context and current perspectives. *J. Pediatr. Endocrinol. Metab.* 2023;36:234-41.
4. Intersex. Available at: <https://intersexasia.org/>. Last accessed on 13 August 2023
5. Marlatt VL, Bayen S, Castaneda-Cortès D, Delbès G, Grigorova P, Langlois VS, et al. Impacts of endocrine disrupting chemicals on reproduction in wildlife and humans. *Environ Res.* 2022; 208:112584.
6. Index article in same issue of JPMA
7. Alderson J, Hamblin RP, Crowne EC. Psychological care of children and families with variations or differences in sex development *Horm Res Paediatr* 2023;96:222-7.