PLENARY 3: CONCEPTUALIZING SEX AND GENDER
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GOALS OF THE PRESENTATION:

- Definitions:
    - sex
    - gender
    - sexual orientation
    - sexuality

- Challenges and Pitfalls:
    - Phenomenon of transgender
    - Gender-based competition

- Public Health and Gender

- Gender-Specific HIV Prevention and Treatment

DEFINITIONS

Dr. Ehrhardt gave her perspective of the definitions, though they are not universally used. Alert to a new book by Joanne Meyerowitz called "How Sex Changed: A History of Transsexuality in the U.S." Meyerowitz makes good historical points. By the turn of the century (19^{th} to $20^{th)}$, "sex" was the catchall term. Biological sex was really equal to gonads (chromosomes weren't known until the '50s). Gonads defined the "true" sex. We've become more specific and more aware that sex and gender are more complex. The conclusion is we're still not clear what causes gender and sex differences. But we know more than we used to. We've gotten more terms over the last 50 years; "sex" used to mean biologic characteristics; gender is a person's and society's concept. Sexual orientation has been used as a term since the 1960s; before that it was "sexual preference," meaning homo-, hetero-, and bisexual. "Preference" implies volition and therefore, sexual orientation is more appropriate.

The challenge for us is not thinking in terms of binary systems: either male or female. This has been criticized over the last 100 years, but we are still mostly caught up in it. Phenomenon of patients with intersex problems has taught us many things to question binary classification and to rather conceptualize a continuum.

Psychosexual differentiation:

- Sex chromosomes
- Gonads
- Fetal hormones
- Internal sex organs
- External genitalia
- Sex of assignment
- Sex of rearing

- Gender identity of childhood
- Pubertal hormones
- Secondary sex characteristics
- Gender identity of adulthood

The biological foundation of gender was already challenged in the early 20th Century. Freud had already raised the notion of a gender continuum (furthered by Kraft-Ebbing, Fleiss, Hirschfeld, and Kinsey). By 1910 many people began to question the binary model. One needs to understand the context: the early 20th Century was a time of sexual emancipation in Europe; sex reassignment, for example, was done in Berlin in the 1920s. Throughout the WWII period, there was a break. The issue of transgender and questioning the "gender dichotomy" came back to the United States only in the 1960s (the Johns Hopkins Sex Reassignment Committee, 1966).

The intersex phenomenon continued to contribute greatly to our thinking and raised many questions. In 1945, Albert Ellis described 84 cases of patients with an intersex problem who mainly developed a "sex role" in concordance with their sex of rearing rather than their gonadal sex .

Pictorial representation of gender identity differentiation (see slide). Money and his colleagues furthered significantly the field. There are social and biological variables. More recently, new issues have come to the forefront again. In the 1970s, when the social sciences were ascendant, no one wanted to hear about biological variables; more recently we are moving back towards attributing to biology a strong influence. New breakthroughs in biology have led to more confidence in some biological effects on gender. However, it is important that we need better, more complex models about social/biological interactions that affect such complex phenomena as gender identity.

Gender role behavior refers to differences of behavior between boys and girls. For instance, girls' vs. boys' negotiation skills: girls talk more from age 2 onward; boys from age 3 and rely more on "rough and tumble" negotiation.

CHALLENGES AND PITFALLS

Phenomenon of Transgender

The first challenge to some of the traditional notions is the transgender phenomenon. If true sex is based in the chromosomes, how would one explain the transgender phenomenon. At the same time the transgender phenomenon also challenges the concept that gender identity is solely determined by rearing practices. The transgender movement feels that transgender persons should be recognized without categorizing them with a "disorder" and without including them in the DSM. At this time we do not have a convincing explanation of etiology. There is the puzzle that transgender persons cannot identify with their biological sex and their gender assignment at birth. Since we do not understand this phenomenon, we often discriminate and leave transgender people out of legal rights, policies, and medical care. Overall, the transgender phenomenon is a testimony to the complex interplay of biological and social factors in effecting gender.

Gender-based competition

Another challenge to our traditional norms are gender differences of behavior. We overcame many prejudices in our society, as for instance, occupational norms. Women do fly airplanes now, they are also part of musical orchestras and medical school specialties. Still, there are many inequities to correct. Inequities that are mainly based on inexperience and stereotypes.

An example of stereotypic attitudes is the policy of gender verification at competitive sports events. A history of this issue was published in *Genetics of Medicine* in 2000 (Elsas, L.J., Ljungqvist, A., Ferguson-Smith, M.A., Simpson, J.L., Genel, M., Carlson, A.S., Ferris, E., de la Chapelle, A., & Ehrhardt, A.A. 2001. Gender verification of female athletes. *Genetics in Medicine, 2,* 249-254). The International Olympic Committee mandated biologic verification of female athletes in 1968; this continued through 1998. The goal was to prevent men or women with "unfair man-like advantages" from participating. Women had to undergo visual inspection by committee; after an outcry at this practice, gynecologic exams were implemented, then lab tests. All tests were done in search of the athletes' "true sex." Many females with intersex characteristics were therefore screened out: women with minor defects in the sex chromosome complement were disqualified. Despite compelling evidence for the lack of scientific merit for chromosome testing, the leadership of the Olympics continued this policy for 30 years. In 1990, the International Amateur Athletics Federation (IAAF) called for the revision of the screening policy to prevent *only* male imposters. The medical inconsistencies were finally recognized. In 1999, the International Olympics Committee abandoned chromosomal screening.

This is a very good example of how quickly we fall back, when faced with unknowns, into overly simplistic explanations. The Olympics began in the 8th century BC; the modern Olympic movement started in 1896. The Olympics have always been very high class, typically organized and directed by royalty and aristocracy. In 1896, Baron Pierre de Coubertin started the Olympic Games and opposed women competitors. The argument was that "women don't have stamina" and that the participation in sports was "unfeminine." It took about 20 years for women to be able to participate in earnest; only after WWII did the numbers become significant. Most sports are still segregated; only a few are gender-neutral: equestrian events, some shooting events, and some yachting events. The idea that you need separation of the two genders for fairness still pervades. The gender verification movement started as protection against masquerading men participating as women. Yet, how many men actually masqueraded as women? Maybe four since 1936, only one of which was adequately documented: this person was forced to impersonate as a woman by Hitler and so confessed in 1957. In the other three cases, the persons were probably transgender. The problem was exacerbated by the stereotypical notions of Russian women being "mannish" (a source of much popular humor).

Why is this important? There have been a lot of tragic developments for female athletes: many of the coauthors of the cited article made it their life's work to fight this gender-based injustice. In 1990 a Professional Working Group in Monte Carlo concluded that gender verification was based on faulty thinking and in 1992 IAAF agreed and abolished gender verification, which did not come to pass for the International Olympic Committee (IOC) before 1999.

This example teaches us important lessons of confusion about the importance of biological sex factors and the importance of cultural concepts.

PUBLIC HEALTH AND GENDER

The third large issue when thinking of sex and gender is the political context of our policies. HIV and STDs are strong examples of how political thinking can affect sound public health policy. As Leon Eisenberg and Alan Brandt's fabulous articles (Brandt, A.M. 1988. The syphilis epidemic and its relation to AIDS. *Science*, *239*(4838):375-380; Eisenberg, L. 1989. Health education and the AIDS epidemic. *British Journal of Psychiatry*, *154:* 754-767.) remind us, when syphilis and other sex-related health issues become the focus of public health, the discourse very quickly resolves into two opposing camps: the moralists and the realists. The moralists urge abstinence, decry STD sufferers as immoral and sometimes deserving, and seek to shield "innocents" from knowledge; the realists work to provide education and resources for prevention. In terms of HIV,

I recently put all this together regarding women's health and sexuality when I was asked to give speech at a medical college in Vietnam. Within the context of a rapidly increasing HIV epidemic in Vietnam, I presented about the U.S. and examples of some of our pitfalls in the history of dealing with HIV.

"Only in the 1990s, and very slowly, did other barrier methods (e.g., female condom) and microbicides begin to be integrated or considered. Resistance is stronger to microbicides. In 1988, a colleague and I began to talk about a microbicide; it took several years to get any movement on it. In the early 1990s, finally, some support appeared on the political level. However, we still do not have a viable microbicide on the market, although there are certainly a lot of scientists working on it. The funding through Phase III studies, however, is simply not there. Compare this to Viagra."`

GENDER-SPECIFIC HIV PREVENTION AND TREATMENT
We clearly need integrated prevention programs, i.e. integrated HIV prevention and family planning.

An example of a study where we tried to put all this thinking into a clinical trial is summarized in the conference materials. (See Ehrhardt, A.A., Exner, T.M., Hoffman, S., Silberman, I., Leu, C.-S., Miller, S., & Levin, B. 2002. A gender-specific HIV/STD risk reduction for women in primary health care settings: Short- and long-term results of a randomized clinical trial. *AIDS Care, 14*, 147-161).

We modified the AIDS Risk Reduction Model since there is no theoretical model that takes gender into account. We included into this prevention model pertinent gender issues, women's concerns and sexual behavior. Project FIO ("The Future is Ours") became a three-arm clinical trial with one group receiving eight-sessions, one group receiving four-sessions and a control condition. All of the women were followed at one-month, six-months, and twelve-months and a total of N=360 women were included in the trial. The study did not look at women who belonged to the typical risk groups such as, injection drug users, or sex workers. The trial showed significant effects for the eight-session group to reduce their unprotected intercourse occasions and to increase women's strategies to adopt negotiation and refusal skills. This effect was particularly high among at-risk women. The effects of the study however, were modest and short-term. Nonetheless, this was an important example of a rigorously conducted clinical trial that was gender sensitive and was effective for women to reduce their at-risk behavior.

Questions and Answers

Q: What is meant by "gender-specific alternative strategy"?
A: Gender-specific intervention needs to take barriers to negotiation into account. "Needs empowerment model." Can a woman refuse sex if the male doesn't agree to condom use? Can she introduce other kinds of sexual behavior?

Q: Were there any other outcomes other than self-reported ones?
A: We couldn't do chart review directly … nothing was totally biologically validated.

Q: You talked about transgender individuals and transsexual – are these interchangeable terms? Isn't a transsexual someone who has had sexual assignment surgery?
A: The term "transsexual" has been largely replaced by "transgender"; the determination you cite re surgery didn't used to hold; everyone, pre- or post-operative, used to be known as transsexual.

Today the transgender community does not like the old term, partly because they perceive not a matter of sex but of gender.

Q: Was there any similar discussion in the Olympics of the possibility of women masquerading as men?
A: No, because it was never thought a woman would do want to compete with men, because they were considered "inherently less capable."

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