COMMENTARY

Thoughts on Sex and Gender Inclusive Language in Medical Publishing

Amy Ritchie Johnson

> *"There is simply a need for language that acknowledges our existence."—Alicia Frausto (they/them)*[1]

"Simplicity is always rewarded" is my motto in life and editing. But when it comes to the topic of sex and gender and all the threads twining these together, simplicity seems elusive. As a manuscript editor for a medical journal and a person who has worked with the written word for more than two decades, I'd like to give simplification a try. I'm no expert, just an advocate, so I may get some things wrong, but this topic is important enough and urgent enough to discuss, even with fumbles. My focus is on biomedical journals and the *AMA Manual of Style*[2] because most journals in this field adhere to its guidance, including those I've worked with, while recognizing that their guidance on sex and gender inclusive language is currently undergoing revision. Nonetheless, the current guidelines and practices for reporting sex and gender in medical journal publications are inadequate when accuracy and inclusivity are the goal. From data collection to the language used in reporting studies, we can do better. Changes will require flexibility and continued attention as we adapt more and open our ears more to the diverse voices in our communities. Even as style guidelines are updated, it will take time, and maybe effort, for authors and editors to absorb and apply them. But we must start somewhere. Let's start here: biological sex and gender are not the same. Although they are still being used interchangeably in many recent medical articles, particularly those investigating diversity in various fields, they have two different definitions and are not interchangeable.

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Biological Sex

Traditionally, biological sex has been understood as either male or female, but this definition is myopic and ignores the variabilities of biology. The reality is that there are variations on these two themes, and people with those variations are intersex and have differences of sex development (DSDs).[3] According to definitions provided by primatologist Frans de Waal,[4p.5] sex is "the biological sex of a person based on genital anatomy and sex chromosomes," whereby intersex refers "to a person whose sex is ambiguous or intermediate since their anatomy, chromosomes, and/or hormonal profile doesn't fit the male/female binary."

Unfortunately, even in recent studies, such as one by Feldman Witchel[5] that gives helpful details on how DSDs occur, these differences are referred to as disorders of "normal sex development." Calling differences that occur naturally "disorders" is unacceptable and part of the reason intersex patients and their families face so many challenges in social and medical contexts (e.g., displacement at school, discrimination, discomfort with seeking medical attention).

Currently, *AMA Style* briefly mentions intersex in section 11.12.7, "Sexual Orientation." But intersex, like male and female, is a form of biological sex and must be treated accordingly.

Most biomedical studies are reporting biological sex to investigate physiological differences. Medical publications that report on health outcomes, for instance, would consider gender a necessary data point, as it relates to social determinates of health (we'll get to this next). When the biological sex of a patient is known (here we need more precise [i.e., self-reported] data collection), it should be reported accordingly:

male patient
female patient
intersex patient

But what about transgender individuals who undergo gender-affirming surgery or hormone therapy? For those patients, wouldn't their birth sex and transitioned sex be

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relevant when studying incidences of disease or outcomes of treatment?

There should likely be a distinction made between "transsexual" and transgender in terms of biological sex referents because, although some individuals who undergo gender-affirming surgical or hormonal treatment may identify as transgender, not all transgender individuals will endeavor to undergo surgery or treatment related to their sex.[6] For this, perhaps the traditional term, transexual, could be used as a fourth sex referent. However, for sex and gender terminology and usage guidelines in medical journal publishing, scholars and representatives from the relevant (affected) communities should be consulted as to what terms are adopted into preferred usage.

Gender and Gender Identity

Gender is separate from but tied to biological sex. Gender may have some basis of expression in sex chromosomes, but that is not the whole of it. Using de Waal's[3] definitions again, gender can be understood as "the culturally circumscribed role and position of each sex in society." Gender is seemingly far more complex than biological sex, mostly because it is largely manifested in each of us as gender identity ("a person's inner sense of being either male or female" or neither or both). I am a cisgender woman, meaning I was assigned female sex at birth based on phenotypic features, and I identify, in terms of gender, as a woman. The possibilities are endless and potentially, likely, as innate as sex. A female-born person might identify as a man or gender neutral or somewhere on a spectrum. In various publications and social media self-expressions, I've read an array of terms that include nonbinary, gender neutral, gender expansive, gender nonconforming, and transgender.[7]

Currently, *AMA Style* states that "Whenever possible, a patient should be referred to as a man, woman, boy, girl…" (section 11.7, "Age and Sex Referents").[2] But really what should be stated is the sex of the patient not the gender. And as we see from the diversity of gender identities, this can't be inferred from biological sex. However, JAMA Network[8] has recently instituted new and progressive guidelines on pregnancy, "Studies that address pregnancy should … if the gender identity of participants was not assessed, use the terms 'pregnant participants,' 'pregnant individuals,' 'pregnant patients,' etc, as appropriate." This same line of reasoning should apply to all studies on sex-related diseases or conditions; prostate, ovarian, and breast cancer studies, for instance, should always refer collectively (e.g., in table legends and results) to those included as patients or participants, not as men or women. I have edited studies on breast cancer screening where the entire cohort was referred to as women. Knowing what we know about sex and gender, does this seem like accurate and inclusive language?

I am essentially advocating for never using man, woman, boy, or girl unless 1) it aligns with the gender identity data collected from the patient and 2) the study being reported is relevant to gender (rather than sex).

Pronouns

Self-identified pronouns (aka "preferred pronouns," which is a title falling out of favor) can be defined as the personal pronouns that reflect a person's gender identity (e.g., he/him, she/her, they/them). This information should ideally be collected along with sex and gender identity data. If gender identity is unknown, regardless of the biological sex of the patient, "they" should be used as a pronoun for any patient. "They," for such a simple word, is a hotly contested topic but it is truly a baggage-free term that has no negative connotation, which makes it a perfect pronoun to use in this context. If we added a third pronoun in English, it would uphold the male/female binary, essentially meaning "not male or female." "They" is an opportunity for neutrality and inclusivity. As a gender-identified woman, I'm comfortable being referred to as she or they for this reason.

For those who are having trouble making this change: language is an alive and mutable means of communication. If google and text can become verbs in the past two decades, "they" can be a singular pronoun as well as plural. Besides, consensus usage creates our shared language and "they" is in wide use as a singular pronoun.[9,10] *AMA Style* offers guidance to "Avoid sex-specific pronouns in cases in which sex specificity is irrelevant. Reword the sentence to use a singular or plural non–sex-specific pronoun, neutral noun equivalent, or change of voice; or use "he or she" ('him or her,' 'his or her[s],' 'they or their[s]'). The use of the 'singular they' construction is permitted when rewriting would be awkward or unclear…" (section 11.12.2).[2] However, these guidelines seem confusing to me, especially if we understand pronouns to be related to gender identity instead of sex. The singular they should not just be used when rewriting would be unclear; it should be used 1) when it is a patient's self-identified pronoun and/or 2) as a gender-neutral singular pronoun to avoid making assumptions about gender identity based on biological sex. In my experience, this usage of "they" is not currently being put into standard practice among authors and medical journals.

What Does This Look Like?

The following are examples of these recommendations in practice. In both cases, the sex is known, but in the first instance, gender identity is unknown, and in the second, gender identity is known.

> A 35-year-old female patient presented with… and underwent brain MRI for … At the 4-month follow-up, they were seizure free.

> A 45-year-old intersex patient presented with gastrointestinal blockage. After …imaging, he was determined to have stage 4 ovarian cancer.
>
> Overall, 100 patients (mean age…; 98 female and 2 intersex) were included for breast cancer screening with perfusion imaging.

Why This Matters

Accurate and inclusive language can allow for more specific research findings and subsequent applications, improve health outcomes for patients, and foster health equity. It's my intention that these thoughts and suggestions will increase awareness among authors and editors and encourage the broader adoption of inclusive sex and gender language in medical and science publishing, as well as stimulate the conversation as new guidelines are drafted by the style arbiters. Inclusivity begins with how we say the words, and how we say the words begins with how we think.

References and Links

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Letter in Reply to "Thoughts on Sex and Gender Inclusive Language in Medical Publishing"

Stacy L Christiansen and Tracy Frey

We are writing to respond to the article by Ritchie Johnson originally published online in July 2022.[1] We acknowledge their interest in and efforts to discuss an important issue, namely the description of sex and gender in medical journal articles. The current guidance in the *AMA Manual of Style* recommends the following:

> Sex *refers to the biological characteristics of males and females.* Gender *includes more than sex and serves as a cultural indicator of a person's personal and social identity. An important consideration when referring to sex is the level of specificity required: specify sex when it is relevant. In research articles, sex/gender should be reported and defined, and how sex/gender was assessed should be described. In nonresearch reports, choose sex-neutral terms that avoid bias, suit the material under discussion, and do not intrude on the reader's attention.*[2]

We wish to address a few of Ritchie Johnson's specific references to the *AMA Manual of Style*.[2] First, while there is a brief mention of our ongoing efforts to revise the section on inclusive language regarding sex, gender, and sexual orientation, Ritchie Johnson points out several places where the current guidance is unclear or not comprehensive. We are aware of the need for more robust guidance, examples, and discussion regarding sex, gender, and sexual orientation as well as the need to address nonbinary and gender diverse identities. A revision of this nature takes a good deal of time and research, as we learned in completing the major update regarding the reporting of race and ethnicity.[3] Our revision is in process and many of the points raised by Ritchie Johnson will be addressed in the forthcoming update. For example, the following interim guidance appears in the Instructions for Authors of *JAMA* and the JAMA Network journals[4]:

> *The term* sex *should be used when reporting biological factors and* gender *should be used when reporting* gender *identity or psychosocial/cultural factors. The methods used to obtain information on sex, gender, or both (eg, self-reported, investigator observed or classified, or laboratory test) should be explained in the Methods section. The distribution of study participants or samples should be reported in the Results section, including for studies of humans, tissues, cells, or animals. All participants should be represented, not just the category that represents the majority of the sample (unless the study concerns a disease or condition relevant to a single sex, such as prostate cancer). Studies that address*

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> *pregnancy should follow these recommendations, and if the gender identity of participants was not assessed, use the terms "pregnant participants," "pregnant individuals," "pregnant patients," etc, as appropriate.*

Ritchie Johnson notes that when "the biological sex of a patient is known…it should be reported accordingly" and that more precise, self-reported data are needed. We agree, as noted in our interim guidance cited above, and it is certainly within the purview of style manuals and journal editors, as well as research funders, to encourage researchers and authors to collect and report such data.

The language used to describe study participants in the medical literature is of paramount importance, which is why the *AMA Manual of Style* committee is working to develop comprehensive, consistent, and sensitive guidance in the ongoing revision. We will have our draft updated guidance reviewed by experts on diversity, equity, and inclusion to ensure we recommend using clear, consistent, appropriate, and inclusive language and we invite readers of this letter to provide feedback.

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