COMMENT

Is it time for a time-out? Progress versus politics in studying the psychosexual implications of penile circumcision

Beatriz Bañuelos Marco [1] ✉

Tye and Sardi present an extensive critical overview of the sparse and inconsistent literature on the psychological, psychosocial, and psychosexual impact of penile circumcision (PC) with a clear aim of achieving a framework for policy considerations and future research. With this perspective I humbly propose to step back and ask some deeper questions about PC, being this a politicized topic we should ask ourselves whether we can engage with a literature so full of polemical publications and polarized opinions. Even when presenting "straightforward" empirical data we can stimulate very different interpretations based on the previous beliefs or convictions of the reader, generating an undesirable sociocultural division. While PC is becoming a hot topic, we are falling far from reaching a consensus towards a medical policy framework to counsel families and individuals searching for answers; it actually seems to become a politicised philosophical battle between medical and health providers, researchers, psychologists, anthropologists, and activists. At this point, can we disentangle this ball of twine, asking the same questions and searching for the same answers—or should we call for a time-out and revaluate what we want to figure out about human sexuality in relation to cultural modifications of the genitals?

IJIR: Your Sexual Medicine Journal; https://doi.org/10.1038/s41443-022-00608-x

PERSPECTIVE

I praise Tye and Sardi [1] for their narrative review of potential psychological outcomes associated with penile circumcision (PC). They present an extensive critical overview of the sparse and inconsistent literature on the psychological, psychosocial, and psychosexual impact of PC with a clear aim of achieving a framework for policy considerations and future research.

I also propose to step back and ask some deeper questions. As Tye and Sardi acknowledge, PC is an incredibly charged and politicized topic. We should ask ourselves whether we can engage with a literature so full of polemical publications, where polarized opinions are the norm. Under such conditions, it has been argued [2] that even presenting "straightforward" empirical data can stimulate very different interpretations based on the previous beliefs or convictions of the reader, generating even more sociocultural division.

As Tye and Sardi state, the research on this topic is limited and generally of low quality. The studies are mostly descriptive, sample sizes are small, and there is usually no clear comparison or control group. Even with randomized control trials, the actual measurement of psychological outcomes is not consistently based on well-validated instruments. These trials are mostly limited to PC performed in adulthood in specific populations of men who are, for one reason or another, distinctly motivated to volunteer for the procedure—whether in the hope of achieving potential health benefits, due to dissatisfaction with their current genital status or perceived sexual performance, or having "the will to change something" either functional or subjective-esthetical. These volunteers, therefore, cannot be taken as representative of the general population of circumcised males, especially not those circumcised non-voluntarily as infants or children.

Moreover, these studies almost invariably rely on self-report surveys or questionnaires. Independent clinical assessments of psychological outcomes are virtually never performed. Given the motivation to be circumcised among those who would actively choose the procedure for themselves, it can be hypothesized that the prior convictions or beliefs about circumcision among this group might not generalize to those who did not consent to circumcision [3].

Among men circumcised as infants or children, by contrast, a desire to justify or accept their circumcised state—or to reject or rebel against it—may introduce additional complexities in interpreting their self-reports. In any case, we must be alert to problems around potential selection bias, confirmation bias, motivated reasoning, and other distorting factors, all of which are difficult to avoid when designing and interpreting studies on such subjective matters as sexual pleasure, sexual satisfaction, and sexual sensitivity [4]. Also scientists, researchers, and other stakeholders (e.g., policy-makers) may have their own prior beliefs and biases when it comes to this issue, shaping how empirical results are generated, understood, communicated, or incorporated into policy.

Such difficulties in establishing a clear cause-and-effect between (a) circumcision and (b) key psychological or psychosexual outcomes does not, of course, mean that we should simply discount the real distress and preoccupation about PC reported by affected men, including those circumcised in infancy or childhood

[1]University Hospital Clínico San Carlos C/ del Prof Martín Lagos, 28040 Madrid, Spain. *Reflections on "Psychological, psychosocial, and psychosexual aspects of penile circumcision" by Tye and Sardi.* ✉email: banuelos.marco@gmail.com

Received: 19 July 2022 Revised: 16 August 2022 Accepted: 18 August 2022
Published online: 30 August 2022

[5]. Irrespective of the lack of strong causal evidence in this area, it is surely not unreasonable to feel upset that one's "private" sexual anatomy has been altered without one's own consent, as is increasingly being argued and acknowledged [6].

As Tye and Sardi emphasise, we must try to find common ground towards policy formation and an adequate framework for proper counsel of and guidance for medical providers, parents, and affected individuals. Rather than continuing an endless discussion about the supposed (lack of) quality of individual studies, we must be able to grapple with the diverse impacts of circumcision—including personal attitudes toward, or interpretations of one's genital state—in our patient population. Although we should help men work through various possible sources of distress that may not be directly rooted in their penile modification, we should also take seriously, discussing openly and comprehensively, their concerns regarding the possibility that their sexual (dis)satisfaction or other psychological issues might be related to their circumcision status.

Unfortunately, most clinicians do not have enough high-quality, unbiased (or minimally biased) information to actually respond to families or affected individuals with anything approaching dispassionate neutrality. This is one reason why the review by Tye and Sardi marks a useful contribution. It is worth the read, even if it is only to question ourselves in terms of what we know versus what we thought we knew or merely presumed. As clinicians, we must be honest about the limits of our knowledge in the context of shared decision-making encounters.

In my view, Tye and Sardi fairly and comprehensively cover many important aspects of PC, including possible negative effects (e.g., pain and its potential sequalae) of the procedure carried out in infancy. As described by Miani and colleagues [7], men circumcised as newborns (newborn male circumcision: NMC) prior to the use of analgesia *may* have altered attachment and psychosocial development along certain dimensions; this is of course plausible insofar as any medical intervention or action can be a source of stress for a newborn or infant. This could be a reason to limit or avoid not strictly medically necessary procedures. However, as mentioned by Tye and Sardi, other studies purport to find no negative effect of NMC on certain psychological outcomes [8] with these studies also being criticized [9].

In the Miani study, most of the patients underwent NMC before 1999 without anaesthesia whereas nowadays PC, when performed by a doctor in a clinical environment, is much more commonly carried out under anaesthesia—although it should be noted that complete elimination of pain may not always be assured [10]. Some authors propose that infancy is the best time, medically speaking, to perform a PC due to the relative simplicity of the procedure, a lower reported risk for at least some types of complications, and greater cost effectiveness, among other factors [11]. However, this view has view criticized on several grounds. First, although the risk of surgical complications associated with PC appears to be lower, on average, in infancy compared to PC later in childhood, it does not appear to be significantly lower than circumcision performed consensually in adulthood, when compliance with wound-care can be more readily assured [12]. Also as the hypothetical example of cosmetic "infant labiaplasty" shows, the surgical alteration of anatomically typical, non-diseased genital tissues is, in other contexts, considered to be categorically impermissible if done without the informed consent of the affected individual [13]. According to this perspective such a purely "medical" argument for proceeding with surgery would not be accepted on ethical grounds.

Finally, there are concerns about anaesthesia being administered to infants due to possible neurotoxicity [14]. Neonates are an especially vulnerable population, and minimising exposure to drugs is an important goal, as the evidence for safety or toxicity is still lacking [15]. The use of general anaesthesia during PC in newborns is medically contraindicated, and many authors defend the use of local anaesthesia. Although such methods are likely to be safer than general anaesthesia for newborns, they tend to be less effective under real conditions in fully eliminating pain. This takes us back to the point already expressed by Tye and Sardi about possible negative psychological effects of pain in children. It would be desirable to see more robust efforts in the area of pain studies relating to NMC, but the available data on this question are currently too limited.

The literature on circumcision and sexual function is highly controversial and often contradictory. Many studies on NMC are based on surveys distributed to men who were targeted through websites or other venues representing polarised opinion groups (e.g., anti-circumcision networks [16] or groups of patients suffering already from sexual dysfunction like premature ejaculation [17]); it has been argued such sampling can contribute to bias as they can either blame or praise their circumcision status for their sexual dysfunction or satisfaction respectively.

Even with representative sampling (e.g., national cohort studies) clear conclusions are hard to come by. Frisch et al. in 2011 [18] reported that circumcised Danish men have more orgasm-related difficulties; however, other studies like the one from Gao et al. in 2015 [19] showed that men circumcised voluntarily in adulthood for medical reasons had higher self-estimated intravaginal ejaculation latency times (IELT), greater perceived control over ejaculation, more satisfaction with sexual intercourse, and less severe premature ejaculation (PE) after a therapeutic (i.e., medically indicated) PC. Still, it must be emphasized that results associated with adult, voluntary, therapeutic circumcisions cannot be used to infer the likely effects of infant, non-voluntary, nontherapeutic circumcisions on measures of sexual function. It has been hypothesised that early childhood circumcision could lead to the development of histological changes (i.e., keratinization of the glans surface) that could potentially reduce sensitivity, and also that lesions of the prepuce could cause atrophy of the relevant neurocircuitry leading to lower excitability [20]. Nevertheless, a review paper by Cox, Krieger, and Morris argues that nerve endings distinctly related to sexual pleasure predominate in the glans, with Meissner's corpuscles in the foreskin decreasing by puberty [21]. From this, they infer that removal of the foreskin should not reduce sexual sensitivity as such.

Even so, it is undeniable that sexual experience and satisfaction involve more than just the genitals, whether "cut" or "uncut." Pursuing a more holistic assessment should be our focus for future research and reviews on this topic. Most of the research articles on PC and sexual function assess outcomes using international indexes focused on erectile function or quality of erection based on such instruments as The International Index of Erectile Function (IIEF) or the Erection Hardness Grading Scale, while relatively few attempt to measure sexual satisfaction, (i.e in the context of interpersonal relationships) [22]. It goes without saying that most of the items in the IIEF questionnaire are focused on penetrative sex or penile-vaginal intercourse not covering the full scope of male sexual function.

If we are to progress in this topic, we should consider these scoring systems obsolete, due to growing concerns that they target predominantly *cis-hetero-normative* sexual interactions and behaviours. Among other problems, this can lead to social-desirability bias in participant responses [23] feeling pressure to express conformity or on the other hand, being misled to think his "performance" it is not adequate, even if he was not previously unsatisfied.

Let me move now to the question of trauma. When addressing the importance of body integrity in older children who undergo PC or other medical procedures and therefore may (consciously) experience the procedure as traumatic, we should be mindful that ways of confronting potentially traumatic events, memories of pain, and constructions of the sense of self vary drastically between different sociocultural environments and historical backgrounds.

Therefore, we must try in our research efforts on PC and male sexual function to account for these contextual variables.

In other words, how we study and write about this topic as professionals—including our use of scales and measures that focus attention on the minutiae of genital differences—has the potential to impact individuals´ sexual lives by offering a distorted vision of the importance of the physical state of the genitals in overall sexual satisfaction. More generally, when we formulate statements as medical providers or medical and scientific authorities, we should be scrupulous about acknowledging the limitations in our research, including potential sources of bias; not generalizing beyond what our data support—as such behaviour can lead the public to distrust the medical community, provoking the opposite of the effect we aim for. During the Covid-19 pandemic, we have seen how distrust for medical, scientific, and political institutions affected the public's behaviour, damaging healthcare strategies and strengthening conspiracy theories [24]. We should aim to join forces to bring neutrality and clarity to challenging topics in the literature, instead of taking up extreme positions on either side, thereby making the debates intractable and undermining our own credibility.

This will not be achieved, however, by pretending that complex sociomoral issues such as child genital modification can be settled by simple appeals to "medical facts." It is increasingly recognized that sexual medicine must expand beyond reductive, clinical investigations focused narrowly on the body, to include the wider sociocultural and other contextual factors that influence patients' attitudes—including the culturally inflected narratives they use for understanding their own bodily experiences [4]. Tye and Sardi are thus right to emphasize that the effects of genital cutting on psychosexual outcomes cannot be understood "in a vacuum." Rather, they must be studied through a framework that acknowledges the complex relationship between each individual and their social environment. Depending on this relationship, an individual might be motivated to embrace the dominant norms of their community—for example, with respect to genital cutting and perceived ideals of masculinity—or they might take a stand in opposition to those norms, and thus evaluate their (altered) bodies very differently. Accordingly, they might consider their modified genitalia as a bodily enhancement in line with their inherited communal values; or, alternatively, as a bodily mutilation or even sexual violation causing grief and resentment.

Giving due weight and consideration to the full scope and legitimacy of such interpretive possibilities will be important for research on this topic to be able to proceed with less polarization and with an open mind. We are entering this debate for the sake of our patients. So we must listen to and respect their feelings, experiences, and self-interpretations, even if these are difficult to "measure" with standard scientific instruments. Dismissing, ignoring, or otherwise undermining the doubts and worries of our patients is a source for distrust.

As Tye and Sardi note in their review, there are also implications here for parents and families. It is well known that children will feel the stress of their familial environment, including by interiorising parental anxiety. Our role here is to provide families with accurate data regarding PC, including being upfront about the lack of good data and avoiding our personal opinions or judgements to interfere. This might be obvious but it does not seem possible when the medical community is expressing itself in so polarised a manner towards this topic.

PC is becoming a hot topic and we are falling far from reaching a consensus towards a medical policy framework to counsel families and individuals searching for answers; it actually seems to have become a politicised philosophical battle between medical and health providers, researchers, psychologists, anthropologists, and activists.

At this point, can we really expertly disentangle this ball of twine, asking the same questions and searching for the same answers—or should we call for a time-out and revaluate what we want to figure out about human sexuality in relation to cultural modifications of the genitals? This question is much more complex than our "scientific disputes" seem to acknowledge, and it deserves a holistic, interdisciplinary, collaborative approach, rather than a yes/no ring of medical boxing.

DATA AVAILABILITY

Data sharing not applicable to this article as no datasets were generated or analysed during the current study. All the references cited are available in the bibliography as it follows.

REFERENCES

1. Tye MC, Sardi LM. Psychological, psychosocial, and psychosexual aspects of penile circumcision. Int J Impot Res. 2022:1–7. https://doi.org/10.1038/s41443-022-00553-9. [Epub ahead of print].
2. Cheng I-H, Hsiaw A. Distrust in experts and the origins of disagreement. J Econ Theory. 2022;200:105401.
3. Earp B, Steinfeld R. Genital autonomy and sexual well-being. Curr Sex Heal Rep. 2018;10:7–17.
4. Johnsdotter S. Discourses on sexual pleasure after genital modifications: The fallacy of genital determinism (a response to J. Steven svoboda). Glob Discourse. 2013;3:256–65.
5. Özer M, Timmermans FW. An insight into circumcised men seeking foreskin reconstruction: a prospective cohort study. Int J Impot Res. 2020;32:611–6.
6. Bossio JA, Pukall CF. Attitude toward one's circumcision status is more important than actual circumcision status for men's body image and sexual functioning. Arch Sex Behav. 2018;47:771–81.
7. Miani A, Di Bernardo GA, Højgaard AD, Earp BD, Zak PJ, Landau AM, et al. Neonatal male circumcision is associated with altered adult socio-affective processing. Heliyon. 2020;6:e05566.
8. Ullmann E, Licinio J, Barthel A, Petrowski K, Oratovski B, Stalder T, et al. Circumcision does not alter long-term glucocorticoids accumulation or psychological effects associated with trauma- and stressor-related disorders. Transl Psychiatry. 2017;7:e1063.
9. Boyle GJ. Proving a negative? Methodological, statistical, and psychometric flaws in Ullmann et al. (2017) PTSD study. J Clin Transl Res. 2018;Suppl 2:375–81.
10. Bellieni CV. Neonatal Infant Pain Scale in assessing pain and pain relief for newborn male circumcision. Int J Impot Res. 2022. Available from: https://doi.org/10.1038/s41443-022-00551-x.
11. Morris BJ, Waskett JH, Banerjee J, Wamai RG, Tobian AAR, Gray RH, et al. A "snip" in time: What is the best age to circumcise? BMC Pediatr [Internet]. 2012;12:20. Available from: http://www.biomedcentral.com/1471-2431/12/20.
12. Shabanzadeh DM, Clausen S, Maigaard K, Fode M. Male circumcision complications - a systematic review, meta-analysis and meta-regression. Urology. 2021;152:25–34.
13. Myers A, Earp BD. What is the best age to circumcise? A medical and ethical analysis. Bioethics. 2020;34:645–63.
14. Orser BA, Suresh S, Evers AS. Smarttots update regarding anesthetic neurotoxicity in the developing brain. Anesth Analg. 2018;126:1393–6.
15. Nasr VG, Davis JM. Anesthetic use in newborn infants: the urgent need for rigorous evaluation. Pediatr Res. 2015;78:2–6.
16. Earp BD, Sardi LM, Jellison WA. False beliefs predict increased circumcision satisfaction in a sample of US American men. Cult Health Sex. 2018;20:945–59.
17. Gallo L. The prevalence of an excessive prepuce and the effects of distal circumcision on premature ejaculation. Arab J Urol [Internet]. 2017;15:140–7. Available from: https://doi.org/10.1016/j.aju.2017.02.002.
18. Frisch M, Lindholm M, Gronbaek M. Male circumcision and sexual function in men and women: a survey-based, cross-sectional study in Denmark. Int J Epidemiol. 2011;40:1367–81.
19. Gao J, Xu C, Zhang J, Liang C, Su P, Peng Z, et al. Effects of adult male circumcision on premature ejaculation: Results from a prospective study in China. Biomed Res Int. 2015;2015:1–7.
20. Taylor JR, Lockwooo AP, Taylor AJ. The prepuce: Specialized mucosa of the penis and its loss to circumcision. Br J Urol. 1996;77:291–5.
21. Cox G, Krieger JN, Morris BJ. Histological correlates of penile sexual sensation: does circumcision make a difference? Sexual Med. 2015.
22. Mulhall JP, King R, Kirby M, Hvidsten K, Symonds T, Bushmakin AG, et al. Evaluating the sexual experience in men: validation of the sexual experience questionnaire. J Sex Med. 2008;5:365–76.
23. Earp BD. The need to control for socially desirable responding in studies on the sexual effects of male circumcision. PLoS ONE. 2015;10:1–12.

24. Lamberty P. Causes of belief in conspiracy narratives and recommendations for successful risk communication in healthcare. Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz. 2022;65:537–44.

ACKNOWLEDGEMENTS

I would like to thank Dr. Brian D. Earp for his extremely valuable help as editor of this manuscript.

AUTHOR CONTRIBUTIONS

BBM formulated the outline of the paper and wrote the initial draft, revised and edited the paper per recommendations and comments of reviewers.

COMPETING INTERESTS

The author declares no competing interests.

ADDITIONAL INFORMATION

Correspondence and requests for materials should be addressed to Beatriz Bañuelos Marco.

Reprints and permission information is available at http://www.nature.com/reprints

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.