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'Male circumcision' and 'female genital mutilation': why parents choose the procedures and the case for gender bias in medical nomenclature

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ABSTRACT

Cutting of boys' and girls' genitalia is a debated human rights topic. Here, the first aim was to summarise why parents choose to have these procedures performed on their children. Results from 22 survey studies on 'male circumcision' and 27 studies on 'female genital mutilation' revealed that non-medical reasons, such as tradition, are prominent in the decisions for both procedures. The second aim was to describe researchers' use of medical words (i.e. 'circumcision') and non-medical words (i.e. 'cutting', 'mutilation') when referring to these procedures. Relevant phrases were searched in titles and abstracts of articles indexed in PubMed. Total article count was similar for male (1721 articles) and female (1906 articles) procedures. However, for female procedures, 'genital mutilation' was used most frequently (61.7% of articles), whereas for males, 'circumcision' was used almost exclusively (99.4%). Because both procedures involve significant alteration of genitalia, and social/culture reasons are prominent in parents' decisions for both, the results suggest a gender bias in medical ethics applied to bodily integrity, which manifests itself in nomenclature that expresses negative value judgement toward the female procedure ('mutilation') but not the male procedure ('circumcision'). The results add to emerging evidence of a 'male empathy gap' in public health.

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KEYWORDS
Circumcision; gender bias; female genital mutilation; medical ethics; men's health

Introduction

Cutting of female genitalia is unlawful in many countries and condemned by a number of organisations and medical associations such as the United Nations (UN) International Children's Emergency Fund,[1] World Health Organization (WHO),[2] American Academy of Family Physicians,[3] American Medical Association,[4] American College of Obstetricians and Gynecologists,[5] Australian Medical Association,[6] and Royal Australian and New Zealand College of Obstetricians and Gynaecologists.[7] Cutting of male genitalia, however, is not universally condemned. It is legal in many countries and is supported by the WHO, who views it as a way to prevent acquisition of human immunodeficiency

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virus (HIV) and transmission of other sexually transmitted diseases in Africa.[8–10] Cutting of male genitalia is also supported by the Centers for Disease Control and Prevention (CDC) in the United States of America (USA)[11–13] and the American Academy of Pediatrics.[14] Worldwide, approximately 37–39% of men have been 'circumcised', with a wide range of prevalence rates across countries.[15,16] Approximately 80% of the male population in the USA (14–59 years old) have had their genitals cut,[17] and 55–60% of newborn male infants in the USA have their genitals cut each year.[14,18] Nevertheless, support for routine cutting of male genitalia is not universal. The Canadian Paediatric Society[19] and various medical practitioners and ethicists have highlighted a number of issues with arguments used to support routine cutting of male genitalia.[19–33]

One issue that has been put forward by some authors[23,25,27,33] is that the benign medical word 'circumcision', which means 'a circular cut', tends to be used to refer to cutting of male genitalia, whereas the word 'mutilation', which includes negative value judgment, tends to be used to refer to cutting of female genitalia. Use of the benign medical term 'male circumcision' is potentially problematic for a few reasons. First, not all male circumcisions are performed by medical doctors or in medical facilities.[34,35] In one study, 85% of boys in a Muslim community in western Nepal were found to have been circumcised at home, and only 4.2% of circumcisions involved use of a new, sterile blade.[35] In another study, 64% of boys in Turkey were found to have been circumcised at home, and 60% were circumcised by someone who was not a medical doctor.[34]

Second, use of the benign medical word 'circumcision' implies safety. However, male circumcision is not without risks. Bleeding, infection, amputation, and death are all possible risks associated with male circumcision.[36–39] Rates of these risks are not high but they should be weighed against whether or not male circumcision is medically necessary or advantageous.

Third, even when male circumcision is performed under conditions of best practice, use of the word 'circumcision' is still potentially problematic because it implies parents choose the procedure for medical reasons. However, social and cultural factors likely influence parents' decision. Moreover, if parents choose circumcision for non-medical reasons, this should cause pause for reflection on the similarities and differences between male circumcision and female genital mutilation, because female genital mutilation is sometimes also performed for social and cultural reasons,[40–42] though comprehensive reviews on reasons why parents choose to have such procedures performed on their children appear to be missing from the literature.

Underlying the apparent inconsistency of 'female genital mutilation' being associated with negative value judgment, and 'male circumcision' not being associated with negative value judgment, might be a gender bias in the application of medical ethics and terminology. Such a hypothesis would be consistent with the constructs of gamma bias[43] and the 'male gender empathy gap',[44,45] and individual-level cognitive biases associated with greater protection of females than males.[43,46,47] Such a hypothesis would also be consistent with the apparent bias against addressing boys' and men's issues within organisations and institutions such as the UN, WHO, and USA National Institutes of Health.[48–50]

Therefore, the purpose of the current paper was to explore potential gender bias in regard to the practice of cutting male and female genitalia. To do this, I combined two

approaches. First, I conducted literature reviews of parents' reasons for male circumcision and female genital mutilation. Such reviews appear to be lacking from the literature and can reveal the extent to which medical and non-medical reasons underlie parents' decisions. Second, I searched the biomedical research database PubMed to quantify how frequently researchers use medical (i.e. 'circumcision') and non-medical words (i.e. 'cutting', 'mutilation') to refer to genital cutting. If a literature review reveals that parents choose male circumcision for non-medical reasons, and a scientometric analysis reveals that researchers frequently use the word 'circumcision' to refer to cutting of male but not female genitalia, this might be evidence of a gender bias in medical ethics and terminology. Language used in biomedical research is known to impact readers' opinions on health and policy issues.[51,52] Thus, results from the current research might inform (a) the study of medical nomenclature and its appropriate use; (b) the study of gender biases in cognitive psychology; and (c) the application of medical ethics to the topics of genital cutting and bodily integrity in the field of human rights.

Methods

Literature review. Relevant keyword phrases (e.g. 'circumcision and survey', 'circumcision decision') were searched in PubMed and Google Scholar to identify survey studies in which respondents indicated why they chose 'male circumcision' or 'female genital mutilation' for their children or themselves. To be eligible for inclusion, the study needed to be published in English and include data on the percentage of parents who chose male circumcision or female genital mutilation for particular reasons. No limits were placed on the date of publication. Cross-referencing of reference lists also helped to identify additional studies. A full systematic review of the literature was deemed unnecessary given that the purpose of the literature review was to gain a general understanding of the types of reasons given for the procedures rather than estimating effect sizes. Extracted data included country, sample size and characteristics, and percentage of survey respondents who reported particular reasons for male circumcision or female genital mutilation. Also, some studies included separate questions for reasons for choosing the procedures versus perceived benefits of the procedures. Both types of data were extracted and then summarised separately, though sometimes the perceived benefits *are* the reasons for the procedure.

Use of words. On January 9, 2020, keyword searches were performed in PubMed to identify papers that were published between January 1, 1900 and December 31, 2019 and included the phrases 'female genital mutilation', 'female genital cutting', 'female circumcision', 'male genital mutilation', 'male genital cutting', and 'male circumcision' in their titles or abstracts. An example keyword search was: 'female genital mutilation '[TIAB] 1900/01/01:2019/12/31 [DP]. The TIAB term restricts searches to titles and abstracts. The DP term restricts searches to the date range entered. Supplemental searches were also performed for specific types of female procedures (i.e. 'clitoridectomy' [TIAB] OR 'infibulation' [TIAB] 1900/01/01:2019/12/31 [DP]) and male procedures (i.e. 'mogen clamp' [TIAB] OR plastibell [TIAB] OR gomco [TIAB] OR 'dorsal slit' [TIAB] 1900/01/01/2019/12/31 [DP]).

PubMed generates a spreadsheet of search results. One item within the spreadsheet is journal name. Thus, journals that most frequently published papers with these phrases in

their titles or abstracts were examined. Article or publication type was also examined. The purpose of the article type analysis was to determine the degree to which the phrases 'female genital mutilation' and 'male circumcision' are used in original research articles versus non-original research articles. If, for example, 'male circumcision' is used more frequently than 'female genital mutilation' in original than non-original research articles, and 'female genital mutilation' is used more frequently in non-original than original research articles, this would suggest an association between 'male circumcision' and medicine and an association between 'female genital mutilation' and opinion, commentary, and activism. The PubMed filter for article type was used for this analysis. Original research articles were those indexed in PubMed as 'Clinical Trial', 'Comparative Study', 'Controlled Clinical Trial', or 'Randomised Controlled Trial'. Non-original research articles were those indexed as 'Comment', 'Editorial', or 'News'. Other article types, such as 'Journal Article' were not selected as part of this analysis because 'Journal Article' could be associated with either original or non-original research.

The phrase 'male circumcision' has potential to be used in articles that condemn its use. Some authors might use the phrase because it is common nomenclature. Thus, to confirm if use of the phrase 'male circumcision' was associated with benign, medical usage, a subsample of 20 articles, which included the phrase 'male circumcision' in their titles or abstracts, were examined for phrase tone. These articles were randomly selected using a random number generator (https://www.randomizer.org). Based on the abstract text, these articles were categorised as either: (a) medical or in support of male circumcision with no ethical issues raised, (b) questioning or condemning male circumcision from an ethical standpoint, or (c) other. Descriptive statistics such as frequency counts, percentages, and category sums were generated for the outcomes.

Results

Literature review. Twenty-two survey studies were identified in the literature review of reasons given for having male circumcision performed. The 22 surveys included 18,879 respondents. Twenty studies included respondents who were parents or guardians; 1 study included men who had elected to undergo circumcision;[53] and 1 study included men who were asked about their general opinions of circumcision.[54] Of the 22 studies, 1 was conducted in Australia, 3 in Canada, 1 in China, 1 in Iraq, 1 in Pakistan, 1 in the Philippines, 3 in South Korea, 1 in Turkey, 1 in the United Kingdom, and 9 in the USA. The years of publication ranged from 1966 to 2017. Medical reasons given for male circumcision are summarised in Table 1. Non-medical reasons are summarised in Table 2. Perceived benefits of male circumcision are summarised in Table 3.

Twenty-seven survey studies were identified in the literature review of reasons given for having 'female genital mutilation' performed. The 27 studies included 32,200 respondents. Respondents were typically adult women who had undergone female genital mutilation or were the parents or grandparents of females who had undergone it. Respondents typically resided in the country where the survey was administered. However, some surveys were of immigrants from Africa who, at the time of study, lived in the country where the survey was administered (e.g. Sweden). Of the 27 studies, 1 consisted of a sample from Cote D'Ivoire, 3 from Egypt, 4 from Ethiopia, 1 from Ghana, 2 from Iran, 2 from Iraq, 1 from Malaysia, 7 from Nigeria, 1 from Saudi Arabia, 1 from

Table 1. Summary of medical reasons for 'male circumcision' reported by participants in survey studies.

Study sample	Country	Sample	Hygiene, cleanliness (%)	Prevents infection or cancer (%)	Medical – general (%)	Doctor recommended (%)
Adler et al. 2001[74]	USA	149 parents			40	14
Anwer et al. 2017[38]	PAK	500 parents			6	
Brodbar-Nemzer et al. 1987[75]	USA	82 parents			25	
Brown and Brown 1987[76]	USA	101 mothers	22	9	12	
Brown and Brown 1987[76]	USA	69 fathers	21	9	15	
Corduk et al. 2013[34]	TURK	668 parents			51	
Herrera and Trouern-Trend 1979[77]	USA	100 parents	28	1–9		8
Lee et al. 2004[53]	PHIL	114 'circumcised' men	23			
Lee et al. 2003[78]	KOR	3453 parents	88			
Lovell and Cox 1979[79]	USA	200 mothers	35	2–7		12
Metcalf et al. 1983[80]	USA	131 mothers	69	3		3
Naji and Mustafa 2013[39]	IRAQ	433 parents			7	
Oh et al. 2004[54]	KOR	611 men	78			
Oh et al. 2002[55]	KOR	3592 parents	82			
Patel 1966[81]	UK	100 parents	19	15	10	2
Public Health Agency Canada 2009[82]	CAN	6421 mothers	44			
Rediger and Muller 2013[83]	CAN	143 parents	51	15		4
Stein et al. 1982[84]	USA	103 parents			81	28
Tiemstra 1999[85]	USA	44 parents	67		41	13
Walton et al. 1997[86]	CAN	112 mothers			53	
Xu and Goldman 2008[87]	AUS	74 mothers, 62 fathers	78		36	

Percentages in the table have been rounded. AUS = Australia; CAN = Canada; IRAQ = Iraq; KOR = South Korea; PAK = Pakistan; PHIL = Philippines; TURK = Turkey; UK = United Kingdom; USA = United States of America.

Somalia, 1 from Sudan, and 3 from a combination of countries in Africa. The years of publication ranged from 2000 to 2019. Medical reasons given for female genital mutilation are summarised in Table 4. Non-medical reasons are summarised in Table 5.

Use of words. A similar total number of articles included phrases for cutting of female (1906 articles) and male genitalia (1721 articles) in their titles or abstracts (Table 6). However, frequency of use of the phrases 'genital mutilation', 'genital cutting', and 'circumcision' differed between articles about males and females. The phrase 'female genital mutilation' was most frequently used to describe genital cutting of females (61.7% of articles), whereas the phrase 'male circumcision' was used almost exclusively to describe genital cutting of males (99.4% of articles). Figure 1 displays the number of articles

Table 2. Summary of non-medical reasons for 'male circumcision' reported by participants in survey studies.

Study sample	Country	Sample	Religion (%)	Tradition, custom, culture (%)	Family – father circumcised or look like father (%)	Family – brother circumcised or look like brother (%)	Family – tradition, choice, preference, pressure, advice (%)	Look like peers, avoid ridicule (%)	Aesthetics (%)	Sex – function, facilitation, satisfaction (%)	Convenient, avoid doing it later (%)	Don't know, just did it, seems right (%)
Adler et al. 2001[74]	USA	149 parents	12		23	7	50–60	7				
Anwer et al. 2017[38]	PAK	500 parents	93							4		
Brodbar-Nemzer et al. 1987[75]	USA	82 parents	20					46				6
Brown and Brown 1987[76]	USA	101 mothers			15	8		9				7
Brown and Brown 1987[76]	USA	69 fathers			17	7	5	10	5			10
Corduk et al. 2013[34]	TURK	668 parents	79	49								
Herrera and Trouern-Trend 1979[77]	USA	100 parents						8			10	16
Lee et al. 2004[53]	PHIL	114 'circumcised' men	4	41			18	67	6	6	2	
Lee et al. 2003[78]	KOR	3453 parents	0.4					1	1	9		
Lovell and Cox 1979[79]	USA	200 mothers	3	16			2–4	1			3	
Metcalf et al. 1983[80]	USA	131 mothers	5	21	17				14			
	IRAQ	433 parents	93									

(*Continued*)

Table 2. Continued.

Study sample	Country	Sample	Religion (%)	Tradition, custom, culture (%)	Family – father circumcised or look like father (%)	Family – brother circumcised or look like brother (%)	Family – tradition, choice, preference, pressure, advice (%)	Look like peers, avoid ridicule (%)	Aesthetics (%)	Sex – function, facilitation, satisfaction (%)	Convenient, avoid doing it later (%)	Don't know, just did it, seems right (%)
Naji and Mustafa 2013[39]												
Oh et al. 2004[54]	KOR	611 men	0.2					7	3	9		
Oh et al. 2002[55]	KOR	3592 parents	0.3					1	0.2	8		
Patel 1966[81]	UK	100 parents		2–4			10	7			15	
Public Health Agency Canada 2009[82]	CAN	6421 mothers	17					36				
Rediger and Muller 2013[83]	CAN	143 parents	6		8			1	2			2
Stein et al. 1982[84]	USA	103 parents	20				19–63					
Tiemstra 1999[85]	USA	44 parents	11	2	37		2	11	5		63	
Walton et al. 1997[86]	CAN	112 mothers					35	2	2		5	2
Xu and Goldman 2008[87]	AUS	74 mothers, 62 fathers	18	3			57		25			

Percentages in the table have been rounded. Other non-medical reasons for 'male circumcision' reported in some studies included: 'to grow tall and fit' (30%),[53] 'to become intelligent' (3%),[53] 'to cause pregnancy' (20%),[53] 'to court a girl' (12%),[53] 'women prefer for sex' (11%),[53] 'prevents masturbation' (2%),[81] 'friend's advice' (10%),[77] 'women's magazine advice' (2%),[81] believe it is required (9%,[84] 7%,[77] 1%[79]) 'other' (10%,[81] 9%,[55] 3%,[54] 2%,[83] 2%,[79], 1%,[78]) no reason given (14%[80], 11%[79]). AUS = Australia; CAN = Canada; KOR = South Korea; PAK = Pakistan; PHIL = Philippines; TURK = Turkey; UK = United Kingdom; USA = United States of America.

Table 3. Summary of perceived benefits of 'male circumcision' reported by participants in survey studies.

Study sample	Country	Sample	Prevents penile cancer (%)	Prevents STIs, HIV (%)	Prevents urinary tract infections (%)	Prevents bladder kidney infection (%)	Prevents partner cervical cancer (%)	Prevents partner genital tract infection (%)	Better hygiene, easier to clean (%)	Better urinary function (%)	Better penis growth (%)	Better sexual function, performance (%)
Anwer et al. 2017[38]	PAK	500 parents	5		43				28			
Bisono et al. 2012[88]	USA	127 mothers, 11 fathers		34					34			
Leung et al. 2012[89]	CHI	1479 mothers, fathers	20	17	63	53	56	67	82	34	33	18
Oh et al. 2004[54]	KOR	611 men	50	34		47	65	80		28	42	41–47
Oh et al. 2002[55]	KOR	3592 parents	46							37	54	60–63
Xu and Goldman2008[87]	AUS	74 mothers, 62 fathers	38	50	65				96			14

Percentages in the table have been rounded. Other perceived benefits for 'male circumcision' reported in some studies included: general medical benefits (89%),[38] 'prevents balanitis' (83%)[89], no foreskin problems (60%).[87] AUS = Australia; CHI = China; HIV = human immunodeficiency virus; KOR = South Korea; PAK = Pakistan; STI = sexually transmitted infection; USA = United States of America.

Table 4. Summary of medical reasons for 'female genital mutilation' reported by participants in survey studies.

Study sample	Country	Sample	Hygiene, cleanliness (%)	Childbirth – facilitates delivery (%)	Childbirth – could kill baby if not done (%)	Health – general (%)
Adeniran et al. 2015[90]	NIG	22 fathers				
Adeniran et al. 2015s[90]	NIG	39 mothers				
Almroth et al. 2001[91]	SUD	87 parents, grandparents				
Al-Hussaini 2003[92]	EGY	244 women	2			
Chalmers and Hashi 2000[93]	SOM	432 women				
Chu et al. 2016[94]	AFR	46 women	24			
Dare et al. 2004[95]	NIG	522 women				
Dehghankhalli et al. 2015[96]	IRAN	780 women		31		
Elgaali et al. 2005[97]	AFR	220 women				4
Garba et al. 2012[98]	NIG	26 mothers	12			
Gebremariam et al. 2016[99]	ETH	662 girls, women	18			
Ibekwe et al. 2012[100]	NIG	46 women	14	8	8	
Litorp et al. 2011[101]	AFR	40 women	10			
Mandara 2003[102]	NIG	170 women	2			
Oduwole and Iyaniwura 2005[103]	NIG	177 women		27	2	2
Oduwole and Iyaniwura 2005[103]	NIG	68 men		5	4	0
Pashaei et al. 2012[104]	IRAN	348 women	17			3
Plo et al. 2014[105]	CD	60 mothers, grandmothers	63			
Rasheed et al. 2011[106]	EGY	3711 parents				
Rashid and Iguchi 2019[107]	MAL	605 women	25	5		24
Rouzi et al. 2019[108]	SA	963 women	3			
Sakeah et al. 2018[109]	GHN	830 women				
Saleem et al. 2013[110]	IRAQ	348 girls, women				
Shay et al. 2010[111]	ETH	16 parents	100			
Tag-Eldin et al. 2008[112]	EGY	19,543 girls	19			
Tamire and Molla 2013[113]	ETH	60 girls, women	35	5		
Yasin et al. 2013[114]	IRAQ	1987 women	1			
Yirga et al. 2012[115]	ETH	325 women				

Percentages in the table have been rounded. Other medical reasons for 'female genital mutilation' reported in some studies included: 'clitoris is extra tissue' (26%),[96] 'postponing menopause' (25%)[96] 'decreases back pain' (25%),[96] 'enhanced fertility' (17%),[95] 'less severe than infibulation' (10%),[91] 'cure for some ailments' (5%),[102] 'to reduce hormone levels' (3%),[101] and 'remove bad odour' (0.4%).[114] AFR = Africa; CD = Cote D'Ivoire; EGY = Egypt; ETH = Ethiopia; GHN = Ghana; MAL = Malaysia; NIG = Nigeria; SA = Saudi Arabia; SOM = Somalia.

Table 5. Summary of non-medical reasons for 'female genital mutilation' reported by participants in survey studies.

Study sample	Country	Sample	Religion (%)	Tradition, custom, culture (%)	Sex behaviour – preserve purity, virginity (%)	Sex behaviour – reduce libido, promiscuity (%)	Parent choice, preference, pressure (%)	Marriage prospects (%)	For men, husband (e.g. sex enjoyment) (%)	Woman's initiation (%)	Aesthetic (%)	Don't know, just did it (%)
Adeniran et al. 2015[90]	NIG	22 fathers	64	23			5					
Adeniran et al.2015[90]	NIG	39 mothers	54	26			13					
Almroth et al. 2001[91]	SUD	87 parents, grandparents	5	45	3		6		16			
Al-Hussaini 2003[92]	EGY	244 women	1	47		10	4				x	35
Chalmers and Hashi 2000[93]	SOM	432 women	91	71	56	15		53	13		52	
Chu et al. 2016[94]	AFR	46 women	20	91		29		18				
Dare et al. 2004[95]	NIG	522 women	23	60		19						14
Dehghankhalli et al. 2015[96]	IRAN	780 women	30	57	25	26	15–41	40	32	28		
Elgaali et al.[97]	AFR	220 women	58	27		1		21				5
Garba et al.[98]	NIG	26 mothers	12	73	4							
Gebremariam et al. 2016[99]	ETH	662 girls, women	17		61			30	4			
Ibekwe et al. 2012[100]	NIG	46 women		33		22						16
Litorp et al. 2011[101]	AFR	40 women	5	48		23			3			18
Mandara 2003[102]	NIG	170 women	8		7	11					1	56
Oduwole and Iyaniwura 2005[103]	NIG	177 women	8	18		11				13		19
Oduwole and Iyaniwura 2005[103]	NIG	68 men	45	9		0				2		35
Pashaei et al. 2012[104]	IRAN	348 women	3	67		1						
Plo et al. 2014[105]	CD	60 mothers, grandmothers			100							
Rasheed et al. 2011[106]	EGY	3711 parents	44	37	19							
Rashid and Iguchi 2019[107]	MAL	605 women	23			8	1					
Rouzi et al. 2019[108]	SA	963 women	9	42					1			15

(*Continued*)

Table 5. Continued.

Study sample	Country	Sample	Religion (%)	Tradition, custom, culture (%)	Sex behaviour – preserve purity, virginity (%)	Sex behaviour – reduce libido, promiscuity (%)	Parent choice, preference, pressure (%)	Marriage prospects (%)	For men, husband (e.g. sex enjoyment) (%)	Woman's initiation (%)	Aesthetic (%)	Don't know, just did it (%)
Sakeah et al. 2018[109]	GHN	830 women	44			29				2		
Saleem et al. 2013[110]	IRAQ	348 girls, women	50	41	9							
Shay et al. 2010[111]	ETH	16 parents		94	88			75				
Tag-Eldin et al. 2008[112]	EGY	19,543 girls	33	18	16							
Tamire and Molla 2013[113]	ETH	60 girls, women	17	25	10	7	5	3				
Yasin et al. 2013[114]	IRAQ	1987 women	39	47		8					0.3	5
Yirga et al. 2012[115]	ETH	325 women			25	60						10

Percentages in the table have been rounded. Other non-medical reasons for 'female genital mutilation' reported in some studies included: 'social acceptance' (30%,[99] 20%[109]), 'pressure from others' (0-2.5%),[90] 'other' (12%,[102] 5%,[109, 91, 115] 1%[92]), and miscellaneous reasons such as 'fear of clitoris similar to penis' (63%),[105] 'to avoid shame or stigma' (37%)[113] 'self-intent to continue the practice' (22%)[96] 'moral reasons' (21%)[108] 'decreases sins' (19%)[96] 'no comment' (11%)[112] 'evidence of feminist' (3%)[112] and 'good for the girl' (3%).[101] AFR = Africa; CD = Cote D'Ivoire; EGY = Egypt; ETH = Ethiopia; GHN = Ghana; MAL = Malaysia; NIG = Nigeria; SA = Saudi Arabia; SOM = Somalia.

Table 6. Number of articles indexed in PubMed and published between 1900 and 2019 with 'genital mutilation', 'genital cutting', and 'circumcision' in their titles or abstracts.

Phrase searched	Count	% of gender category total count
Female		
'female genital mutilation'	1176	61.7%
'female genital cutting'	277	14.5%
'female circumcision'	453	23.8%
Category total	1906	100%
Male		
'male genital mutilation'	8	0.5%
'male genital cutting'	2	0.1%
'male circumcision'	1711	99.4%
Category total	1721	100%

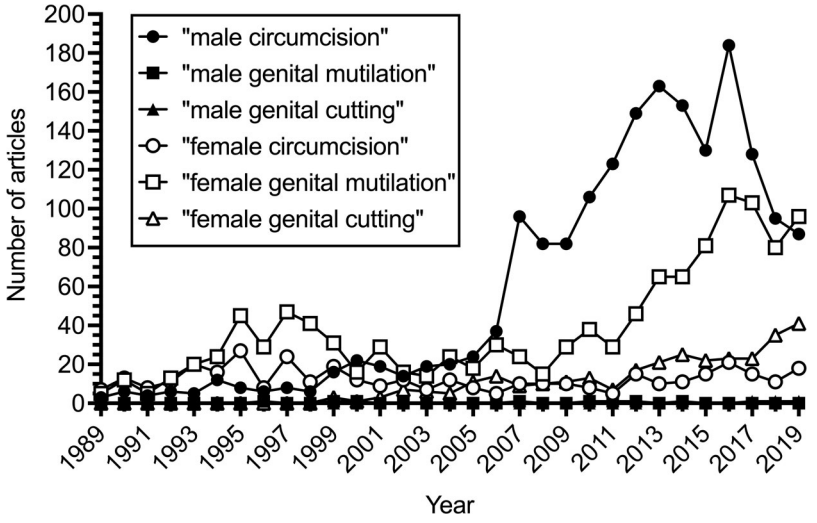

Figure 1. Number of articles indexed in PubMed and published between 1989 and 2019 that included the phrases 'circumcision', 'genital cutting', or 'genital mutilation' in their titles and abstracts. Lines for 'male genital mutilation' and 'male genital cutting' are near zero because few articles included these phrases in their titles or abstracts.

published between 1989 and 2019 that included these phrases in their titles or abstracts. The number of articles that included the words 'clitoridectomy' or 'infibulation' in their titles or abstracts was 230. The number of articles that included the phrases 'mogen clamp', 'plastibell', 'gomco', or 'dorsal slit' in their titles or abstracts was 228. In the supplemental analysis of 20 randomly-selected articles that included the phrase 'male circumcision' in their titles or abstracts, 17 (85%) of the articles were supportive of male circumcision or were medical in nature with no ethical issues raised; 2 articles questioned or condemned the practice from an ethical standpoint; and 1 was classified as other (Table 7).

The journals that published the most articles with the phrase 'female genital mutilation' in article titles or abstracts were *BMJ* (65 articles), *International Journal of Gynaecology and Obstetrics* (50 articles), *Reproductive Health* (29 articles), *Lancet* (26 articles),

Table 7. Classification of use of phrase 'male circumcision' in 20 randomly-selected articles.

Author	PMID	Title	Classification
Senol et al. 2008	19115671	The effect of male circumcision on pudendal evoked potentials and sexual satisfaction	Medical
Lunsford et al. 2017	28367749	Improving voluntary medical male circumcision standards adherence and post-procedure follow-up in Uganda: A mixed methods study	Medical
McCoombe et al. 2006	16847403	Potential HIV-1 target cells in the human penis	Medical
Weiss et al. 2010	21042054	Male circumcision for HIV prevention: current research and programmatic issues	Medical
Boyee et al. 2017	27557986	What Messages are Adolescent Voluntary Medical Male Circumcision (VMMC) Clients Getting and How? Findings From an Observational Study in Tanzania	Medical
Antommaria et al. 2003	12859817	I paid out-of-pocket for my son's circumcision at Happy Valley Tattoo and Piercing: alternative framings of the debate over routine neonatal male circumcision	Questioning or condemning
Krieger et al. 2005	16225538	Adult male circumcision: results of a standardised procedure in Kisumu District, Kenya	Medical
Ashengo et al. 2014	25134856	Feasibility and validity of telephone triage for adverse events during a voluntary medical male circumcision campaign in Swaziland	Medical
Van Howe et al. 2000	11187941	Male circumcision and HIV prevention. Some science would not have gone amiss	Questioning or condemning
Friedman et al. 2016	27497811	Pros and cons of circumcision: an evidence-based overview	Medical
Kilmarx et al. 2009	19532059	Global epidemiology of HIV	Medical
Simpson 2012	23157539	Male circumcision	Other
Chemtob et al. 2015	26244087	Impact of Male Circumcision among heterosexual HIV cases: comparisons between three low HIV prevalence countries	Medical
Bratt et al. 2013	23481667	Comparing direct costs of facility-based Shang Ring provision versus a standard surgical technique for voluntary medical male circumcision in Zambia	Medical
Sokal et al. 2014	25162816	Field study of adult male circumcision using the ShangRing in routine clinical settings in Kenya and Zambia	Medical
Masson et al. 2010	20938437	The ShangRing device for simplified adult circumcision	Medical
Connolly et al. 2008	19115756	Male circumcision and its relationship to HIV infection in South Africa: results of a national survey in 2002	Medical
Parrini-Roses et al. 2013	25153188	Acceptability of male circumcision for HIV prevention among Mexican migrant men	Medical
Mehta et al. 2007	17507834	Identification of novel risks for nonulcerative sexually transmitted infections among young men in Kisumu, Kenya	Medical
Grimes et al. 2014	24101020	Cost-effectiveness of surgery in low- and middle-income countries: a systematic review	Medical

PMID = PubMed identification number.

and *Nursing Standard* (21 articles). The journals that published the most articles with the phrase 'male circumcision' in article titles or abstracts were *PLoS One* (184 articles), *Journal of Acquired Immune Deficiency Syndromes* (77 articles), *AIDS* (65 articles), *AIDS and Behavior* (40 articles), and *Lancet* (39 articles). *Lancet* published a similar number of articles (relative to search total) with the phrases 'female genital mutilation' (1.4%) and 'male circumcision' (2.3%) in titles or abstracts.

Numbers of original and non-original research articles that included male and female phrases in their titles or abstracts are presented in Table 8. The phrase 'male circumcision' appeared equally in titles and abstracts of original (181 articles, 49% of articles) and non-original research articles (187 articles, 51% of articles). The phrase 'female genital mutilation' appeared more in non-original (133 articles, 85% of articles) than original research articles (23 articles, 15% of articles).

Table 8. Number of original research articles* and non-original articles^ indexed in PubMed with 'genital mutilation', 'genital cutting', and 'circumcision' in their titles or abstracts.

Phrase searched	Original research articles count*	Non-original research articles count^	Phrase (row) total
Female			
'female genital mutilation'	23	133	156
'female genital cutting'	8	8	16
'female circumcision'	8	30	38
Category (column) total	39	171	210
Male			
'male genital mutilation'	0	0	0
'male genital cutting'	0	0	0
'male circumcision'	181	187	368
Category (column) total	181	187	368

*Original research articles were those indexed in PubMed under one or more of the following article type categories: 'Clinical Trial', 'Comparative Study', 'Controlled Clinical Trial', 'Randomised Controlled Trial'. ^Non-original research articles were those indexed in PubMed under one or more of the following article type categories: 'Comment', 'Editorial', 'News'.

Discussion

The current study yielded a number of findings. First, a literature review of 22 survey studies on reasons for male circumcision revealed that both medical and non-medical reasons motivate the decision, with non-medical reasons generally more frequently cited than medical reasons. A literature review of 27 survey studies on reasons for female genital mutilation revealed that non-medical reasons, such as religion, tradition, custom, and control of sexual behaviour, are the primary factors underlying the decision. Second, analysis of words used in the titles and abstracts of articles published in PubMed revealed that words used to describe cutting of genitalia differ depending on the sex of the individual cut. The phrase most commonly used by authors to refer to the cutting of genitalia of girls and women is 'female genital mutilation'. The phrase used almost exclusively by authors to refer to the cutting of genitalia of boys and men is 'male circumcision'. Analyses of the particular circumstances surrounding use of these phrases, such as article type, further illustrate the medicalisation of male circumcision but not of female genital mutilation. Given that both procedures involve substantial alteration of genitalia of children and adolescents, and social and culture reasons often underlie parental decisions for both, results from the current review suggest a gender bias in medical ethics regarding bodily integrity, which manifests itself in different nomenclature used by medical researchers, practitioners, and officials when discussing the alteration of male and female genitalia.

Reasons for 'male circumcision' and 'female genital mutilation'

Most surveys on reasons for male circumcision have been conducted in North America, Australia, and in Asian countries. Many of these studies were conducted over 20 years ago. Interestingly, no studies from Africa were identified, and this geographic region is where the practice of male circumcision is currently most encouraged.[8,9,10]

The available data show that parents choose circumcision for their sons for both medical and non-medical reasons. The main medical reasons are improved hygiene, prevention of infection and cancer, doctor recommendation, and general medical reasons.

Improved hygiene is the most consistent medical reason for circumcision in Australia, Canada, the Philippines, South Korea, and the USA. Surveys conducted in South Korea have also asked about perceived benefits of circumcision.[54,55] The most consistently reported perceived benefits are: easier to clean; better hygiene and urinary system function; and prevention of penile cancer, STIs or HIV, urinary tract infection, partner cervical cancer, or partner genital tract infection. Better penis growth and improved sexual function and performance are also perceived benefits of the procedure.

The main *non*-medical reasons for male circumcision are religion, custom/routine, family tradition and advice, parent preference, to look like other boys and avoid ridicule, aesthetics, and improved sexual function and satisfaction. In Iraq, Pakistan, and Turkey, religion is the most commonly cited reason for male circumcision (~80-90% of respondents), whereas in Australia, Canada, and the USA, religion is cited by about 10–20% of respondents. In South Korea, religion is cited by less than 1% of respondents as a reason for male circumcision. Custom, routine, and tradition are non-medical reasons cited by respondents in various countries for the decision to circumcise. Family tradition and family advice are often cited by parents in the USA, Australia, and Canada. In these countries, parents regularly indicate that the boy's father and brother being circumcised plays a role in the decision and that they want their newborn to look like the father or brother. Some parents also choose circumcision so that their sons look like other boys in the community. Aesthetics and appearance are also reported by some parents in the USA, Australia, Canada, and South Korea. Finally, men in South Korea[54] and the Philippines,[53] who choose their own circumcision, cite tradition, avoidance of ridicule, sexual function, sexual satisfaction, and prowess (e.g. to grow tall and fit) as reasons for undergoing the procedure.

Most surveys on reasons for female genital mutilation have been conducted in Africa, as this is where the procedures occur most frequently. The majority of these studies have been conducted in the past 20 years, illustrating a contemporary interest in the topic. The available data show that parents choose female genital mutilation primarily for non-medical reasons. The most frequently reported non-medical reasons are religion, tradition/custom, initiation into womanhood, improving marriage prospects, preserving virginity/purity, reducing libido and promiscuity, and doing it for a future partner. Thus, religion and tradition/custom are reasons frequently reported for both male circumcision and female genital mutilation. Family/parent pressure, preference, and choice also underpin decisions for both male circumcision and female genital mutilation. Hygiene/cleanliness is a medical reason that parents say influences their decision for both male circumcision and female genital mutilation. Finally, a notable proportion of parents who make the decisions for these two procedures report that they 'just did it' or 'don't know why' they chose to have the procedure completed.

Differences in reasons for the two procedures also exist. First, parents often cite 'to look like father', 'to like brothers', 'to look like peers', and 'to avoid ridicule' as reasons for male circumcision. However, similar reasons are not usually cited by parents who chose female genital mutilation. Second, parents often cite marriage prospects, preservation of virginity, and reduced libido/promiscuity as reasons for female genital mutilation. Similar reasons are rarely cited by parents who choose male circumcision, though reducing masturbation frequency was a reason *doctors* encouraged circumcision among boys of earlier generations.[56] Thus, for boys, parents appear more

concerned about the appearance of the penis and whether this appearance matches that of other males in the community, whereas for girls, parents appear more concerned about reproductive activities and processes such as sexual promiscuity and facilitation of childbirth.

Nomenclature used to describe procedures

The second part of the current research involved quantifying how often researchers use certain phrases to refer to cutting of male and female genitalia. Other researchers have pointed out issues with applying the word 'circumcision' to males, and the word 'mutilation' to females.[23,25,27] The novel aspect of the current research was the *quantification* of this inconsistency. In articles on cutting of male genitalia, the word 'mutilation' is used less than 1% of the time, whereas the word 'circumcision' is used about 99% of the time. However, in articles on cutting of female genitalia, the word 'mutilation' is used 62% of the time. Moreover, the phrase 'female genital mutilation' appears most frequently in the titles and abstracts of *non-original* research articles (e.g. comments, editorials), whereas the phrase 'male circumcision' is used equally in non-original and original research articles (e.g. randomised controlled trials). This finding seems to suggest an association between 'male circumcision' and medicine and an association between 'female genital mutilation' and activism. Moreover, the analysis of the 20 randomly-selected articles on male circumcision confirmed that the vast majority of articles that included the phrase 'male circumcision' in their title or abstract were medical or supportive in nature.

According to the Merriam-Webster online dictionary (January 13, 2021), 'mutilation' is the 'act or instance of destroying, removing, or severely damaging a limb or other body part of a person or animal', and 'circumcise' means 'to cut off the foreskin of (a male) or the prepuce of clitoris and labia minora of (a female)'. As stated in the Introduction, reference to the cutting of male genitalia as 'circumcision' (a word that implies ethical, lawful, medical, benign, and beneficial), and reference to the cutting of female genitalia as 'mutilation' (a word that implies unethical, unlawful, non-medical, objectionable, harmful, and barbaric[23]) is problematic for multiple reasons. First, not all male circumcisions are performed by medical doctors or in medical facilities.[34,35] Second, male circumcision has physical risks such as bleeding, infection, amputation, and death.[36–39] Male circumcision also has potential psychological risks. When boys in Turkey were asked about their thoughts and emotions associated with their circumcision, 49.5% said they thought it would hurt, 46.4% said they were worried about it, 38.4% said they cried, 37.9% said they were frightened, 25% said they felt pain, 9.8% said they thought the procedure would cause bleeding, 7.3% said they thought their penis would get smaller, and 4.8% said they thought they would lose their penis.[34] Third, as shown in Table 2, parents often choose male circumcision for non-medical reasons. Thus, parents are not necessarily choosing male circumcision for the medical reasons cited by the WHO and CDC (e.g. HIV prevention).[8–14] Moreover, some of the non-medical reasons cited by parents for male circumcision, such as religion and tradition/custom, are the same reasons cited by parents who choose female genital mutilation (Table 5). Thus, as both procedures involve substantial alteration of genitalia based on broadly similar reasons, referring to one as 'mutilation' and the other as 'circumcision' is not objective.

Implications

The explanation for why medical researchers, practitioners, and officials have adopted different terms to refer to these somewhat similar practices is unclear. One explanation could be gamma bias. Gamma bias is a proposed gender bias or cognitive distortion in which issues that impact males are minimised while issues that impact females are magnified.[43] Thus, the word 'mutilation' might be used to magnify negative aspects of cutting of female genitalia, whereas the word 'circumcision' might be used to minimise negative aspects of cutting of male genitalia. The concept of gamma bias has some support from laboratory and non-laboratory studies. Such studies have documented, for example, that (a) women are more likely than men to be seen as victims,[46] (b) female victims of rape[57] and intimate partner violence[58] receive more empathy than male victims, (c) male victims of intimate partner violence are viewed more negatively than female victims of intimate partner violence,[59] and (d) stabbing to death of a husband by his wife is viewed as less severe than stabbing to death of a wife by her husband.[60] Such results suggest a 'gender empathy gap'[44,45] and are consistent with evidence of biases against boys' and men's issues within national and international institutions,[48,50] including the UN and WHO,[49] who support male circumcision[8–10] but decry female genital mutilation.[1,2] Future research might also consider whether there is a gender bias with regard to views on and institutional support for genital restoration procedures. For example, some circumcised men report being ridiculed or embarrassed for seeking restoration of their foreskins, and services and institutional support for foreskin restoration appear lacking.[61–64] On the other hand, restoration after 'female genital mutilation' appears to be more accepted among and of greater concern and interest to medical and health services professionals, as evident by the number of reviews and commentaries on the topic.[65–72]

Moving forward, the nomenclature used to describe such procedures should be similar in the sense that if a medical professional or official uses the word 'mutilation' to describe the procedure performed on a girl or woman, then the same medical professional or official should use the word 'mutilation' to describe the proecdure performed on a boy or man. Alternatively, if the medical professional or official uses the benign, medical word 'circumcision' to describe the procedure performed on a boy or man, then the same medical professional or official should use medical words such as 'clitoridectomy', 'infibulation', or 'cutting' when describing the procedue performed on a girl or woman. The ethically neutral phrase 'genital cutting' could be helpful in both instances to minimise bias. However, infibulation involves suturing the vaginal opening and cutting the clitoris; thus, the word 'cutting' would not fully describe that procedure. Moreover, to address the larger and more fundamental issue of individual- and institutional-level gender biases against boys' and men's issues, evidence of such biases should continue to be presented in the academic literature. This information can then be added to educational curricula in the fields of psychology, public health, and medicine. Specific courses, lectures, seminars, and conferences on male psychology and men's health could help to communicate such information. Moreover, false beliefs about male circumcision appear to correlate with views on circumcision satisfaction.[73] Earp et al.[73] suggested that such false beliefs among men might, in part, stem from a lack of 'sufficient or accurate information regarding

the anatomy and functions of the intact penis … and about the consequences, both positive and negative, that have been reliably associated with their genital surgeries'. Thus, education about circumcision might influence men's views on the acceptability of circumcision and the nomenclature use to describe it.

Conclusion

Cutting of genitalia in boys and girls is a debated human rights topic. In the current paper, I first reviewed survey studies on the reasons why parents choose to have such procedures performed on their children. I then examined the nomenclature that medical researchers use to describe these procedures in published articles. The review revealed that medical and non-medical reasons are cited by parents as motivating factors for having their child's genitals cut, irrespective of sex, with non-medical reasons prominent. The examination of nomenclature revealed that researchers use different terminology when referring to cutting of genitalia depending on the sex of the individual cut. Researchers who publish on the cutting of *male* genitalia use the words 'mutilation' and 'circumcision' about 1% and 99% of the time, respectively. In contrast, researchers use the word 'mutilation' 62% of the time when referring to cutting of *female* genitalia. Because both male circumcision and female genital mutilation involve significant alteration of youth genitalia, and social and culture reasons (e.g. religion, tradition, family) are prominent in parents' decisions for both procedures, the results suggest a gender bias in medical ethics regarding bodily integrity, which manifests itself in different nomenclature used by medical researchers, practitioners, and officials when discussing the procedures. This probable gender bias, in which non-voluntary alteration of genitalia is viewed as unethical when performed on girls but not boys, is consistent with the idea that female victims of violence receive more empathy than male victims of violence (i.e. 'male gender empathy gap').[44–46,57–59] Unequal application of medical ethics and empathy to boys and men is also consistent with evidence of bias against boys' and men's issues within national and international institutions.[48–50] More exhaustive discussions and debates on the ethics of 'male circumcision' and 'female genital mutilation' can be found elsewhere.[23–25]

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Notes

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