Abstract
The religious and ethical approach shows that the problem of gender identity disorder has been resolved by the approval of sex assignment surgery (SAS) on the newborns with sex development disorder (DSD) or intersexed. The gender must be reassigned and the ambiguity eliminated. Therefore, there is no moral dilemma on whether surgery should be performed or otherwise. However, a dilemma persists on the post-surgery selection of gender for the DSD newborns. This article reveals that the Islam recognizes these newborns but, with or without surgery, parents still have to bring up the newborns in accordance to one dominant gender, based on physical appearance of the genitals. The problem still remains for the cases where gender identity is vague. Wrong assignment of gender is held as an ethical and legal risk and the rights of the ‘true gender’ are being denied because the roles and responsibilities of the Muslims differ according to gender. In this article, the issue is discussed in the context of the Malaysian culture where distinct religious requirements dictate how decisions on SAS ought to be made. The information on the application of religious principles in the decision-making process in Islam was collected from interviews and public documents. We found that the Islam regulated the the assignment of the appropriate sex to DSD newborns and recognized the role of DSD individuals, or khunsa, in the society. Three norms of ethical reasoning, namely the norm of compelling necessity, the norm of needs or convenience, and the norm of enhancement are being applied when deliberating an Islamic ethical assessment of SAS management issues.

Keywords: Bioethics, Gender identity disorder, sex assignment surgery, sex development disorder, Islamic ethics

Corresponding author: Mohd Salim Bin Mohamed - mohdsalim@um.edu.my

* Department of science and technology studies, Faculty of Science, University of Malaya, Malaysia
INTRODUCTION

In this paper we argue that the main issue of Islamic ethics is its focus on decisions regarding gender choice; should it be a boy or a girl? Sex development disorders (DSD) which is commonly characterized by ambiguous genitalia is not uncommon in Muslim communities and the indecision regarding sex assignment and reconstructive surgery in those DSD newborns has plagued these communities for a long time. Cross-cultural studies show that families in Muslim-predominant countries such as Turkey [1], Saudi Arabia [2], Malaysia [3,4], Morocco [5], and Pakistan [6] tend to select the male gender for children who present ambiguous genitalia for several factors such as the likelihood to achieve economic independence, culture and religion, family and educational background.

Males are seen as more able to provide for families than their female counterparts. It would appear that the interests of parents are given priority over and above the child’s welfare or interests, and there is the danger of not revealing the ‘true gender’ from the ambiguous one. This is the ‘norm’ despite the Quran’s depiction of the conception of sexes and the sharia’ah’s sanctioning of assignment surgery not merely to ‘eliminate the disorder’ but to ensure that roles and responsibilities associated with gender are effectively secured. In Islam there is an additional concern that assigning the ‘wrong’ gender is an ethical and legal risk [7].

In Islam, an accurate decision-making with regard to SAS is most pertinent since, in time, such decisions will determine the place of the intersexed adult in matters concerning 1) religious occupations, 2) their rights to inheritance and, 3) particular designation of roles and responsibilities in the community (whether as potential leaders or followers). The choice of gender for the intersex child stands as an important problem in contemporary Islam because sex and gender role behaviour is framed within Islamic law. The division of property in Islam is assigned according to gender. Women “shall be legally entitled to their share” (Qur’an 4:7) and that “to men is allotted what they earn, and to women what they earn” (Qur’an 4:32). “Only if women choose to transfer their property can men regard it as lawfully theirs” (Qur’an 4:4).

SEX ASSIGNMENT SURGERY (SAS) AND SEX DEVELOPMENT DISORDERS (DSD)

Surgical intervention to treat intersexed newborns with genital anomalies began in the late 1950s, and became a standard procedure in 1970 for the correction of such problems including ambiguous genitalia and serious genitalia injury[8]. Intersexed individuals are those born with male and female biological features simultaneously. For instance, they might have one ovary and one testis, or gonads that contain features of both ovarian and testicular tissue. They can have chromosomes of XXY and XO, and other configurations. There are more than a dozen categories of intersex [9]. The most common types of intersexuality are Congenital Adrenal Hyperplasia (CAH) and Testicular Feminization Syndrome (TFS) [10]. In both cases, it can be clearly seen how genetic sex and phenotypic sex do not match, and could eventually cause an ambiguous genitalia.
CAH is an inherited disorder that occurs when the adrenal glands of an “XX” (female) individual do not function appropriately. In this case, there will be both cortisol and aldosterone together with excessive amounts of androgen hormones. The imbalance of hormones before birth may cause some girls to have ambiguous genitalia [11]. On the other hand, Testicular Feminization Syndrome (TFS) is a genetic disorder that makes an “XY” (male) individual become unresponsive to androgens i.e. male hormones that produce masculine characteristics. Therefore, the individual appears like any normal girl, despite their amount of “XY” chromosomes [12]. There are also cases of partial TFS, which usually result in the appearance of a micropenis with hypospadias and gynecomastia (male breast development)[13].

SOCIAL AND ETHICAL CHALLENGES TOWARDS THE CONTEMPORARY PROTOCOL OF SAS

Since 1960s, newborns with DSD have been managed via medical intervention based on the theory of “human are psychosexually neutral at birth” [14]. This intervention became standard protocol in the management of DSD until mid-twentieth century in the United States and other countries from the early 1990’s however, various critics about standard DSD management have emerged from social activists and scholars from various multidisciplinary fields such as medical [15], social science [16, 17], humanities [18, 19], feminism [20, 21], and law [22, 23]. These scholars argued that management of DSD only involve a singular approach of medicine and thus, it fails to resolve the conundrums behind the controversial issues of SAS in newborns with DSD.

By viewing the issue of SAS and DSD from multiple perspectives, perhaps, a better ethic may be formulated to grasp the heart of the problem.

A medical intervention policy for newborns with DSD which is perceived as ‘optimal gender policy’ is based on the research run by John Money and his colleagues at the psychosocial Research Unit of the John Hopkins Medical Centre [23]. According to this policy, the intervention aims most likely to maintain reproductivity, good sexual function, normal-looking genitalia and a stable gender identity [23, 24]. This policy is founded on the “nurture-based theory” which claims that gender identity has nothing to do with nature, but everything to do with nurture [14]. This policy or guideline remains applicable to determine the “optimal gender” by physicians when presenting options to parents. For instance, some national organizations in Europe have published similar guidelines, and recent articles from the Middle East and India suggest a worldwide acceptance of the practice [22]. In Malaysia, similar policy or guideline is adopted but with reservations: the final decision lies on the socio-cultural concerns of the patients and their families [23].

In the case of DSD, many physicians are still more prone to emphasize that a healthy psychosexual development depends on the appearance of their genitals [14]. Therefore, in most situations, the
decision on the choice of gender assignment is based on the predominant appearance of the external genitalia and they are most commonly assigned as females [24]. The reason for selecting the female gender more than the male one is due to the belief that prenatal exposures to androgens did not affect the developing brain in humans and that making genital appearance of the female by surgical intervention, in combination with the child’s nurturing by the parents, would result in the development of a stable gender identity [14]. Another reason for doing that is the difficult procedure involved by the male genitalia reconstruction, compared with the female one [25].

This protocol, however, is now being challenged because of the asymmetric way in treating femininity and masculinity. In addition, the greater likelihood of female genitalia reconstruction compared to males implied that physicians seemed more willing to preserve the reproductive potential of babies born with ovaries rather than babies born with testes [12].

In Malaysia, gender assignment is determined based on the following guideline which is based on the International standards [23]:

1. “genetic females should always be raised as females, preserving the reproductive potential, regardless of how severely the patients are virilized”
2. “in genetic male, however, the gender assignment is based on the infant’s anatomy, predominantly the size of the phallus”
3. Assigned female: remove all testicular tissue, vaginoplasty after puberty, and no place for vaginal dilatation in childhood
4. Assigned male: orchidopexy (move an undescended testicle into scrotum), remove all mullerian structure, surgical repair of hypospadias and gonadectomy to be considered if dysgenetic gonads.

In most situations, sex chromosome is the main determinant for sex assignment. Even though in the case of DSD for instant the case of complete AIS, where the sex chromosome is totally unmatched with phenotypic appearance of the newborns, DSD is primarily being categorized based on sex chromosomal configuration [9].

**ISLAMIC MEDICAL ETHICS AND THE CASE OF INTERSEX CHILD**

Islam plays an important role in the daily affairs of Muslim individuals, which include moral matters affecting the family and inheritance and, civil aspects of the life of the community. Such matters are deliberated within a framework of values and usually derived from the broad ethical teachings of the primary sources, the Qur’an and the teachings of the Prophet Muhammad, the Sunnah and secondary sources namely, the ijma (consensus of religious scholars), qiyas (analogical reasoning) and ijtihad (intellectual reasoning) [26]. Interpretations of Islamic law provide Islam the dynamism that enables it to
respond to modern medicine and all associated innovations[27]. New moral problems are subsequently addressed through the formulation of fatwas, religious edicts that provide broad guidance for the individual and the society. Islamic law or the Shariah seeks to achieve the realization of the maslahah or public interest. Accordingly, the realization of public interests lies in the safeguarding or the protection of five human interest or benefits, namely, life, intellect, progeny, inheritance and faith [28].

Moral dilemmas involving medical treatment are often deliberated according to these five human interests. For example, the problem of post mortem was initially prohibited in Islam, based on the action violating the body of a deceased person. There is value in preserving the dead body as a whole [29]. However, when assessing the potentiality of saving many more lives, the act of removing organs and transplanting into needy patients was later declared as a necessity.

Would the same lines of deliberation be applied to the ethics on intersex child issues? In many Muslim countries, the support for medical intervention is generally given on the basis of preventing human suffering and ensuring family wellbeing. In order to alleviate the suffering and prevent the death of a congenital adrenal hyperplasia (CAH) child, sex assignment surgery may be perceived as a necessity. Sex assignment surgery has been performed in many CAH cases in Muslim predominant countries [30]. The untreated CAH condition can lead to salt loss and subsequently, shock and impending death [31]. The mean age at onset of the salt-losing crises in affected infants is noticed at 9 days in females and 25 days in males [30] and this finding justifies the urgency of early surgery.

It would appear at first that the Islamic ethics on the issue of intersex babies would proceed along the lines of the ethics of organ transplant technology in Islam. But there is less moral dilemma in the question “should we perform sex assignment surgery to this child?” than in “which gender should be assigned to this child?” This is to say that Islam encourages the division of sexes according to roles and responsibilities and the choice of gender for which the individual is later able to perform roles and responsibilities according to what is endorsed in Islam is the more important problem in Islamic ethics. To explain further, deliberations regarding sex assignment may ensue in the following way where each query below is correlated to each human interest as given in the shari’ah:

Will sex assignment surgery increase:
1. the child’s quality of life and livelihood (protection of life),
2. the child’s intellectual and psychological well-being (protection of intellect),
3. the child’s potential to reproduce (protection of progeny),
4. the child’s claim to inheritance (protection of inheritance) and,
5. the child’s appropriate observance of his/her religious rituals (protection of religion)?

Gender identity following reconstructive surgery would have implications on all of the above. Reconstruction of the genitals, should
this happen, from ambiguously male to female and vice versa must assign the child’s correct gender, i.e. entirely male or entirely female, in order to achieve these benefits. In Islam the individual’s claim to inheritance, his or her observance of prayers as well as their roles and responsibility in marriage are well-defined according to gender [32]. Care is exercised in determining the rightful gender such that it does not transgress the Islamic law. The individual must be protected from injustice whereby justice in Islam is about putting things and persons in their rightful place. Understanding the moral implications in Islam associated with the case of a newborn with ambiguous genitalia is therefore vital for physicians.

The protocol set out by the shari’ah also protects the rights of the DSD newborns. This is to say that there is a notion of transgender rights in Islam and the child is recognized as Khunsa. The child is brought up either as a male or female, in accordance with their dominant physical characteristics. Accordingly, the predominant sex is differentiated via an observation of genitalia’s characteristics, or on the basis of which genital urine can be excreted first. Due to the current advances in sex reassignment surgery, it would appear that surgical intervention now becomes mandatory so that the rudimentary genital may be removed. In 1989 [33], the Islamic Fiqh Academy stated that an individual born as an intersexual was allowed to undergo early sex assignment surgery to maintain and enhance the functioning genital. A study of several hadiths by Egyptian Mufti Sheikh Tantawi and Jadd-al-Haqq led to the finding that ‘hermaphrodites must strive to rid themselves of ambiguity and move towards sexual inambiguity’[34]. It therefore becomes a duty for Muslim doctors to perform sex assignment surgery on DSD newborns.

In Malaysia, a fatwa regarding sex change operation was first formulated in 1982 [35]. However, this fatwa only briefly referred to SAS on the intersexed. Discussions on SAS recently emerged in 2006 where reference was again made to the 1982 Fatwa. Accordingly, the fatwa states that

1. sex change from a male to a female or, vice versa, via surgery is haram (prohibited) according to Islamic law;
2. an individual that is born as a male/female, according to Islamic law, is still considered either a male or female even though he/she has successfully changed to the opposite gender via surgery; and,
3. an individual that is born intersexed, who has both genitals, is allowed to undergo SAS in order to maintain one genital whichever is functioning optimally.

Warne and Raza (2008) outlined a framework for decision-making which includes minimizing physical and psychosocial risks, and preserving the capacity for procreation and sexual satisfaction [36]. Assigning the ‘wrong’ gender is classified as a psycho-social risk that leads to gender dysphoria. In Islam, the incorrect assignment of gender also constitutes
an ethical-legal risk.

CONCLUSION

Accurate decision-making pertaining to SAS is highly recommended and even mandatory in Islam. Decisions regarding sex assignment surgery must be made to ensure, above all, the best interest of the child. The Shariah is formulated to ensure that the child is well-placed in the society, spiritually, emotionally and psychologically, health and wealth-wise. It does not only provide a consensus that sanctions sex assignment surgery on ambiguous genitalia, but it sets the protocol for appropriate gender selection to ensure a stable gender identity within the society. Gender preference and selection is not allowed in Islam as alluded in the Quran ‘God creates what He wills and plans, He bestows children male or female, according to His will and He bestows both male and female and leaves them barren whom He wills [Quran 42: 49-50]. Error in decision-making will bring about serious consequences which would affect the future of the intersexed individual, regardless their rights, opportunities and/or responsibilities within society. Even though Islam, as given within the primary sources, the Qur’an and the Sunnah, has established the place of the intersexed within the society, it offers a broad framework for the ethical management of sex assignment surgery. The principle of maslahah or benefits allows the matter to be deliberated from the angle of necessity and needs. In particular to Malaysia, current registry laws allow SAS to be delayed and thus this dismisses current medical justifications that dictate early surgery, within hours of birth. Early surgery has been criticized as breaching both the doctrine of informed consent and proxy consent – it is highly uncertain if parents are able to make rational decisions soon after receiving news about the sex differentiation disorder of their newborn. Islamic ethics examines the problem holistically and exclusively from essential socio-cultural and psychological angles. Modern medicine may have to reexamine the contemporary ethics of SAS and emulate Islamic ethics which totally ensures a sustainable life for the individual.

Competing Interest

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Authors Contribution

MSM involved in drafting the manuscript and revising it critically for important intellectual content. Both authors have made substantial contributions to the conception and design, collection, analysis and interpretation of data. NSNM has given final approval of the version submitted to this journal. All authors read and approved the final manuscript.
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