Original Research Paper

Impact of Bioethics Education in Decision Making on Commercial Surrogacy: A Study with Medical Graduates

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ABSTRACT

Obstetrics and Gynaecology (OBG) that deals with the well being, pregnancy and child birth of women is an important component of medical profession. However, the obstetricians constantly face challenging ethical dilemmas. In the recent past commercial surrogacy, a contract in which a woman carries a pregnancy "for "another couple is being preferred by infertile couple. Surrogacy (especially the total surrogacy) is associated with complex ethical questions. The most important issue being as to who is to be considered as the mother, the female who contributes her DNA for the zygote, the lady who gestated the fetus and gave birth to the baby or the woman who ultimately raises the child. The present study ascertained the opinion of medical graduates on various commonly encountered dilemmas situations particularly in commercial surrogacy. A conscious attempt was made to understand the opinion of medical graduates who studied bioethics through a structured module with those who did not study. The results indicated that graduates who had studied bioethics had a better judicious decision than their counterparts who had not learnt ethics in their undergraduate curriculum and support the view that teaching bioethics through structured teaching modules in undergraduate curriculum has benefit.

Key words: obstetrics and gynecology, assisted reproductive techniques, in vitro fertilization surrogacy, transnational surrogacy

INTRODUCTION

Global research indicates that infertility is an important health problem and that nearly 48.5 million couples are childless [1]. From a clinical perspective, a male is considered to be infertile when the individual has less production of motile/normal sperm and/or is unable to depose semen in female genitals (hypospadesis, epispadesis etc), [2-3]; while in women, the lack of ovulation, blocked fallopian tubes, endometriosis or uterine abnormalities, advanced age (over 35 years), anomalies and hormonal disorders [4]. Further, Rh incompatibility between husband and wife, genetic abnormalities, hormonal imbalances, and congenital genital abnormalities and infections also contribute to infertility in both women and men. In addition to the inherent biological factors,

lifestyle factors like obesity, diet, exercise, smoking and alcohol consumption along with exposure to xenobiotic chemicals have been recognized to be modifiers of infertility [2-4].

In most cases the infertile couples who have exhausted all biological methods of procreation seek the help of assisted reproductive techniques (ART) to have a biological child of their own [5]. From a terminological view, ART is defined as the application of laboratory or clinical technology to gametes (human eggs or sperm) and/or embryos for the purpose of reproduction. In this regard depending on the medical condition of the couple, procedures like artificial insemination, in vitro fertilization and surrogate motherhood are considered and implemented in clinics [5]. In most cases, when the male is affected, assisted reproductive technologies include fertilization that may involve the fusion of gametes to give embryos outside the human body and later is transferred into her body [5]. However, in worst case, surrogacy comes as an alternative especially when the infertile woman or couple is not able to reproduce [5].

From a terminological perspective, surrogacy is termed as an arrangement where a substitute woman (mother) carries and delivers a child for another couple or person, who will become the new born child's parent(s) after the birth [6-7]. Depending on the donor of gametes, its origin and surrogate status, it is broadly classified as genetic, total and gestatory surrogacy. In the genetic surrogacy (also known as straight, traditional or partial surrogacy), which is the most commonly performed, the woman is artificially impregnated with the sperms of the intended father thereby making her genetic, gestational and biological mother to the child she carries and gives birth subsequently [5,7]. In total surrogacy the surrogate mother's egg is fertilized with the sperm of a donor (not the male part of the commissioning couple) but with her genes [5,7]. In gestational surrogacy (also called host or full surrogacy), an embryo is created using donor gametes (both sperms and eggs) and is implanted into the uterus of the surrogate mother (who is not genetically linked to the child) through the standard in vitro fertilization techniques [5,7]. The surrogate woman who is now a third party has an embryo resulting from two unrelated donors, carries and delivers the baby for another couple or person [5,7].

From a socio-ethical perspective, depending on the relationship between the commission commissioning couple/s and the surrogate, and the intention of the lady willing to be a surrogate, surrogacy is grouped as altruistic [5,7]. In the altruistic surrogacy arrangement, the surrogate mother offers her womb as an act of selflessness and is not paid for her service by the commissioning couple. In this case, there will often be a pre-established familial or friendship bond between the expecting couple and the surrogate mother (as a friend or a relative) [8-9]. On the contrary in commercial surrogacy, which is more often run by a mediating party or an agency with financial interest, the surrogate mother is unknown to the commissioning couple and receives compensation for carrying and delivering the child [8-9]. The situation is much more complex in transnational surrogacy where the commissioning parent/parents are from a different country and racial identity, and the surrogate from another [10-12].

From an ethical perspective, the use and practice of commercial surrogacy has been highly controversial for its involvement of a surrogate mother who is a third party and in most case is a destitute agreeing only for financial benefits [5,7]. The medical procedures like intake of birth control pills to synchronize the cycles of the commissioning woman and the surrogate, gonadotropin-releasing hormone treatment to prevent premature ovulation, the hormonal manipulation required for preparing the surrogate for implantation, intake of estrogen tablets to thicken the uterine lining prior to implantation, the process of embryo transfer, side effects of hormonal treatment (like hot flushes, fatigue, headaches, nausea, irritability, bloating and breast soreness), the psychological distress, risk of social stigmatization, and the common risks associated with pregnancy and giving birth which in most cases is through caesarian sections takes a toll on the surrogate [11]. Reports also suggest that women undergoing in vitro fertilization (IVF) treatment are at an increased risk of being diagnosed with borderline ovarian tumors and that the risk factors appear different from those for invasive ovarian cancer [13]. Additionally, there are instances where the mediating party or surrogacy agencies have used unethical practice for financial gains and the destitute women have often suffered [14].

India was considered to be a hub of transnational surrogacy where couples/individual came from other countries and parts of the world because of cost factors, well trained doctors and state of the

art facilities to ensure the procedures, ease of communicating in English and plentiful supply of surrogates due to poor economic conditions [15]. However, the transnational surrogacy undertaken by some ART centres were unfair and exploited the vulnerable women [14]. The industry was not regulated, and there was no record on how many times women donate eggs or become surrogates [12]. In lieu of the international and national condemnation on misuse of the destitute women opting to be surrogates, the Government of India instructed clinics not to accept new foreigners as clients in December 2015 [16].

As far as the authors are aware of, from the bioethics point of view, this is the first study that addresses the opinion of medical graduates on surrogacy and to also compare on how the opinion differs between the individuals who were taught bioethics in their undergraduate curriculum through a structured teaching methodology. In our previous study aimed at ascertaining the opinion on contentious issues in obstetrics and gynecology we have observed that 63.75% of the students and 67.34% of the obstetricians considered surrogacy to be unethical [17]. The present study is an extension of our previous endeavours [17] and was carried out to ascertain the medical graduates' opinion on ART and surrogacy in specific. The second objective was to also observe for the effectiveness of a structured bioethics teaching module during their undergraduate program.

METHODOLOGY

This study is a single centre study and was conducted under the aegis of the UNESCO Bioethics South India Unit at Father Muller Medical College, Mangalore, India after obtaining the permission of the Institutional Ethics committee. The questionnaire was designed by the investigators and was developed by a local panel of experts in bioethics, obstetric care and a researcher. Special attention was given for clarity and the inclusion of the full range of response options. The questionnaire was then pilot tested with 10 students, who were not part of the final sample. The respondents of the pilot cohort rated the initial questionnaire for clarity and content validity. Emphasis was placed on the opinion for the comprehension and understanding of the meaning of each question. The final instrument underwent only minor grammatical changes and consisted of four demographic questions and six subject specific questions. As this study was planned to be conducted in postgraduate entrance exam training centers with MBBS graduates, and a pilot study the questionnaire was kept to a bare minimum and answering them took 5 minutes on a three choice scale of "yes, no and unsure".

Study population and survey methods:

The study population consisted of MBBS graduates who had registered for postgraduate entrance exam training centres in Mangalore and was carried out after four months of the government's revised orders from April to May 2016. The investigators approached the medical graduates individually and briefed them about the purpose of the study. As some questions were dilemmatic the volunteers were also requested not to write their names or leave any identification mark on the study questionnaire and were requested to return the filled sheets. Written consent was obtained on a separate sheet from all the participants before the administration of the questionnaire.

Statistical analysis

Data was entered in Microsoft excel and answers on the questions were subjected to a quantitative analysis using the Chi-square test using the SPSS software program version 22 from IBM. A p value of < 0.05 was considered significant.

RESULTS

In this study, a total of 134 medical graduates answered the questionnaires (37 males and 77 female). Of these, 73 students had been taught the basic tenets of bioethics through a structured teaching program in their undergraduate curriculum while the remaining 61 were not. Majority of the graduates were from urban (city and town) background. Majority of the students who were

taught bioethics had read books and had been exposed to programs that dealt with teaching bioethics (P<0.001) and the details are enlisted in table 1. With respect to the comparison on the contentious issues of the 10 questions significance was seen for five, no significance for three and trend for one. The details are all enlisted in Table 2 and 3.

Table 1: Demographic details of the participants

	Response Options	Studied Bioethics N= 73 (Percentage)	Did not study Bioethics N= 61 (Percentage)	P value
Gender	Male	33 (45.20)	24 (39.34)	0.494
	Female	40 (54.79)	37 (60.65)	
Domicile	Rural	11 (15.06)	17 (27.87)	0.378
	Town	32 (43.83)	26 (42.62)	
	City	30 (41.09)	28 (45.90)	
Have you read books in ethics?	Yes	51 (69.86)	5 (8.19)	0.0001
	No	22 (30.13)	56 (91.80)	
Did you attend any programs in ethics?	Yes	70 (95.89)	7 (11.47)	0.0001
	No	3 (4.11)	54 (88.52)	

Table 2: Response of medical students to students on various aspects of surrogacy

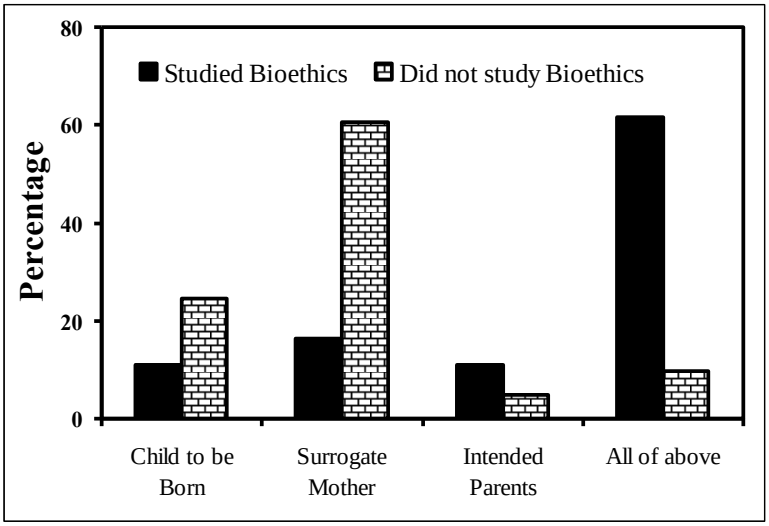
	Response Options	**Studied Bioethics N= 73 (Percentage)**	**Did not study Bioethics N= 61 (Percentage)**	**P value**
Do you consider modern assisted reproductive technologies like IVF ethical?	Yes	51 (69.86)	54 (78.68)	0.443
	No	7 (9.58)	3 (4.92)	
	Unsure	15 (20.55)	4 (16.39)	
Commercial surrogacy is a boon for Infertile Couples	Yes	16 (21.92)	48 (78.68)	0.0001
	No	30 (41.09)	3 (4.92)	
	Unsure	24 (32.87)	10 (16.39)	
Transnational surrogacy should be allowed in India?	Yes	3 (4.23)	15 (21.13)	0.0001
	No	58 (81.69)	13 (18.31)	
	Unsure	12 (16.9)	33 (46.48)	

Commercial surrogacy for single parent and same-sex couples is not correct	Yes	72 (98.63)	57 (93.44)	0.060
	No	0 (0)	0 (0)	
	Unsure	1 (1.37)	5 (8.19)	
Transnational surrogacy is exploitation of poor women in third world countries?	Yes	59 (83.1)	30 (42.25)	0.0001 Significant
	No	2 (2.82)	18 (25.35)	
	Unsure	12 (16.9)	14 (19.72)	

Table 3: Rating of medical student's opinion regarding best interest of the people involved in surrogacy

	Rating of students	
	Studied Bioethics N= 73 (Percentage)	**Did not study Bioethics N= 61 (Percentage)**
Child to be Born	8 (10.95)	15 (24.59)
Surrogate Mother	12 (16.43)	37 (60.65)
Intended Parents	8 (10.95)	3 (4.92)
All of above	45 (61.64)	6 (9.84)

Figure 1: Rating of medical student's opinion regarding best interest of the people involved in surrogacy



DISCUSSION

In the recent past, when compared to the altruistic surrogacy, commercial surrogacy has sprung up myriad ethical issues. This is principally because the surrogate mother is unknown to the commissioning couple, is mostly from a poor financial background, has been possibly lured to surrogacy and is opting for the pregnancy for financial reasons [8-9]. Globally one school of thought views commercial surrogacy to be an exploitation of a poor woman desperately needing financial benefits, is like prostitution, is a form of alienated labour, turns babies into commodities is for the wealthy only, exploiting third world women as baby machines and that adoption is better for the world [18-19]. While the support views include statements that surrogacy fulfils the deep-seated wish for a family, adoption is not that easy, surrogate mothers are conscious of their choice, it is beneficial in empowering the destitute women and to be of benefit to the childless couple [18-19].

In the present study it was observed that students in both the groups agreed that modern ART like IVF was ethical. The process of artificial Insemination and in-vitro fertilization in the righteous way does not include any major ethical conflicts and the approval of most students is based on this tenet. Literature study conform the approval of IVF and the seminal studies by Herrera and co-workers (2013) validate this. In this random representative sampling studies with 1.500 people between the ages of 18 and 65 in the 34 municipalities of Santiago the investigators observed that nearly 85% of respondents support the use of medical assistance to conceive children and that there was a wide approval for the use of IVF for young women but not for elderly woman [20].

With respect to the questions on whether commercial surrogacy is a boon for infertile couples and transnational surrogacy should be allowed in India, many graduates who had studied bioethics said no and this difference was statistically significant ($P<0.0001$) when compared with the graduates who had not studied bioethics. This difference in the answer option is possibly because the graduates who were taught bioethics had knowledge on the subject and also on how it affects the parties involved when the ethics were not followed and adhered to. To support our statement previous studies with students of midwifery, medicine, psychology and law in Iran have shown that these volunteers had a positive attitude towards surrogacy [21] and it is quite possible that the student did not have exposure to bioethics teaching. Additionally, recent reports that the Swedish healthcare professionals have a positive attitude towards surrogacy but the health of the child is a concern also need to be considered [22].

An important observation of this study was that both the cohorts overwhelmingly agreed that commercial surrogacy for single parent and gay couples was not correct. The possible reason for this is that the medical graduates understand the importance of both parents in the upbringing of a child and their role in the growth of the child. These observations are in agreement to the reports of Herrera and co-workers (2013) [20], who have also reported that the Chilean people were not in favour of surrogacy in same-sex couples.

With regard to the question of transnational surrogacy being exploitation of poor women in third world countries, when compared with the graduates who had not studied bioethics the graduates who had studied bioethics said yes (83.1 vs 42.25) and this difference was statistically significant ($p<0.0001$). This difference in the option is possibly because the graduates who were taught bioethics were aware that in transnational surrogacy there have been instances where the surrogacy agencies adopted unethical practice for financial gains and that the surrogate was invariable affected [14].

The most important observation of this study was with the observations on the rating of the medical student's opinion regarding best interest of the people involved in surrogacy. The results indicated that when compared with the graduates who had not studied bioethics majority of the graduates who had studied bioethics rated all of the above (61.64 vs 9.84) as first choice while the graduates who had not studied bioethics had surrogate mother (16.43 vs 60.65) as the choice 1 (Table 3; Figure 1). While majority of the data indicate that the surrogate goes through a lot of stress, there are reports which clearly indicate that the commissioning couple also go through anxiety and stress. The couples had considered surrogacy only after a long period of infertility or when it was the only option available and are keen for the baby [23,24]. While this was not evident

in the thoughts of the graduates who had not studied bioethics, where most emphasized on the surrogate mother.

CONCLUSIONS

The most important observation of this pilot study was that the graduates who had studied bioethics had a better judicious decision than their counterparts who had not learnt ethics in their undergraduate curriculum. These observations clearly indicate the usefulness of teaching bioethics in the undergraduate curriculum and needs to be supported. The biggest drawback of this study was that this was done with a small sample of graduates (134) and a single centre. Multicentre studies are warranted to ascertain the opinion of healthcare fraternity on the ethics of commercial surrogacy as this topic is of importance to both medical sciences and the common man.

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