PREGNANCY EXPERIENCES AND MATERNAL-FOETAL ATTACHMENT OF SURROGATE, INTENDED AND EXPECTANT MOTHERS

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Abstract

Although surrogacy is an unnatural and impractical method of motherhood, society's attitude towards infertility has made it inevitable. Due to this, the number of surrogacy and the number of children born through this process is increasing day by day. The aim of the present study was to examine the pregnancy experiences of surrogate, intended and expectant mothers, the nature of their maternal attachment to the unborn baby and to compare their pregnancy experience and maternal fetal attachment. A further aim was to assess the pregnancy experiences of surrogate and intended mothers.

For this research 27 surrogate mothers and 23 intended mothers were selected with the help of surrogacy center located in Pune city Maharashtra. In addition, 43 expectant mothers were selected from the public hospital/s located in Pathardi tehsil Ahmednagar (Maharashtra). Data was collected from surrogate, intended and expectant mothers during months 5–9 of pregnancy by administering psychological tests. Standardized psychometric tests like DiPietro's pregnancy experience scale (2008) and Cranley's maternal fetal attachment scale (1981) were administered on surrogate and expectant mothers for data collection. In addition, different questionnaires were designed and filled out by surrogate and intended mothers to assess their pregnancy experiences. For the data analysis and interpretation, descriptive statistics like mean and standard deviation and inferential statistics liket test were utilised.

The research revealed that the eexpectant mothers perceived their pregnancies to be significantly more intensely and frequently uplifting than hassling. While, surrogates perceived their pregnancies to be significantly more intensely and frequently hassling than uplifting. Overall, in terms of pregnancy experiences, expectant mothers perceived their pregnancy with significantly greater intensity and more often as happy, positive, and uplift as compared to unhappy, negative, and upset emotional state. With respect to bonding with the unborn baby, surrogates experienced lower levels of emotional bonding (e.g., they interacted less, and wondered less about the foetus), but exhibited higher levels of instrumental bonding (e.g., they adopted better eating habits and avoided unhealthy practices during pregnancy), than women who were carrying their own babies. Contrary to concerns, greater bonding with the unborn baby was associated with uplifting pregnancy experiences, and not hassling pregnancy experiences. The qualitative findings on the experiences of intended mothers show that they were very happy after the embryo was implanted in the surrogate mother's womb. They didn't keep intended motherhood a secret, didn't regret not having children, didn't worry about not getting natural motherhood. The lineage continuity and the happiness of motherhood were the main motives behind surrogacy.These findings have important implications for policy and practice making in surrogacy arrangement in the Globe.

Keywords: pregnancy experience, maternal-foetal attachment, surrogate, intended, and expectant mother

Introduction

Nature has bestowed the beautiful capacity to procreate a life within woman and every woman cherishes the experience of motherhood (Ranjana Kumari, 2014). The natural urge of

human beings to produce their own genetic progeny (child) has existed since time immemorial and the dormant desire to maintain the lineage and produce at least one child of one's own biological identity has been reflected in the institution of marriage and deeply rooted in the minds of every man and woman (Kamla Basin, 2014). Apart from this there is no human existence. A well-known summary of the ideology of motherhood is the "belief that all women need to be mothers, all mothers need their children and all children need their mothers" (Oakley, 1986: p. 67). Being childless is mentally, emotionally and physically distressing and it is a very lonely ride. It is clearly understood that infertility is a problem suffered and yet hushed by many (Sharma, K., 2018).

In India, it is very important for a woman to still be a child. In a society where infertility is considered a curse, an Indian woman does not have the honor of being a housewife unless she has at least one child of her own blood after marriage (Basin, K., 2014, p. 6) Her having a child is considered a proof of her husband's virility and a proof of his acceptance of her as his wife. This natural desire for motherhood and the social concept of motherhood makes her restless to face any option of becoming a mother.

Infertility has become a significant problem in recent times and many couples are affected by this problem. According to the World Health Organization (WHO), 2010, in the world around 15 percent couples are found infertile. The World Health Organization (WHO) has declared the infertility as a disease and estimates suggest that between 48 to 50 million couples and 186 million individuals live with infertility globally (Inhorn M., Patrizio, P., 2015; Mascarenhas MN, Flaxman SR, Boerma T, et al, 2012; Boivin J, Bunting L, Collins JA, et al, 2007; Rutstein SO, Shah IH, 2004). Also, the World Health Organization (WHO) reported that, India has an estimated 19-20 million infertile couples (Gehna & Takkar, 2015, pp.5).

Infertility has become the reason for the marriage collapse, divorce, desertion and may result in heavy psychological consequences (Menning, 1980; Berger, 1980; Poote& van den Akker, 2009). Consequently, treatment seeking is common and treatment options are comprehensive. However, treatment for infertility is marked by genetic link, stigma, perceived normative perceptions of parenthood and population attitude issues. For example, van Balen et al. (1996) found that the majority of people (86%) suffering from fertility problems sought medical help with a minority choosing adoption.

With the enormous advancement of science and technology has provided various ART techniques such as Artificial Insemination (AI), In Vitro Fertilization (IVF) or Intracytoplasmic Sperm Injection (ICSI) or Surrogacy. van den Akker (2005) confirmed that options with a full or partial genetic link appear to be more preferred. Surrogacy, which can offer the full or partial genetic link, therefore this technique is more used globally by infertility couples (Edelmann, 2004).

There have been only four studies examining the maternal-fetal bonding or attitudes towards the fetus in the context of surrogacy (Fischer and Gillman, 1991; van den Akker, 2007; Lorenceau et al., 2015), three of which were conducted in the United States or Europe; and one was conducted in India. In other words, very little research has been done on the pregnancy experience of surrogate mothers and their attachment to the unborn child, and there is no unicism or concord in research findings (Lamba, 2018). For example, critics of surrogacy argue that women form a deep bond with the unborn baby and that it is emotionally distressing for a woman to give up a child that has been nurtured in her womb (Warnock Report, 1985; British

Medical Association, 1996). For surrogates, it has been suggested that detaching from the foetus could lead to surrogates putting the unborn child's health at risk by engaging in risky behaviours such as smoking or not eating well (British Medical Association, 1996; Jadva, 2016). It has been suggested that they make a conscious effort to think of surrogacy as a job and do not see the baby as their own (Snowdon, 1994; Baslington, 2002). Pande (2010) found that Indian surrogates viewed their connection to the foetus as arising through blood ties (shared substance) and sweat (the labour of gestation) rather than the genetic connection that is emphasized in Western countries.

In short, pregnancy experience of surrogate, intended and expectant mothers and their attachment to the unborn child have not been conducted study together in this context. Therefore, the aims of the study are to undertake an in-depth exploration of surrogate, intended and expectant mothers personal experience of pregnancy and to examine the maternal-foetal attachment of surrogate, intended and expectant mothers and the nature of their prenatal bond to the baby.

Objectives

1. To find pregnancy experiences and maternal-foetal attachment with unborn among surrogate, intended and expectant mothers.
2. To determine whether surrogates and expectant mothers differ in their pregnancy experiences (hassles and uplifts) during pregnancy.
3. To determine whether surrogates, intended and expectant mothers differ in their bond with the unborn baby.
4. To explore personal experiences about pregnancy of surrogate and intended mothers.
5. To explore intended mother experiences about surrogacy, surrogate mother, and feelings towards the unborn baby.

Hypotheses

1. During pregnancy, surrogate mothers might experience higher levels of hassles as compared to expectant mothers.
2. During pregnancy, expectant mothers might experience higher levels of uplifts as compared to surrogate mothers.
3. There will be a significant difference in the overall pregnancy experience (happy, positive and uplifted; unhappy, negative and upset) of surrogate and expectant mothers during pregnancy.
4. During the pregnancy surrogates will bond less with the foetus as compared to expectant mothers.
5. Motherhood for surrogates and intended mothers will be a more limiting, responsible, stressful and psychologically distressing experience than for expectant mothers.

Method

Participants

The method of research was analytic– descriptive and comparative (causative) type. In this research, in order to determine the pregnancy experiences and attachment with unborn baby

of the mothers involved in the surrogacy arrangement (surrogate and intended mothers) and expectant mothers (normal mothers), both standardized questionnaire and close-ended questionnaire were utilized.

In the study, surrogates and intended mothers who were to become mothers through surrogacy technology, who were undergoing treatment at "Nirmiti Infertility Centre, Pimpri Chinchwad Pune" and "Gynae World Hospital, Pune" were selected. Also, to compare these women (surrogate and intended mother) with expectant mothers (normal mothers), pregnant women taking treatment at Khedkar Maternity Hospital and Arogya Mata Kendra, Pathardi, Ahmednagar District was selected. There was a total of 93 women in the sample, including 27 surrogates, 23 intended and 43 expectant mothers.

Demographic characteristic of surrogate, intended and expectant mothers

Descriptions	***Surrogate Mothers (n=27)***	***Intended Mothers (n=23)***	***Expectant Mothers (n=43)***
Age range & mean	*25-34 years, (M= 29.18)*	*29-47 years (M=39.04)*	*19-35 years (M=23.41)*
Education	*Primary – 22.22% (6)* *Secondary – 77.78% (21)*	*UG – 13.05% (3)* *PG – 86.954% (20)*	*Secondary - 48.84% (21)* *HSC - 32.55 (14)* *UG -16.28% (7)* *PG - 2.33% (1)*
Religion	*Hindu – 55.55% (15)* *Muslim – 25.92% (7)* *Buddhist – 18.51% (5)*	*Hindu – 60.86% (14)* *Jain – 13.05% (3)* *Christian – 13.05% (3)* *Muslim – 8.70% (2)* *Buddhist – 4.35% (1)*	*Hindu – 83.72% (36)* *Muslim – 9.30 (4)* *Buddhist – 4.65 (2)* *Christian – 2.33 (1)*
Marital status	*Married – 100%*	*Married – 100%*	*Married – 100%*
Month of pregnancy	*5-9 months, (M= 6.25)*	-----	*5-9 months (M=6.86)*
Years of marriage	*3-15 years, (M= 8.70)*	*4-18 years (M=9.65)*	*3-9 years (M= 6.44)*
Occupation	*Workers – 77.77% (21)* *Laundry & others - 22.22% (6)*	*Job – 86.95% (20)* *Housewife – 13.05% (3)*	*Housewife – 93.03% (40)* *Job -6.97% (3)*
Annual income	*Below 1 lakh – 100%*	*Above 6 Lakhs – 100%*	*up to 5 lakhs – 100%*
Type of family	*Joint – 33.33% (9)* *Nuclear – 66.66% (18)*	*Joint – 82.60% (19)* *Nuclear – 17.40% (4)*	*Joint – 62.79% (27)* *Nuclear – 37.21% (16)*
Nature of marital relation	*Good – 40.74% (11)* *Medium – 40.74% (11)* *Poor – 18.52% (5)*	*Good – 95.65% (22)* *Medium – 4.35 (1)*	*Good – 23.26% (33)* *Medium – 76.74% (10)*
Reason of surrogacy option	*Financial upliftment - 100%*	*Health Problems – 82.60% (19)* *1st child seriously ill – 17.40% (4)*	-----
Own child history	*Single – 55.55% (15)* *Double – 44.45% (12)*	*Yes – 13.05% (3)* *No – 86.95% (20)*	*Yes - 62.79% (27)* *No -37.21% (16)*
Type of surrogacy	*Gestational – 100%*	-----	-----

Use of ART	-----	*Yes – 78.26% (18)* *No – 21.74% (5)*	-----
Abortion History	-----	*Yes – 17.40% (4)* *No – 82.60% (19)*	-----

Research Tool

Close-ended questionnaire and standardized psychological tests were used for data collection. Data collection were conducted in Marathi or Hindi language as per mothers' convenience. Following two tools were used for the purpose of the present study.

Pregnancy Experiences Scale (PES-Brief)

Participants were administered the Pregnancy Experiences Scale- Brief Version(PES-Brief - DiPietro et al., 2008) during pregnancy of 5 to 8 months. This scale is a shortened version of the Pregnancy Experiences Scale (PES), to measure daily maternal exposures, ongoing uplifts (happy, positive, or uplifted) and hassles (unhappy, negative, or upset) specific to pregnancy. It is modeled on the general hassles and uplifts scale.

The scale consists of a total of 20 items rated on a 4-point Likert type, out of which 10 items measure uplifting aspects of pregnancy and 10 items measure hassles aspects of pregnancy. Internal reliability for the full scale was >0.90 for both the uplift ($\alpha = 0.93$) and the hassle ($\alpha = 0.91$) scales. The internal consistency of the original scale was 0.81 (DiPietro et al., 2008).

Maternal-Foetal Attachment Scale (MFAS)

Maternal Fetal Attachment Scale (MFAS - Cranley, 1981) was administered to assess the extent to which pregnant womenhad bonded with the unborn baby. The scale originally consists of 24 items rated on a 5-point Likert scale and is available in English language. The scale addresses five dimensions of maternal foetal attachment, namely: differentiation of self, interaction with the foetus, attributing characteristics and intentions, giving of self, and role taking.

The scale has been previously used on an Indian sample and has been validated for the same (Cronbach's reliability alpha= 0.71 and Content Validity Index= .78). The scale is a Likert scale with answers ranging from 5- 'strongly agree' to 1- 'strongly disagree', with reverse scoring in three items (item no. 14, 21, and 23).

Experiences of surrogacy

Also, responses are collected from surrogate mothers about the surrogacy arrangement and their motherhood experiences through close-ended questionnaire. Responses of intended mothers are collected through *Google form* mode for the same.

Results

Once the data was collected from the surrogate, intended and expectant mothers the basic screening of the data was performed. All the demographic details were checked and categorized.

The measure of central tendency, normality of the data, screening of the outliers, extreme scores and other factors were sorted out. As no major deviation from normal distribution was noted, a parametric model for data analysis was selected.

Table 1 Descriptive statistics of gestational mothers (surrogate and expectant mothers) regarding hassling PE, uplifting PE, overall pregnancy experiences (PE) and maternal-foetal attachment (MFA)

DVs	Mothers	N	Mean	SD	SEM
Hassling Experiences	Surrogate Mothers	27	17.74	4.61	.887
	Expectant Mothers	43	17.06	4.71	.718
Uplifting Experiences	Surrogate Mothers	27	16.44	5.54	1.06
	Expectant Mothers	43	21.04	4.10	.626
Pregnancy Experience (PE)	Surrogate Mothers	27	34.18	6.87	1.32
	Expectant Mothers	43	38.11	7.13	1.08
Maternal-Foetal Attachment(MFA)	Surrogate Mothers	27	96.77	7.33	1.41
	Expectant Mothers	43	101.06	6.93	1.05

Descriptive statistics with mean, SD, and standard error of dependent variables like hassles, upliftment, pregnancy experience, and maternal-foetal attachment are presented in table 1 with respect to surrogate and expectant mother groups. This table shows that the mean scores for upliftment, pregnancy experience and maternal-fetal attachment are higher for the expectant mother group. However, the statistical result needs to be contextualized before we can make any assumptions about it.

As shown the table 1, the mean and SD of the dependent variable for surrogate mothers and expectant mothers on hassles experiences of pregnancy are 17.74.1±4.61 and 17.06±4.71, respectively. The difference being very small, there was no significant difference in the mean scores of the hassling experiences of pregnancy between the two groups.

The mean and standard deviation of the group of surrogate mothers on the dependent variables of upliftment experiences of pregnancy, pregnancy experience, and maternal-fetal attachment are 16.44±5.54, 34.18±6.87 and 96.77±7.33, respectively. Similarly, the mean and

standard deviation of expectant mothers on the same dependent variables are 21.04±4.10, 38.11±7.13 and 101.06±6.93, respectively.

Table 2 Comparison of surrogate and expectant mothers on pregnancy experience (PE) and maternal-foetal attachment

DVs	Surrogates			Intended			**t**	**df**	***p***	**95% CI of difference**
	Mean	SD	SE	Mean	SD	SE				
Hassling	17.74	4.61	.887	17.06	4.71	.718	.585	68	.561	-1.61 to 2.96
Uplifting	16.44	5.54	1.06	21.04	4.10	.626	3.97	68	.000	-6.90 to -2.19
PE	34.18	6.87	1.32	38.11	7.13	1.08	2.27	68	.026	-7.37 to -.48
MFA	96.77	7.33	1.41	101.06	6.93	1.05	2.46	68	.016	-7.76 to -.81

As shown in table 2, hassles experiences of pregnancy were slightly higher for the surrogate mothers (M = 17.74, SD = 4.61) than the expectant mothers (M = 17.06, SD = 4.71). However, the difference did not support the hypothesis that hassles experiences of pregnancy differs in surrogate mothers and expectant mothers since the obtained value for *t* of .585 is not statistically significant at the 5% level. However, the difference of .670, 95% CI -1.61, 2.96], was not statistically significant, t(68) = .585, p = .56.

Examining table 2, we can clearly see that there is a difference between the two-sample means. In other words, table 2 shows that upliftment experiences of pregnancy were mostly higher for expectant mothers (M = 21.04, SD = 4.10) than surrogate mothers (M = 16.44, SD = 5.54), and this difference is 4.6 (21.04-16.44). It was found that upliftment experiences of pregnancy were significantly higher, t(68) = 3.97, df = 68, p < .01, 95% CI [-6.90, -2.19], in the expectant mothers (M = 21.04, SD = 4.10) than in the surrogate mothers (M = 16.44, SD = 5.54).

The table 1 shows that the mean and standard deviation value on the measure of pregnancy experience of surrogate and expectant mothers. The mean and standard deviation on pregnancy experience variable is 34.18±6.87 for surrogate mothers and 38.11±7.13 for expectant mothers. The result indicates that the expectant mothers obtained mean score is higher than surrogate mothers on their pregnancy experience (PE).Using an independent t-test, it was confirmed that pregnancy experiences (mostly uplifted) were significantly high for expectant mothers than for surrogate mothers, t(68) = 2.27, p = .026.

Table 2 shows that, the mean and standard deviation of maternal-foetal attachment variable is 97.77±7.33 for surrogate mothers and 101.06±6.93 for expectant mothers. Maternal-foetal attachment mean score was higher for expectant mothers (M = 101.06, SD = 6.93) than surrogate mothers (M = 96.77, SD = 7.33). However, the difference supports the hypothesis that the amount of maternal bonding with unborn baby differs significantly in surrogate mothers and

expectant mothers, *t* (68) = 2.46, p = .016. The result indicates that expectant mothers maternal-foetal bonding with unborn baby were strong than surrogate mothers.

Table 3 Comparison of the Cranley's maternal-fetus attachment (MFA) subscales between surrogate and expectant mothers

MFASubscales	Mothers	Mean	SD	SE	t	df	*p*
Role-Taking	Surrogate	20.81	2.57	.495	-1.46	68	.146
	Expectant	21.69	2.36	.360			
Differentiation of Self from Fetus	Surrogate	15.14	2.05	.394	-1.29	68	.201
	Expectant	15.76	1.88	.287			
Interaction with the Fetus	Surrogate	18.88	3.29	.634	-1.56	68	.122
	Expectant	23.81	2.81	.364			
Attributing Characteristics to the Fetus	Surrogate	18.92	2.25	.433	-1.61	68	.111
	Expectant	19.83	2.32	.355			
Giving of Self	Surrogate	23.00	2.41	.465	-1.24	68	.219
	Expectant	15.95	2.38	.429			

The mean score of subscales, based on five behaviour domains of MFA, were shown in table 3. As shown in the table 3, the lowest and the highest means were related to differentiation of self from fetus 15.14 and giving of self- 23.00 in surrogate mothers, respectively. The lowest and the highest means were associated with differentiation of self from fetus 15.76 and interaction with the fetus 23.81 in mothers with normal pregnancy, respectively (Table 4.14). As seen in Table 4.14, the scores of mothers with normal pregnancy were higher than those of surrogate mothers in all subscales of MFA but the differences were not statistically significant (P>0.05).

Conclusions

1. Expectant mothers perceived their pregnancies to be significantly more intensely and frequently uplifting than hassling. While, surrogates perceived their pregnancies to be significantly more intensely and frequently hassling than uplifting.
2. Overall, in terms of pregnancy experiences, expectant mothers perceived their pregnancy with significantly greater intensity and more often as happy, positive, and uplift as compared to unhappy, negative, and upset emotional state.
3. Quite the contrary, in terms of overall pregnancy experiences, surrogate mothers perceived their pregnancy as a significantly greater intensity and more often as unhappy, negative, and upset than as a happy, positive, and uplifting emotional state.
4. With respect to bonding with the unborn baby, surrogates experienced lower levels of emotional bonding (e.g., they interacted less, and wondered less about the foetus), but exhibited higher levels of instrumental bonding (e.g., they adopted better eating habits and avoided unhealthy practices during pregnancy), than women who were carrying their own babies.
5. Contrary to concerns, greater bonding with the unborn baby was associated with uplifting pregnancy experiences, and not hassling pregnancy experiences.
6. The qualitative findings on the experiences of surrogates have shown that they are not particularly happy with the implantation of the embryo in the uterus or the fetus growing in the womb. On the other hand, surrogates do not like called as 'Mummy' from child who born through surrogacy, prefer to keep the surrogacy a secret from the family or community, and have different feelings about their own child's embryo and the intended couple child's embryo.
7. On the other hand, qualitative findings on the experiences of intended mothers show that they were very happy after the embryo was implanted in the surrogate mother's womb. They didn't keep intended motherhood a secret, didn't regret not having children, didn't worry about not getting natural motherhood. The lineage continuity and the happiness of motherhood were the main motives behind surrogacy.

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