



## A DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE AND ATTITUDE REGARDING SURROGACY AMONG INFERTILE COUPLES ATTENDING SELECTED INFERTILITY CLINICS OF AMRITSAR, PUNJAB

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### ABSTRACT

**Introduction:** Surrogacy is a method of reproduction where the fertilized egg from another woman is implanted into surrogate's uterus or the surrogate may use her own egg and another men's sperm to become pregnant and after delivery surrogate women handover's the child to the infertile couple. **Aim:** The aim of this present study was to assess the knowledge and attitude regarding surrogacy among infertile couples in selected infertility clinics of Amritsar, Punjab. **Tool and methods:** A non-experimental research design used in the study. A structured knowledge questionnaire comprising of 18 questions and attitude scale regarding surrogacy comprising of 16 statements was used to collect the data from 100 infertile couples by using purposive sampling technique attending satjot human and reproduction centre , kd hospital and infertility clinics, Amritsar, Punjab. **Results:** The results showed that among 100 infertile couples, majority (87%) had average knowledge followed by 11% had good knowledge and only 2% had poor knowledge regarding surrogacy. Regarding attitude majority (62%) of infertile couples had negative attitude and 38% had positive attitude. **Conclusion:** Regarding association of knowledge and attitude with selected socio demographic variables such as age, religion, educational status, family income was found to be statically non-significant whereas type of family, duration of marriage and number of attempt to infertility treatment was found to be statically significant at  $p < 0.05$ .

**Key words:** Knowledge, Attitude, Surrogacy, Infertile couples.

### INTRODUCTION

Nelson Lindeman (2010)<sup>1</sup> explained in his study that Surrogate is a word which means 'any other substitute' that refers to a surrogate mother is the substitute for the genetic-biological mother who is not able to get pregnant. In other words, we can say that a surrogate mother is the one who is hired by the infertile couple to hold up a child which she hands over or deliver to her employer at the time of birth. From the last decades surrogacy agreements were generally held with kith and kin of close family/friends/relatives. But with the introduction of financial and money arrangements, surrogacy has spread its grid beyond the family, community, state and even across the country. Which is quite shocking.

ART (2010)<sup>2</sup> Surrogacy is a harmony in which a lady agrees to become pregnant for the infertile couple and this whole process is attained by using assisted reproductive technology in which sometimes the fertilized egg do not belong to her or neither her husband sperms and all this is to be done with the intention of carrying it to handing over the child to the infertile couple for which she is paying off as as a surrogate.

Child Birth Solutions Article (2008)<sup>3</sup> there are total two types of surrogacy "traditional" and "gestational". "Traditional surrogacy is achieved through artificial insemination where the surrogate mother will use her own

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egg and sperms of the other man” whereas “Gestational surrogacy is in which In Vitro Fertilization technique (IVF) is utilized where fertilized eggs from another woman (such as genetic mother) are being implanted into the uterine cavity of surrogate mother”.

### Need of study

The lack of researches regarding surrogacy poses several problems. A number of surrogacy related questions remained unanswered, including: is it legal to become surrogate mother in India? Will the child born to an Indian surrogate mother be a citizen of the country? Whose name will appear on birth certificate? How commissioning parents claim parenthood? What happens if surrogate mother changes her mind and refuses to handover the baby or blackmails for custody. Who will take the responsibility of surrogated child if the commissioning refuses to take the child? What will happen if the child will be born disabled? What will happen if the sex of the child is not to the liking of commissioning parents? Such questions need to be thorough analysis so this all will be answered with applying research on people knowledge and attitude regarding surrogacy.

ICMR (2008)<sup>5</sup> described that government of India has taken certain steps including surrogacy agreements, introduction and implementation of National Guidelines for Accreditation, Supervision and Regulation of Assisted Reproductive Technology (ART) Clinics in 2006 and guidelines have been issued by the Indian Council of Medical Research (ICMR) under the Ministry of Health and Family Welfare, Government of India. But still the surrogate mothers and intended parents are not properly familiar with surrogacy. However, till now there is no legal provision dealing directly with surrogacy laws to protect the rights and interests of the surrogate mother, the child, or the commissioning parents.

### Objectives

- 1) To assess the knowledge regarding surrogacy among infertile couples.
- 2) To assess the attitude regarding surrogacy among infertile couples.
- 3) To determine the correlation between knowledge and attitude regarding surrogacy among infertile couples.
- 4) To determine the association of knowledge and attitude regarding surrogacy among infertile couples with selected socio-demographic variables.
- 5) To develop and distribute guidelines regarding surrogacy among infertile couples.

### Review of literature

Rahmani A et al (2008)<sup>6</sup> conducted a descriptive study to assess the knowledge and attitude regarding surrogacy among 238 infertile women at infertility clinic of Iran. Data were collected by using a researcher developed questionnaire that included 25 items based on a five-point Likert scale. Data analysis was conducted by statistical

software using descriptive statistics. The study reveals that more than half of infertile couples have average level of knowledge regarding surrogacy whereas 89.9% women had positive attitude, 15.1% women considered gestational surrogacy against their religious beliefs, 67.2% said that children who were born through surrogacy would be better and 73.1% believed that children born through surrogacy will face mental problems.

## MATERIAL AND METHODS

### Research approach and design:

For the present study, Non-experimental research approach with descriptive research design was utilized to achieve the objectives of the study.

Sample and sampling technique: In this study, sample consists of 100 infertile couples attending selected infertility clinics of Amritsar, Punjab and Purposive sampling technique was used to select the sample.

### Research tool and data collection procedure:

A structured knowledge questionnaire and 5 point attitude scale was prepared to assess the knowledge and attitude regarding surrogacy among infertile couples. The tool consisted of following parts:

#### Part I: Socio demographic profile

Demographic data [1-7] items include age, religion, educational status, family income (in rupees), type of family, duration of marriage, number of attempts to infertility treatment.

#### Part II: Structured knowledge questionnaire regarding surrogacy

Structured knowledge questionnaire was prepared to assess the knowledge regarding surrogacy among infertile couples. It consists of 18 multiple choice questions each having three options. Each correct answer carries 1 mark and wrong answer carry 0 mark. Maximum knowledge score was 18 and minimum knowledge score was 0.

#### Part III: Attitude scale regarding surrogacy

Attitude scale was prepared to assess the attitude regarding surrogacy among infertile couples. 5 point attitude scale consist of 16 statements was used i.e. strongly agree, agree, neutral, disagree, strongly disagree containing the mixture of positive and negative declarative statements. Positive items are 1, 2, 3, 4, 5, 11, 12, 13, 16, 17 and negative items are 6,7,8,9,10,14,15. Attitude scale was divided into 2 categories i.e Positive ( $\geq 40$ ) and ( $< 40$ ). Attitude score was divided into 2 categories i.e

### Data analysis:

Analysis of data was done in accordance with the objective of the research study. It was done by using descriptive and inferential statistics such as mean,

percentage, standard deviation, correlation coefficient and ANOVA test, Pie charts and bar diagrams were used to depict the findings of the study.

### **Ethical consideration**

Written permission was taken from managing director of Satjot Human and Reproduction Center and K.D. Hospital, Amritsar and also written informed consent was taken from infertile couples who were willing to participate in the study and to gain their confidence.

### **RESULTS:**

Table 1 reveals the frequency and percentage distribution of sample characteristics. It shows that according to age, majority (49%) of infertile couples were between 35-40 years, (40%) in the age group of 41-45 years followed by (11%) in the age group of 46-50 years. According to educational status, approximately half of the subjects i.e. (49%) infertile couples studied upto senior secondary, (35%) upto graduate or above and only (16%) studied upto metric. Regarding religion, majority (38%) of infertile couples belongs to Sikhism/ Hinduism and only (24%) belongs to Christianity. Regarding family income (in rupees), majority (52%) of infertile couples having income above 15,000, (42%) having 10,000-15,000 and only (6%) having income 5000-10,001. According to type of family, majority (52%) of infertile couples belongs to nuclear family followed by (48%) from joint family. Regarding duration of marriage, majority (67%) of infertile couples had marriage duration of 1-5 years followed by (24%) were married from 6-10 years and remaining (9%) were married from 11-15 years. According to no. of attempts to infertility treatment, majority (45%) of infertile couples had already taken infertility treatment for 2 times (33%) for 1<sup>st</sup> time and remaining 22% for 3 or above.

Hence it was concluded that majority of infertile couples were in the age group 35-40 years, passed senior secondary, had family income above 15,000 rupees per month and belonged to nuclear families. Majority of infertile couples had marriage duration of 1-5 years belonged to Hinduism/Sikhism and already had taken infertility treatment 2 times.

Table 4(a) and figure 5(a) depicts the association of infertile couples according to their level of knowledge regarding surrogacy with Age. It shows that among infertile couples, the highest mean score i.e. (11) was found in age group 46-50 years and lowest mean was (10.16) in the age group of 41-45 years. On applying ANOVA test it was found to be statistically non-significant at  $p < 0.05$  among infertile couples.

Hence, it was concluded that there was no association of knowledge regarding surrogacy among infertile couples with age.

Table 4(b) and figure 5(b) depicts the association of infertile couples according to their attitude regarding surrogacy with Age. It shows that among infertile couples,

the highest mean score i.e. (39.95) was found in age group 41-45 years and lowest mean was (39.39) in the age group of 35-40 years. On applying ANOVA test it was found to be statistically non-significant at  $p < 0.05$  among infertile couples.

Hence, it was concluded that there was no association of attitude regarding surrogacy among infertile couples with age.

Table 4(c) and figure 5(c) depicts the association of infertile couples according to their level of knowledge regarding surrogacy with Religion. It shows that among infertile couples the highest mean score i.e. (10.72) was found in infertile couples belonged to Christianity and lowest mean was (10.31) belonged to Sikhism. On applying ANOVA test it was found to be statistically non-significant at  $p < 0.05$  among infertile couples.

Hence, it was concluded that there was no association of knowledge regarding surrogacy among infertile couples with Religion.

Table 4(d) and figure 5(d) depicts the association of infertile couples according to their attitude regarding surrogacy with Religion. It shows that among infertile couples the highest mean score i.e. (40.77) was found in infertile couples belonged to Christianity and lowest mean was (38.40) belonged to Sikhism. On applying ANOVA test it was found to be statistically non-significant at  $p < 0.05$  among infertile couples.

Hence, it was concluded that there was no association of attitude regarding surrogacy among infertile couples with Religion.

Table 4(e) and figure 5(e) depicts the association of infertile couples according to their level of knowledge regarding surrogacy with Family income (in rupees). It shows that the highest mean score i.e (10.89) was found among infertile couples who had family income 15,000 or above and lowest mean was (9.41) who had family income 5001-10,000. On applying ANOVA test it was found to be statistically significant at  $p < 0.05$ .

Hence, it was concluded that there was association of knowledge regarding surrogacy among infertile couples with family income (in rupees).

Table 4(f) and figure 5(f) depicts the association of infertile couples according to their attitude regarding surrogacy with Family income (in rupees). It shows that among infertile couples the highest mean score i.e (41.78) was found who had 15,000 or above family income and lowest mean was (37.66) who had family income 5001-10,000. On applying ANOVA test it was found to be statistically significant at  $p < 0.05$ .

Hence, it was concluded that there was association of attitude regarding surrogacy among infertile couples with family income (in rupees).

Table 4(k) and figure 5(k) depicts the association of infertile couples according to their level of knowledge regarding surrogacy with Duration of marriage. It shows that among infertile couples the highest mean score i.e.

(11.11) was found among infertile couples who had marriage duration of 11-15 years and lowest mean (10.18) among infertile couples who had marriage duration of 6-10 years. On applying ANOVA test it was found to be statistically significant at  $p < 0.05$ .

Hence, it was concluded that there was association of knowledge regarding surrogacy among infertile couples with duration of marriage.

Table 4(l) and figure 5(l) depicts the association of infertile couples according to their attitude regarding surrogacy

with Duration of marriage. It shows that among infertile couples the highest mean score i.e. (40.18) was found among infertile couples who had marriage duration of 11-15 years and lowest mean (38.05) among infertile couples who had marriage duration of 6-10 years. On applying ANOVA test it was found to be statistically non-significant at  $p < 0.05$ .

Hence, it was concluded that there was no association of attitude regarding surrogacy among infertile couples with duration of marriage.

**Structured knowledge questionnaire regarding surrogacy was categorized into 3 levels.**

Level of knowledge	Score	(%)
Good	13-18	$\geq 72\%$
Average	7-12	34-71%
Poor	0-6	$\leq 33\%$

Attitude	Total score
Negative attitude	$< 40$
Positive attitude	$\geq 40$

**Table:1. Frequency and percentage distribution of sample characteristics** **N=100**

Demographic variables	Frequency (n)	Percentage (%)
<b>Age (in years)</b>		
35-40	49	49
41-45	40	40
46-50	11	11
Above 50	0	0
<b>Educational status</b>		
Primary	0	0
Middle	0	0
Metric	16	16
Senior secondary	49	49
Graduate or above	35	35
<b>Religion</b>		
Hinduism	38	38
Islam	0	0
Sikhism	38	38
Christianity	24	24
<b>Family income (in rupees)</b>		
Upto 5000/-	0	0
5001-10,000/-	6	6
10,001-15,000/-	42	42
Above 15,000/-	52	52
<b>Type of family</b>		
Nuclear	52	52
Joint	48	48
<b>Duration of marriage</b>		
1-5 years	67	67
6-10 years	24	24
11-15 years	9	9
Above 15 years	0	0
<b>Number of attempts to</b>		

<b>infertility treatment</b>		
1	33	33
2	45	45
3 and above	22	22

**Objective 4- To determine the association of knowledge and attitude regarding surrogacy among infertile couples with selected socio-demographic variables.**

**Table 4(a): Association of infertile couples according to their level of knowledge regarding surrogacy with Age N =100**

Age (in years)	n	Mean	S.D
35-40 years	49	10.56	1.97
41-45 years	40	10.16	1.96
46-50 years	11	11	2.04
Above 50 years	0	0	0
<b>Variance</b>	<b>df</b>	<b>F</b>	
(B/G)	2	925 <sup>NS</sup>	
(W/G)	97		

Maximum Score =18

Minimum Score=0

NS=Non-Significant at p<0.05

(B/G)- between the group

(W/G)- within the group

**Table 4(b): Association of infertile couples according to their attitude regarding surrogacy with Age N=100**

Age	n	Mean	SD
35-40 years	49	39.39	7.53
41-45 years	40	39.95	8.29
46-50 years	11	37.63	7.79
Above 50	0	0	0
<b>Variance</b>	<b>df</b>	<b>F</b>	
(B/W)	2	.373 <sup>NS</sup>	
(W/G)	97		

Positive attitude = ≥40

Negative attitude = <40

Non-Significant at p<0.05

(B/G)- between the group

(W/G)- Within the group

**Table-4 (c): Association of infertile couples according to their level of knowledge regarding surrogacy with Religion N=100.**

Age	n	Mean	SD
Hinduism	38	10.40	2.11
Islam	0	0	0
Sikhism	38	10.3	11.94
Christianity	24	10.72	1.85
<b>Variance</b>	<b>df</b>	<b>F</b>	
(B/W)	2	.373 <sup>NS</sup>	
(W/G)	97		

Maximum score =18

Minimum score =0

NS=Non significant at p<0.05

(B/G)- between the group

(W/G)-within the group

**Table 4 (d): Association of infertile couples according to their attitude regarding surrogacy with Religion N=100**

Religion	n	Mean	S.D
Hinduism	38	39.59	8.60
Islam	0	0	0
Sikhism	38	38.40	6.95
Christianity	24	40.77	7.94
<b>Variance</b>	<b>df</b>	<b>F</b>	

(B/G)	2	0.680 <sup>NS</sup>	
(W/G)	97		

Positive attitude= ≥40  
 Negative attitude= <40

Non-Significant at p<0.05  
 (B/G)- between the group  
 (W/G)- within the group

**Table 4 (g): Association of infertile couples according to their level of knowledge regarding surrogacy with Family income (in rupees) N=100**

Family income (in rupees)	n	Mean	SD
Upto 5000	0	0	0
5001-10,000	6	9.41	1.90
10,001-15,00	42	10.04	2.07
Above 15,000	52	10.89	1.81
<b>Variance</b>	<b>df</b>	<b>F</b>	
(B/G)	2	3.133	
(W/G)	97		

Maximum score=18  
 Minimum score=0

Significant at p<0.05  
 (B/G)- between the group  
 (W/G)- within the group

**Table 4 (h): Association of infertile couples according to their attitude regarding surrogacy with Family income (in rupees) N=100**

Family income (in rupees)	n	Mean	SD
Upto 5000	0	0	0
5001-10,000	6	38.46	7.87
10,001-15,00	42	41.78	8.26
Above 15,000	52	37.66	7.07
<b>Variance</b>	<b>df</b>	<b>F</b>	
(B/G)	2	3.468	
(W/G)	97		

Positive attitude = ≥40  
 Negative attitude = <40

Significant at p<0.05  
 (B/G)- between the group  
 (W/G)- within the group

**Table 4 (k): Association of infertile couples according to their level of knowledge regarding surrogacy with Duration of marriage N=100**

Duration of marriage	n	Mean	SD
1-5 years	67	10.45	1.97
6-10 years	24	10.18	1.92
11-15 years	9	11.11	2.21
<b>Variance</b>	<b>df</b>	<b>F</b>	
B/G	2	.711	
W/G	97		

Maximum score = 18  
 Minimum score = 0

Significant at p<0.05  
 (B/G)- between the group  
 (W/G)- within the group

**Table 4 (l): Association of infertile couples according to their attitude regarding surrogacy with Duration of marriage N= 100**

Duration of marriage	n	Mean	SD
1-5 years	67	39.33	7.43
6-10 years	24	40.18	8.81
11-15 years	9	38.05	8.64
<b>Variance</b>	<b>df</b>	<b>F</b>	
B/G	2	.252 <sup>NS</sup>	

W/G	97		
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Positive attitude =  $\geq 40$   
 Negative attitude =  $< 40$

Non- significant at  $p < 0.05$   
 (B/G)- between the group  
 (W/G)- within the group

Figure 5(a): Mean score of infertile couples according to their level of knowledge regarding surrogacy with Age

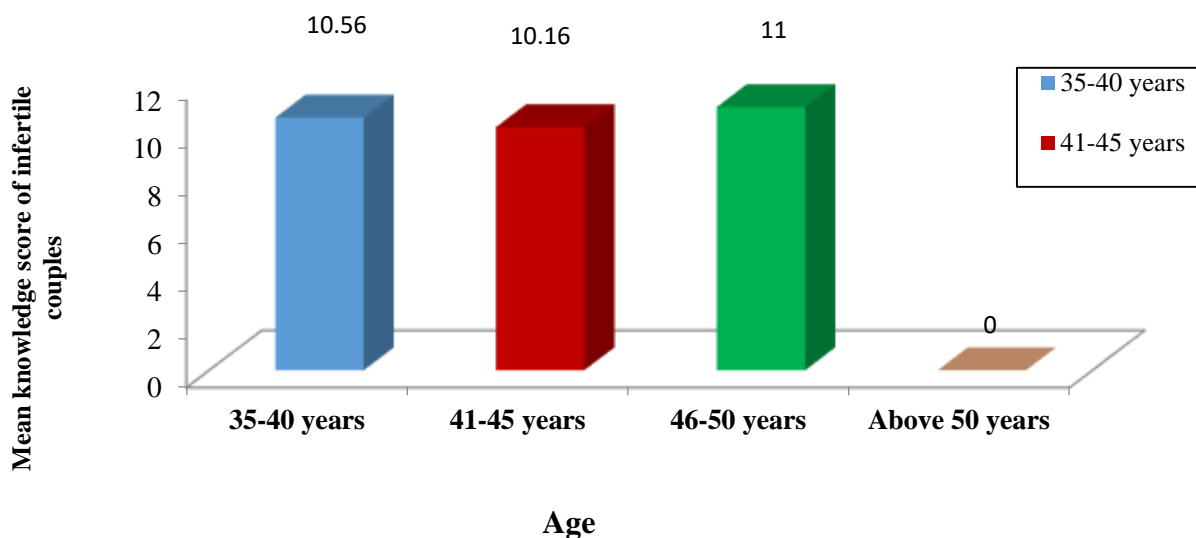


Figure 5(b): Mean score of infertile couples according to their attitude regarding surrogacy with Age

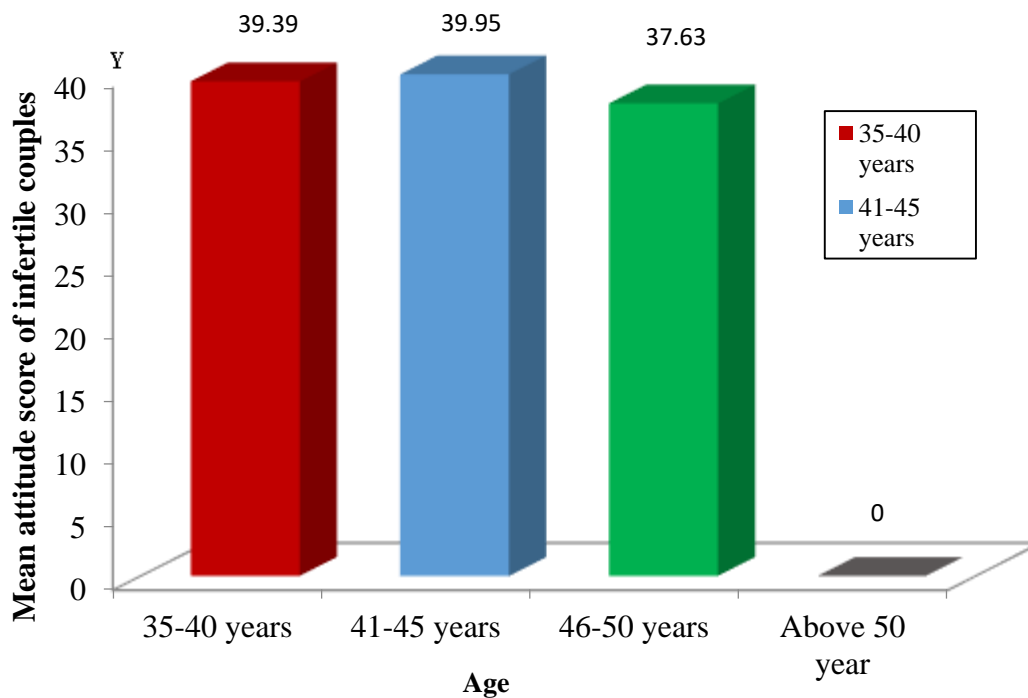


Figure 5(c): Mean score of infertile couples according to their level of knowledge regarding surrogacy with Religion

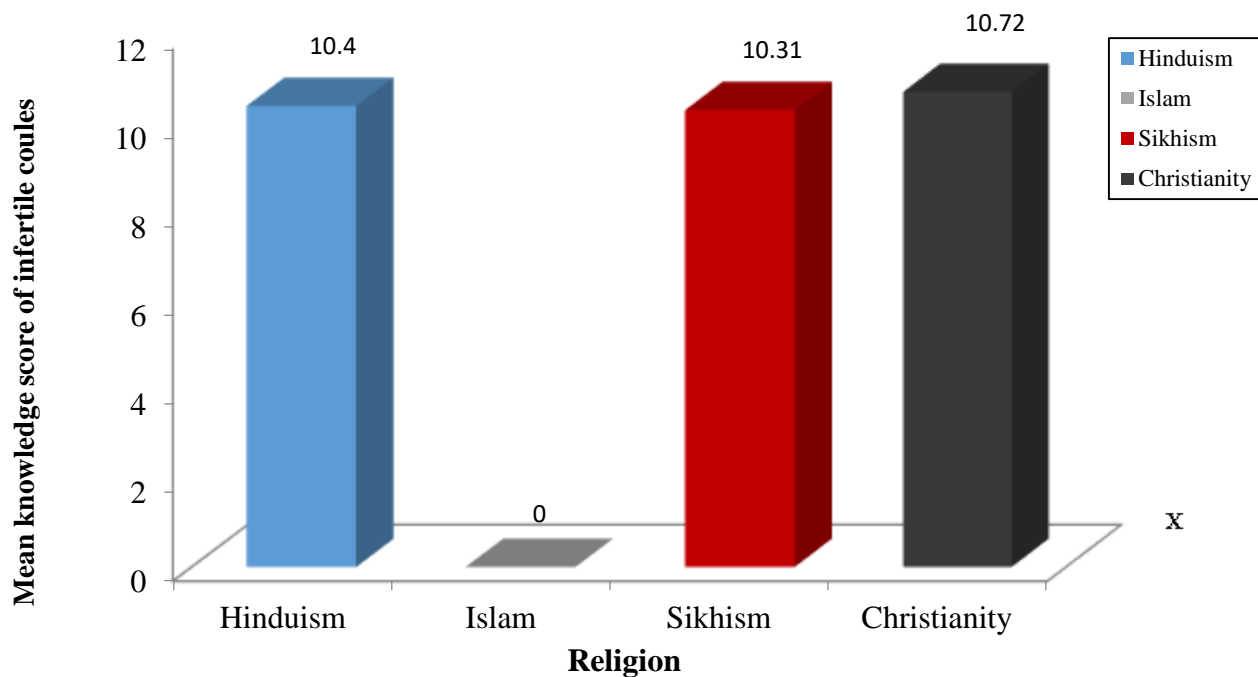


Figure 5(d): Mean score of infertile couples according to their attitude regarding surrogacy with Religion

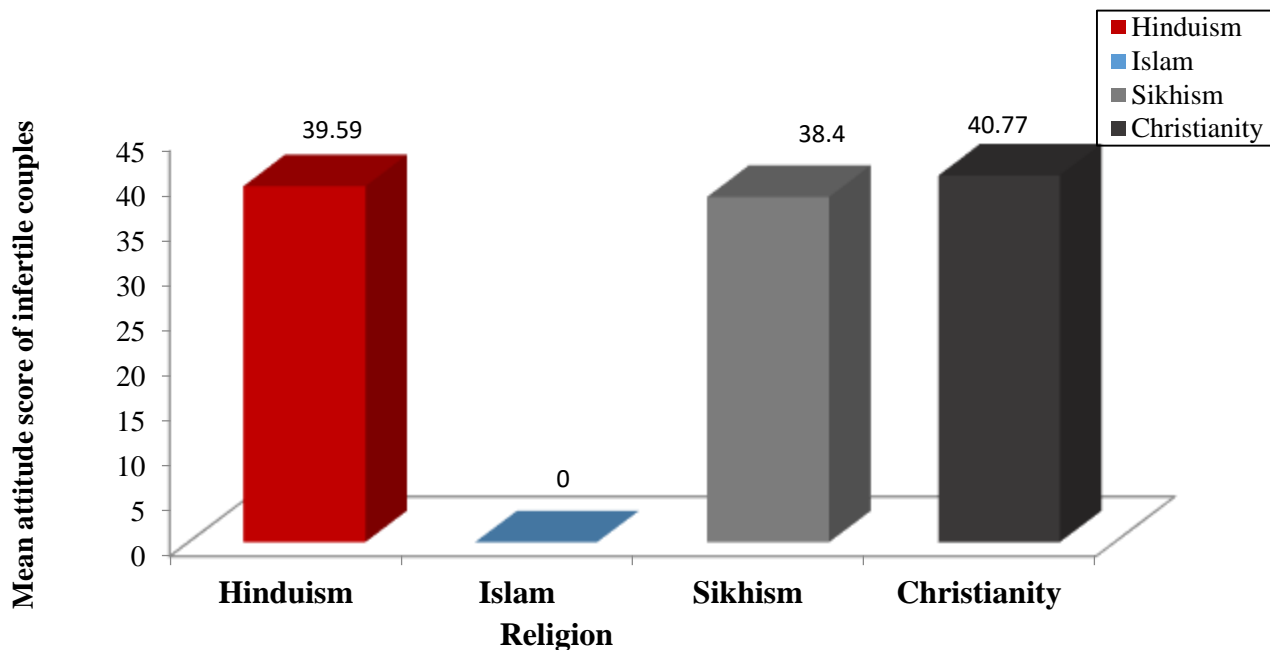




Figure 5(g): Mean score of infertile couples according to their level of knowledge regarding surrogacy with family income (in rupees)

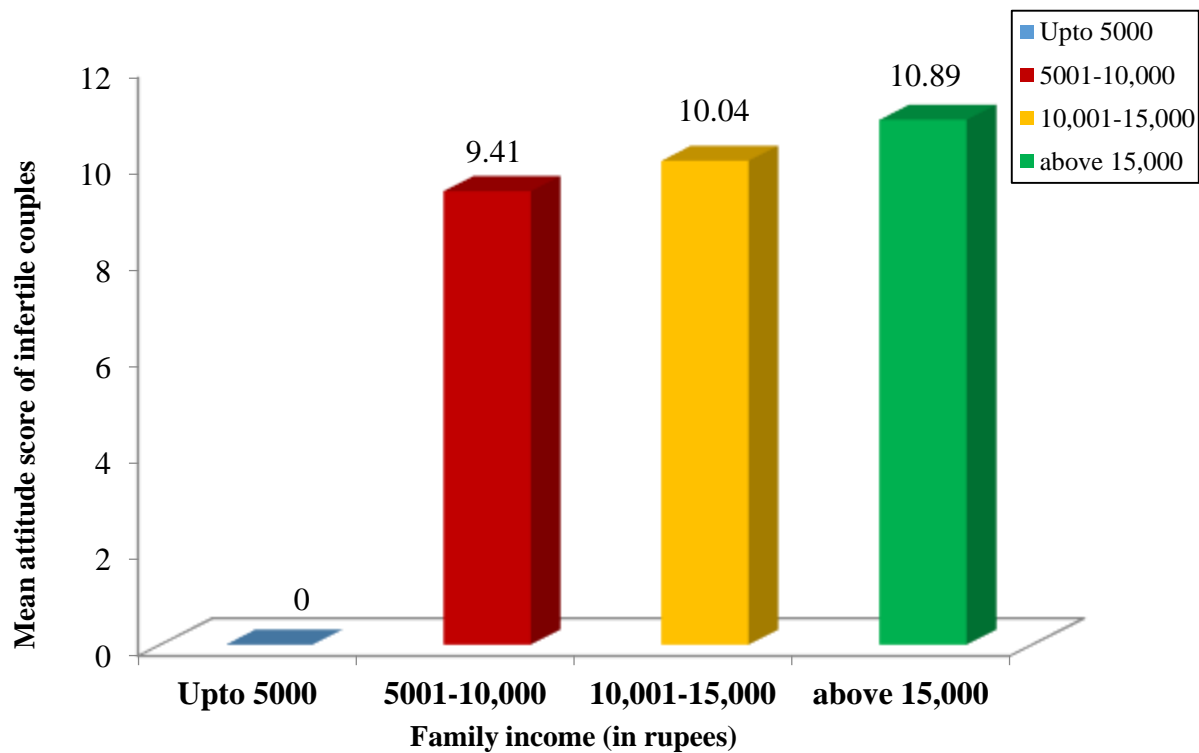
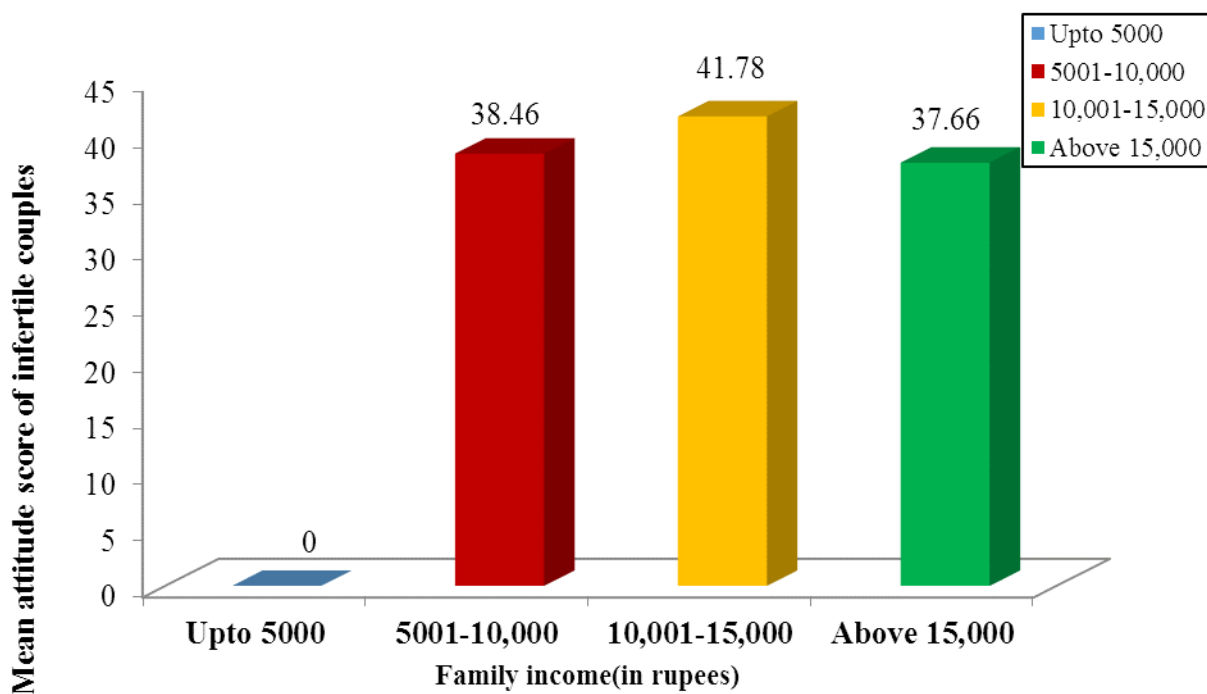
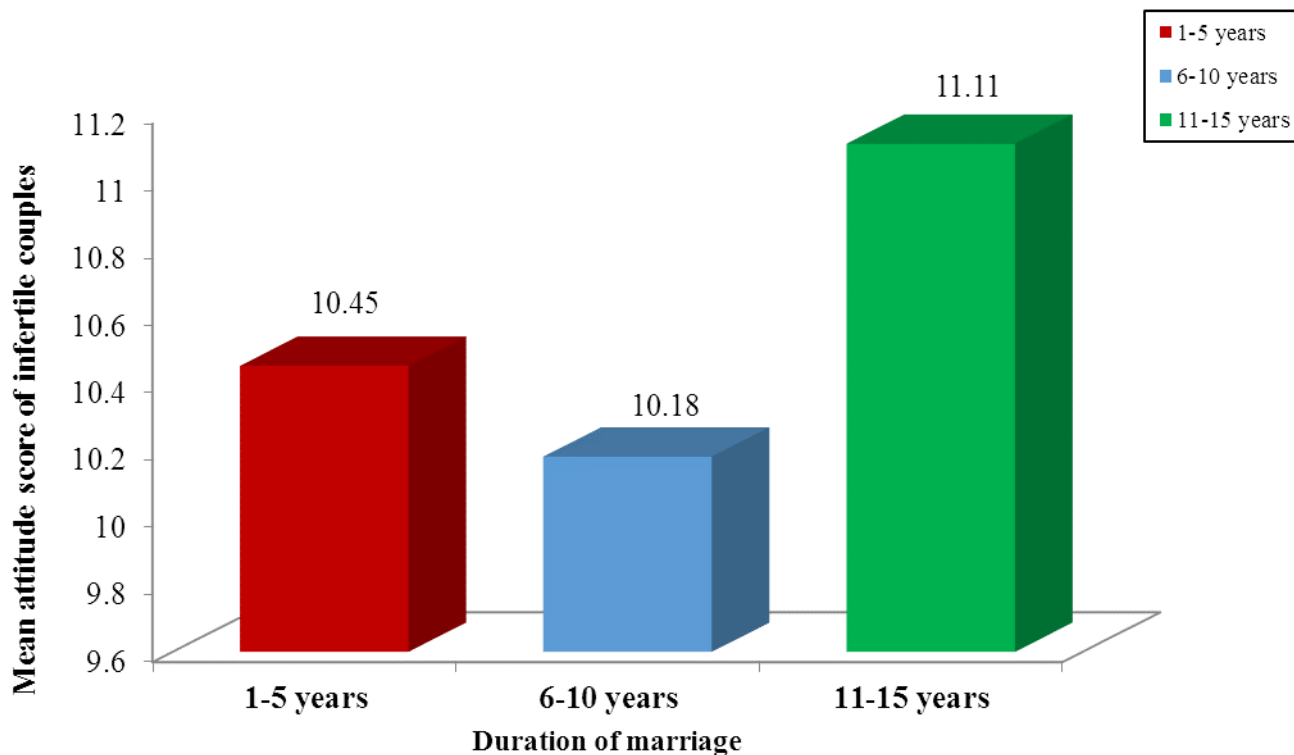


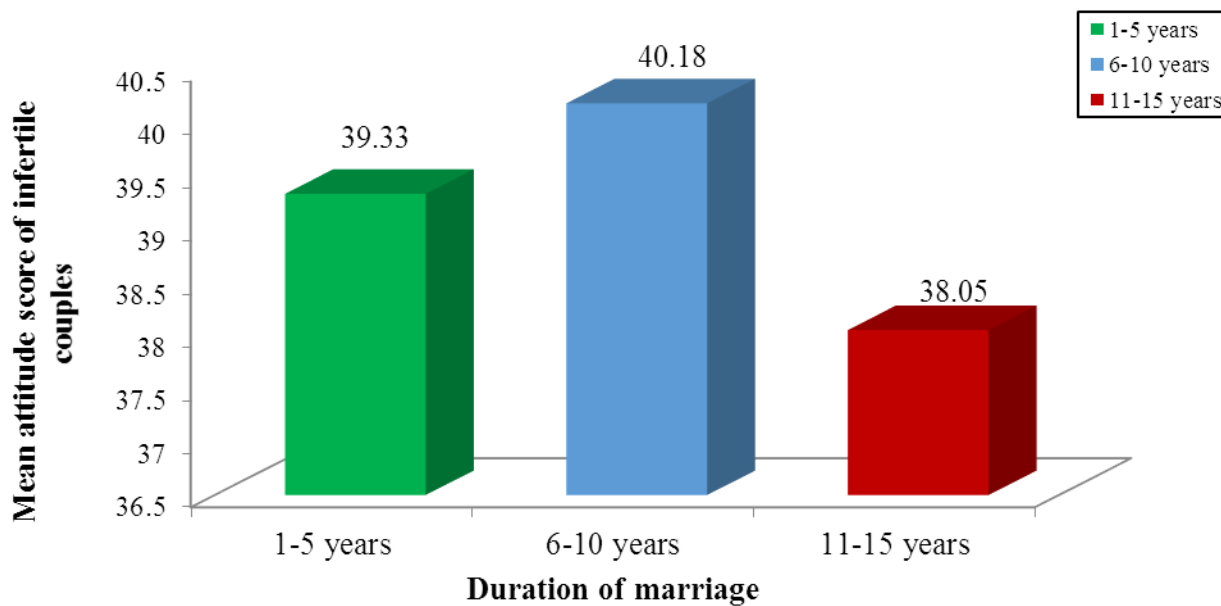
Figure 5(h): Mean score of infertile couples according to their attitude regarding surrogacy with family income (in rupees)



**Figure 5(k): Mean with of infertile couples according to their level of knowledge regarding surrogacy with Duration of marriage**



**Figure 5(l): Mean score of infertile couples according to their attitude regarding surrogacy with Duration of marriage**



**DISCUSSION:**

In this chapter, an attempt has been made to discuss the findings of the study with the findings of other

studies. The present study was conducted in selected infertility clinics of Amritsar, Punjab. Total sample was 100 infertile couples. Purposive sampling technique was

used to collect the samples. The analysis of data regarding surrogacy knowledge among infertile couples revealed that 87% of the infertile couples had average knowledge whereas 11% were had good knowledge and only 2% were had poor knowledge regarding surrogacy. Regarding surrogacy attitude among infertile couples revealed that majority (62%) of infertile couples had negative attitude and only (38%) had positive attitude regarding surrogacy. The correlation between knowledge and attitude regarding surrogacy among infertile couples was found to be significant which means that as the knowledge of infertile couples increases the attitude also the same as vice versa. Association of knowledge and attitude regarding surrogacy among infertile couples with socio demographic variables as age, religion, education status, family income, type of family, duration of marriage, number of attempt to

infertility treatment was found to be statistically non-significant at  $p < 0.05$ .

#### CONCLUSION:

Surrogacy is an agreement in which a woman agrees to become pregnant for infertile couple and this is achieved with the help of assisted reproductive technology in which neither of gametes belong to her or her husband with the intention of carrying it to handing over the child to the person or persons for whom she is acting as surrogate. Or A surrogate mother is a women who agrees to have an embryo generated from the sperm of a men who is not her husband and the oocyte for another woman implanted in her uterus to carry the pregnancy to full term and deliver the child to its biological.

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