

SOCIAL FACTORS AFFECTING FERTILITY OF FEMALES

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ABSTRACT

BACKGROUND: Infertility is one of the most worrisome women health issue in today's world. The reason of its yearly increase may be the increasing reporting rate that previously people do not talk about unless decades pass. Non-fertile females may develop number of correlating social dilemmas. These factors need to be identified whether these are associated with status of fertility.

OBJECTIVE: To determine social factors affecting fertility of females of Lahore

METHODS: This was cross sectional survey conducted in Teaching Hospital of University of Lahore and Social Security Hospital, Multan Road. Total of 126 females surveyed through a sample of convenience, distributed 63 as fertile and 63 as non-fertile.

RESULTS: The results showed that mean and standard deviation for age, duration of infertility and body mass index for fertile group was 23.285+3.470, 0.174+0.382 and 24.222+1.853, while for non-fertile group were those of 26.523+4.211, 5.44+3.251 and 26.333+1.722, respectively. There found factors significantly associated with status fertility, while the factors which were not associated found to be residing place and the change in attitude towards sexual intimacy p value 0.323 and 0.843.

CONCLUSION: The factors significantly associated with status of fertility were age, occupation, quality of life, life stress, overall satisfaction, relationship with in mother and father in law, relationship with community and that of Body Mass Index. While the factors which were not associated found to be residing place and change in attitude towards sexual intimacy.

KEYWORDS: Social factors, Fertility, Infertility, Physical Therapy

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INTRODUCTION

A female who is unable to conceive over more than a year is known to be infertile according to the world health organization and the chances of being infertile may persist for longer time. These chances are considered to be 10-15%.¹ However inability to conceive for one year may result in negative impacts and also decrease of the chances of conceiving two times than normal. The percentage of infertile people in world is higher and is increasing day by day. According to survey the number of infertile people in

world is greater than eight hundred thousand.² However, the rate of infertility may vary from region to region and country to country. The highest percentage of infertility is found to be in central Africa that is 50% so far. And the lowest percentage of infertility is found to be in developed countries that is only 3%.³ In past years it was considered that fertility was only related to females which has been changed greatly that infertility is related to both males and females. According to a survey ratio of infertility in males and females is equal that is one third in males and one third in females. However in some cases infertility may be due to causes in both males and females or may be due to some unpredictable reasons.⁴ But the social status of female largely depends upon the fertility. An infertile female may develop number of psychosocial problem. Thus infertility always give negative impacts on the lives of females.⁵

In underdeveloped countries infertility may affect the life of female in miserable way. High percentage of people in under-developed countries considers infertility as crime of female and they treat her in very bad manners. Physical torture and abusing is very much common and in most of the cases social boycott also.^{6,7} Infertility in those countries is not only the inability to conceive but they also include to

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give birth a son as compared to the live healthy daughter. Physical torture may result in abortions and death of infants early.⁸ They may label the female infertile before the six months and thus factors of stress and depression may also contribute in infertility cases more than half of the percentage.⁹ Some of the studies may reflect the differences between primary and secondary infertility.¹⁰ A number of studies revealed that stress is the major contributing factor in infertility and may largely effect. Also there are number of results which gave us effects of psychological stress in the cases of infertility.¹¹

Though there is also rejection of this factor in literature but studies which largely support this factor with evidence and facts are also in great percentage so that we cannot deny this factor as contributor of infertility. Facts and evidence supporting stress are related to fertility hormone that is gonadotropin which may decrease in its secretions because of emotional disturbance, crash dieting and stress. Thus, decrease in gonadotropin hormone result in failure of ovulation which in turn may cause infertility in females.¹² Thus, in literature there are also clear evidence of contributing factors and prevention from these is ultimately prevention from infertility. These contributing factors largely include obesity, stress, and lack in balanced nutrition, alcohol consumption, smoking and psychological distress.¹³⁻¹⁷

And it is clear that developing countries differ a lot from western countries regarding the impacts of infertility on females.¹⁸ Like other developing countries infertility in Pakistan may also considered as serious issue and may result in social loneliness in infertile females. There is very little literature about this social issue in Lahore. Assessments of social consequences, including attitude to family income, family and social relations, lifestyle, quality of life, nutrition, and intimacy, play important roles in understanding the problem of female infertility on a wider scale. Thus, the purpose of this study will to determine social factors affecting fertility of females of Lahore.

METHODOLOGY

In this comparative cross sectional survey, using a sample of convenience comparing 63 subjects (total 126) were surveyed in each of categories, fertile and non-fertile females. Subject's especially infertile females were contacted in Social Security Teaching Hospital, Multan Road, Lahore, in department of gynecology. Females ranging 19-35 years of age included after screening for fertility and non-fertility. The screening was based on medical diagnosis and suspected medical investigation of not having been conceived for a year or more. The females with known infertile husband or past history of infertility were excluded.

Data was collected by structured questionnaire based on closed ended questions except onset and age. The data was collected in private setting after explaining respondent

information sheet to participants regarding objectives, impact and their rights. The written informed consent was taken. In addition to this, prior approval was taken from ethical research review committee of University of Lahore.

As the questions were of closed ended type, patients evaluated themselves, however an interpreter was there in order to ensure right response, explaining and confirming meaning of questions. A broad range of social correlates including income, relationships of husband wife relation, relation with relatives, intimacy and other stressors that can contribute as factors. This was hectic but was better in a way that it reduced posttest doubts of understanding and interpretation. Statistical package for social sciences, SPSS. 21, was used for data analysis. The categorical variables were calculated for percentages and frequencies. The continuous variables were calculated for continuous statistics such as mean and standard deviation, while to see association Chi Square was applied

RESULTS

The results showed that mean and standard deviation for age, duration of infertility and body mass index for fertile group was 23.285+3.470, 0.174+0.382 and 24.222+1.853, while for non-fertile group were those of 26.523+4.211, 5.44+3.251 and 26.333+1.722, respectively. There found factors significantly associated with status fertility, while the factors which were not associated found to be residing place and the change in attitude towards sexual intimacy p value 0.187 and 0.843, respectively. Table 1-4 shows summary of frequency percentages and p value as calculated by Chi Square test to check association.

DISCUSSION

Although studies have been conducted regarding psychosocial factors and status of infertility, however, as majority female bound to community, the psychosocial impact of infertility or vice versa was yet to be studied in Pakistan. As every question was an independent entity itself, it is being discussed separately. So, regarding residential status showed that there was no significant difference in distribution of fertile and non-fertile females. This factor was important findings due to significant difference of life style in both areas, despite that gap is eliminated vastly due to information technology and improving education system, yet the environment, atmosphere and food quality are thought be different, villages have chances of good quality food items, as demonstrated by previous literature.^{19,20}

The age of female was found to be important factor and significantly associated status of fertility in a way that younger the age, less frequency of infertility. The majority fertile females were house wives or in other words not service holder and industrial workers. This means this life style of being service holder or industrial worker may have

Table 1 Association of demographics with status of fertility

Characteristics	Residence	Frequency	Percent %	P value
Fertile	Rural	7	11.1	0.323
	Urban	56	88.9	
Non-Fertile	Rural	3	4.8	
	Urban	60	95.2	
Age				
Fertile	11 to 20 Years	8	12.7	0.000
	21 to 30 Years	48	76.2	
	31 to 40 years	7	11.1	
Non-Fertile	21 to 30 Years	41	65.1	
	31 to 40 years	22	34.9	
Occupation				
Fertile	Housewife	34	54	0.000
	Service Holder	7	11.1	
	Student	22	34.9	
Non-Fertile	Housewife	7	11.1	
	Service Holder	25	39.7	
	Industrial Worker	9	14.3	
	Student	22	34.9	
Order of Marriage for Female				
Fertile	First	60	95.2	0.040
	Second	3	4.8	
Non-Fertile	First	53	84.1	
	Second	10	15.9	
Order of marriage for men				
Fertile	First	51	81	0.000
	Second	12	19	
Non-Fertile	First	63	100	
Income				
Fertile	Excellent	27	42.9	0.000
	Good	15	23.8	
	Barely Sufficient	21	33.3	
Non-Fertile	Excellent	7	11.1	
	Good	29	46	
	Barely Sufficient	27	42.9	

potential mechanism and stressors that bad for a productive marital life. This is very contrary to international studies where females are equal part of community building.²¹

Significant p value demonstrated by order of marriage whether male or female, the couples in first marriage are found to be more fertile. International studies have demonstrate no relationship with order.⁴ This is likely societal stressor, because in our community getting into second marriage is linked high level societal stressor due to unacceptability. Next parameter i.e. association of less income with infertility is also likely to because of resulting

stress and less quality of life.²²

The next variable in serially alike previous ones that also measure satisfaction indirectly by measuring level of stress as rated by females themselves. Only minor number from non-fertile reported that they have never stressed, otherwise rest were found in stress categories little or worse. This stress may be part of vicious cycle i.e. non-fertility causes stress, and stress be reason of non-fertility. Almost same picture seen in quality of nutrition.^{22,23}

The findings regarding social impact and relationship with surrounding and related relatives were studied. Results

Table 2 Association of Social factors based on personal attributes with status of fertility

Characteristics	Quality of Life	Frequency	Percent %	P value
Fertile	Excellent	29	46	0.000
	Good	21	33.3	
	Not Bad	9	14.3	
	Poor	4	6	
Non-Fertile	Excellent	11	17.5	
	Good	10	15.9	
	Not Bad	35	55.6	
	Poor	7	11.1	
Satisfaction with daily routine				
Fertile	Well Contented	25	39.7	0.000
	Moderate	31	49.2	
	Not Contented	7	11.1	
Non-Fertile	Well Contented	11	17.5	
	Moderate	20	31.7	
	Not Contented	32	50.8	
Self-assessment of life stress				
Fertile	No, never	16	25.4	0.005
	Sometimes	25	39.4	
	Yes, very often	22	34.9	
Non-Fertile	No, never	3	4.8	
	Sometimes	33	52.4	
	Yes, very often	27	42.9	
Quality of nutrition				
Fertile	Good and Rational	38	60.3	0.000
	Moderate	23	36.5	
	Poor and Irrational	2	3.2	
Non-Fertile	Good and Rational	4	6.3	
	Moderate	35	55.6	
	Poor and Irrational	24	38.1	

Table 3 Association of social factors with status of fertility

Characteristics	Relationship with mother in law	Frequency	Percent %	P value
Fertile	Excellent	23	36.5	0.000
	Good	19	30.2	
	Not bad	10	15.9	
	Bad	11	17.5	
Non-Fertile	Excellent	6	9.5	
	Good	32	50.8	
	Not bad	25	39.7	

		Relationship with father in law		
Fertile	Excellent	24	38.1	0.000
	Good	32	50.8	
	Not bad	4	6.3	
	Bad	3	4.8	
Non-Fertile	Excellent	8	12.7	
	Good	34	54	
	Not bad	21	33.3	
		Relationship with Mahalla members		
Fertile	Excellent	31	49.2	0.000
	Good	32	50.8	
Non-Fertile	Excellent	6	9.5	
	Good	47	74.6	
	Not bad	10	15.9	
		Is sexual intimacy important		
Fertile	Very Important	41	65.1	0.000
	Important	22	34.9	
Non-Fertile	Very Important	15	23.8	
	Important	26	41.3	
	Not Important	22	34.9	

Table 4 Association of Social factors with fertility

Characteristics	Contented with your sexual intimacy	Frequency	Percent %	P value
Fertile	Yes, very often	41	65.1	0.000
	Sometimes	22	34.9	
Non-Fertile	Yes, very often	29	46	
	Sometimes	18	28.6	
	No, Never	16	25.4	
		Attitude to sexual intimacy change in previous year		
Fertile	Positively	35	55.6	0.843
	Did not change	20	31.7	
	Negatively	8	12.7	
Non-Fertile	Positively	37	58.7	
	Did not change	20	31.7	
	Negatively	6	9.5	
		Body Mass Index Categories		
Fertile	Normal BMI	46	73	0.000
	Overweight	17	27	
Non-Fertile	Normal BMI	17	27	
	Overweight	44	69.8	
	Obese	2	3.2	

showed a strong correlation of these factors with fertility and non-fertility. All fertile female were having good relations with their in laws parents, mother and father as compared to those of non-fertile females. Same was seen regarding relationship with surrounding community such as Mohallah etc. This also looks post non-fertility element that the people who have not children becomes victim of such deficit of relating to surroundings.²⁴

Intimacy towards sex, either as opinion or practice, in both categories non-fertile females reported less intimacy as compared to those of fertile. Having children is also a binding force between mates and it may be leading to be more intimate. Body mass index also found to be significantly associated with status of fertility, more the body mass index, less number of fertile females. Body mass index can play both ways. High body mass index may be reason of non-fertility and non-fertility may also be reason of high body mass index.

In short, social factors including personal attributes of satisfaction with daily activities, relation with community and relatives and body mass index were strong correlates of status of fertility. If these are not reason of non-fertility, yet they need to be addressed for a healthy positive non-fertile community.

CONCLUSION

The factors significantly associated with status of fertility were age, occupation, quality of life, life stress, overall satisfaction, relationship with in mother and father in law, relationship with community and that of Body Mass Index. While the factors which were not associated found to be residing place and change in attitude towards sexual intimacy.

The findings of this study suggest that there should be regular mechanism referral of infertile couples for counseling in order decrease damaging impacts of social factors. Furthermore, public awareness campaign should be carried out to decrease stigma associated with infertility. The study should be extended in male population as well on a comparative basis.

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CONFLICT OF INTEREST

Authors declare no conflict of interest.

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