Evaluation of Pattern of Infertility Among The Patients of A Selected Infertility Center in Dhaka, Bangladesh

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Abstract
Background and Objective: *To become a biological parent is the long cherished desire of all couples. It is the pivot for a loving, successful family. The objective of the study is to assess the factors affecting fertility among the patients attending a selected infertility centre in Dhaka city.*
Methods: *A descriptive type of cross sectional study was carried out with 160 samples by using non-randomized purposive sampling technique and data collection was done by a pretested and modified questionnaire. Data were analyzed by SPSS (version 16).*
Results: *The study revealed that among the respondents 68.1% was between age group 26-35 years with mean age 32.38 ± 4.884 years. Among them 63.7% completed their graduation and masters, 50.6% had a monthly family income as BDT 10,000-50,000. Of the respondents 45% was smoker and 66.6% used to take <5-10 sticks per day. Study also revealed that 38.5%, 37.7%, 24.4% and 4.1% of the respondents haddepression, job stress, and partner relationship problems respectively. Study also found that hypertension, diabetes, mumps, undescendent testes was reported by 36.5%, 26.9%, 5.7% and 2% of the respondents respectively. Approximate 28.9%, 44.7%, 21.1% and 5.3% of the respondents experienced tubal, ovarian, uterine and accidental surgery respectively. Among all the female respondents 91.2%, 26.8%, 12.6% did ovulation induction, IUI, IVF respectively. Of them 79.1%, 86% and 95% failed to conceive after getting consecutive treatment. Statistical association was found between satisfactory relationship among couple and less duration of infertility treatment (p= 0.04).*
Conclusion: *Infertility has become a global challenge at present time; to overcome the problem mass awareness has to be created with availability of effective treatment facilities within reach.*
Keywords: *Infertility, Satisfactory relationship, Induction, IVF*

I. Introduction

To become a proud biological parent has never been so important than any other story in life. Normal fertility is usually defined as achieving a pregnancy within 2 years of regular coital exposure. However, 8-10% of couples experiences some form of infertility problem world-wide.There are many biological causes of infertility including some that medical intervention can help.[1] Infertility has increased by 4% since 1980s, mostly from problems with fecundity due to an increase in age.[2] About 40% of the issues involved with infertility are due to the man, another 40% due to the woman, and 20% from complications with both partners.[3] Women who are fertile experience a natural period. Although the prevalence of infertility has probably remained constant in the last two decades. However, number of patients visiting to fertility centers had increased dramatically all over the world, especially for the last 10 years in Bangladesh. [4] It was an important milestone with the announcement of the birth of Louise Brown in July 6, 1978, which was beginning of Invitro-fertilization (IVF). Now a days the practicing infertility specialist and gynecologist getting the patients with the following problems; e.g. Anovulation, Tubal problem, Polycystic ovary, Endometriosis, Lifestyle problem, Endometrial polyp, Recurrent Abortion,Induced abortion then fertility problem, Uterine factor, cervical and vaginal problem. In case of male partner most of the problem is with oligo-asthenozoospermia then Azoospermia, unable to perform intercourse and decreased libido. Some patients are coming while taking some sorts of medication, some are with varicocele repair and there are some operational history. [5-7]Invitro Fertilization (IVF) is the best treatment so far developed for infertile couples. [8] In July 1978 Patrick Steptoe and

Edwards first achieved successful human IVF pregnancy. [9] However the first test tube baby was born in Bangladesh on December 14, 2003. It was only one center at that time in Bangladesh.But nowa day the number of centers rising inall over the world as well as in Bangladesh. [10-12] On the other hand number of patients is also rising.They are attending the fertility centers here and there. [13-14]Infertility was a neglected issue in the reproductive health policy of this country, rather the emphasis had always been on the problem of overpopulation. Yet the dominant state ideology in Bangladesh is related to controlling fertility and the implementation of Family Planning program has become a success story.[15]Despite females' inability to reproduce child and even sex of child born resultanegative impact, sometimes with husband and always with other family members leading to destabilization of her social status.[16] Interactions with husband, friends and family are altered and therefore lead to an altered experience of self.[17] Emotional harassment is commonly experienced by a large number of such women in their marital homes in the form of ostracism from family celebrations, taunting and stigmatization, negative attitude as well as beating, withholding of food and health care.[18]

This paper describes the medical condition of infertility exists at the crossroads of personal and societal domains, how are they presenting to physician with bad experiences like consequences of childlessness. It will also emphasize to provide an overview of the socio-cultural and epidemiological elements of infertility and examine the arguments for considering infertility as an issue of public health significance.

II.   Materials and Methods

It was a descriptive type of cross-sectional study. The study population was all the infertile population within reproductive age group and sample was drawn from among those groups   who visited Apollo Hospital, Dhaka due to infertility problem at the time of data collection. The study was conducted from January 2013 to April 2013. All infertile female of reproductive age group   and women who failed to conceive within a year of fully unprotected regular intercoursewith the consent of the husband was included in the study . All couples who were not available at the time of data collection and who decidednot to participate in the study was excluded from the study. Non-randomized purposive sampling technique was adopted to draw sample from the study population. All the data were collected by semi-structured, pretested and modified questionnaire by face to face interview. The collected data was edited by checking, cleaning and analyzing by using the software SPSS 16.0 version. Result is presented by frequency and cross tabulation analysis. The association was found by using Pearson's chi-square test.

III.   Results

Study findings showed that among the participants 68.1% was in age group 26-35 years followed by 23.7% in 36-45 years, 6.8% in 15-25 years with mean age 32.38 $\pm$ 4.884 years. Among all the respondents 63.7% completed their graduation and above degrees, 23.1% was HSC passed, 10% was SSCpassedand 3.2% studied up to primary level. Half of the respondents (50.6%) had a monthly family income as BDT 10,000-50,000 followed by 45.5% as BDT 50,001-100,000, 3.9% as BDT 100,001-150,000. All these socio-demographic data are presented in table no 1. It was also seen that 45.0% of the respondents had smoking habit and rest 55.0% did not smoke. Among the smokers 19.4% took <5 sticks per day, 66.6% and 13.8% took <5-10 and <10 sticks per day(Table 2).More than half of the respondents (56.2%) were not stressed in their life and rest of them 43.8% were stressed in life. Among them who had stressed life 38.5%, 37.7%, 24.4% and 4.1% mentioned that the reasons of their stress are self-depression, jobs stress, family problem and partner related problem respectively (Table 3).Among all the respondents 36.5% reported that they are suffering from Hypertension, 26.9% said that they have Diabetes, 5.7% suffered from Mumps and 2% had undescendent testes. (Figure 1)

Surgical intervention was also reported by the respondents in a manner like 28.9%, 44.7%, 21.1% and 5.3% had Tubal surgery, Ovarian surgery, Uterine surgery and Accidental surgical cases respectively(Figure 2). In Bangladesh infertility treatment has become very expensive nowadays. Despite a bulk of the respondents (91.2%) took ovulation induction and among them 60.5% took it for 6-12 times, 22.5% women tried it for >12 times and 17% had <6 cycles of ovulation induction. Those who took induction 20.9 % conceived and 79.1% failed to conceive. But intra uterine insemination was done by 26.8% of the respondents where majority (73.2%) did not go for it. Those who went for it only 14% got positive result and 86% did not conceived. Invitro-fertilization which is considered to be the most expensive infertility treatment was attempted by only 12.6% of the respondents whereas 87.4% did not go for it. Among those only 5% become pregnant and 95% didn't become pregnant after doing IVF (Table 4).Statistical association was found between relationship among couple and duration of infertility treatment (p= 0.04), (Table 5).

Table No 1: Distribution of the respondents by Socio-demographic variables

Variables	Percentage (%)
Age	
15-25	6.8
26-35	68.1
36-45	23.75
46-55	1.2
Mean ± SD= 32.38 ± 4.884	
Education	
Primary	3.2
SSC	10
HSC	23.1
Graduate & Above	63.7
Monthly Income	
10000-50000	50.6
50001-100000	45.5
100001-1000000	3.9

Table No 2: Distribution of the respondents by smoking history

Variables	Percentage%
Smoking habit	
Yes	45.0
No	55.9
Cigarettes/day	
<5 sticks per day	19.4
<5-10 sticks per day	66.6
<10 sticks per day	13.8

Table No 2: Distribution of the respondents by Stressful life

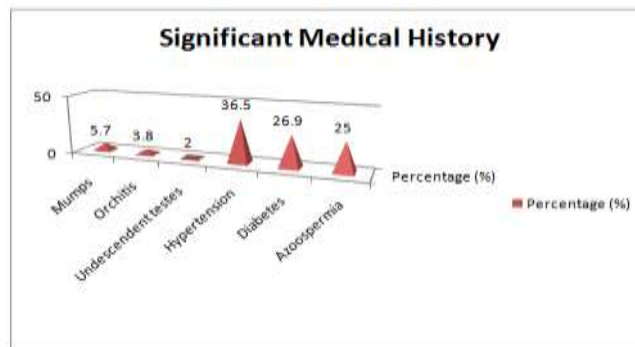| Variables	Percentage %
Stressful Life	
Yes	43.8
No	56.2
Reasons for stress	
Depression	38.5
Job stress	37.7
Family problem	24.4
Partner related problem	4.1

Figure No 1: Distribution of the respondents by Significant Medical History
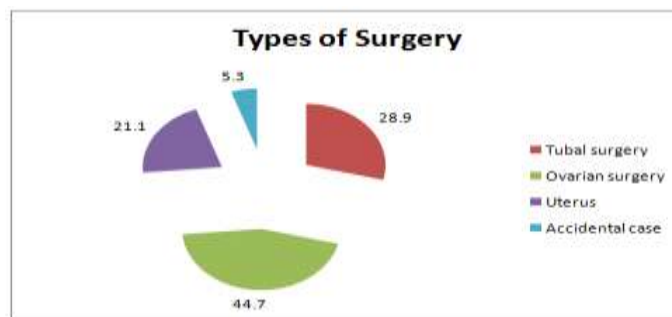

Figure No 2: Distribution of the respondents by type of lower abdominal surgery

Table No 3: Distribution of the respondents by Infertility treatments and their outcomes

Variables	Percentage %
Ovulation Induction	
Yes	91.2
No	8.8
Cycle of induction	
<6	17
6-12	60.5
>12	22.5
Outcome of induction	
Conceived	20.9
Failed to conceive	79.1
Intra Uterine Insemination (IUI)	
Yes	26.8
No	73.2
Outcome of IUI	
Conceive	14
Failed to conceive	86
IVF treatment	
Yes	12.6
No	87.4
Outcome of IVF	
Conceived	5
Not conceived	95

Table No 4: Distribution of the respondents by Association between relationship among couple and duration of infertility treatment.

Relationship among couples	Duration of infertility treatment (in year)					p-Value
	1	1-2	3-5	>5	Total	
Satisfactory	40	34	12	1	87	0.043
Not satisfactory	33	17	20	3	73	
Total	**73**	**51**	**32**	**4**	**160**	

IV. Discussion

The present cross-sectional study evaluates the pattern of infertility among the patients attending OPD–fertility clinic of Apollo Hospitals Dhaka. Various socioeconomic variables were discussed in the result section. Some of these findings were such as majority of the participants (68.1%) were in age group 26-35 years followed by 23.7% in 36-45 years, 6.8% in 15-25 years with mean age 32.38 $\pm$ 4.884 years. Among all the respondents 63.7% were completed their graduation and above degrees, 23.1% was HSC passed, 10% was SSC and 3.2% up to primary passed respectively. Half of the respondents' (50.6%) monthly family income was BDT 10000-50000 followed by 45.5% had BDT 50001-100000, 3.9% had BDT 100001-150000. It was also seen that 45.0% of the respondents had smoking habit and rest 55.0% did not smoke. Among the smokers 19.4% took <5 sticks per day, 66.6% and 13.8% took <5-10 and <10 sticks per dayrespectively. Some of these findings are almost closer to the findings of a study done by Bulletti C et al.[19]

Among the respondents43.8% had stressed life, 38.5%, 37.7%, 24.4% and 4.1% mentioned that the reasons of their stresswereas depression, jobs stress, family problem and partner related problem respectively. Among all the respondents 36.5% reported that they had been suffering from Hypertension, 26.9% from Diabetes, 5.7% from Mumps and 2% had undescendent testes. Surgical intervention was also reported by the respondents like 28.9%, 44.7%, 21.1% and 5.3% had Tubal surgery, ovarian surgery, uterine surgery and Accidental surgery respectively. Exactly similar findings were not available in any other study so far reviewed, so it is correlated here with emphasis that stressful life or significant medical history and some sorts of surgerymight interfere with fertility.

Infertility treatment is now very expensive in Bangladesh. In spite ofsuch limitation91.2% of the respondents took ovulation induction and among them only 20.9 % conceived and 79.1% failed to conceive. But intra uterine insemination was done by 26.8% of the respondents where only 14% got positive result. Invitro-fertilization which is considered to be the most expensive infertility treatment was attempted only by12.6% of the respondents whereas 87.4% did not go for it. Among those only 5% become pregnant and 95% didn't become pregnant after doing IVF. Quite similar findings were found in a study done in 2003 by Smith C et al.[20] Statistical association was found between relationship among couple and duration of infertility treatment(p= 0.04).

Key Points:
➢ To become a biological parent is the long cherished expectation of all couples.
➢ Infertility has become a global challenge at present time.

> ➢ 8-10% of couples experiences some form of infertility problem world-wide.
> ➢ Infertility remains a neglected issue in Bangladesh's reproductive health policy.
> ➢ The first test tube baby was born in Bangladesh December 14, 2003.

V.   Conclusion

A thorough but time-efficient investigation of the infertile couple is required prior to a diagnosis of unexplained infertility. Couples should undergo a semen analysis, ovulation testing, assessment of ovarian reserve, and imaging to assess for tubal and uterine factors before a diagnosis of unexplained infertility is made. This workup can be completed within 1 menstrual cycle. In case of couples with unexplained infertility, various treatment modalities are available including expectant management with lifestyle changes, operative laparoscopy, COH (clomiphene citrate or gonadotropins) with IUI, and IVF (with or without ICSI). The optimal treatment strategy needs to be based on individual patient characteristics such as age, treatment efficacy, side-effect profile such as multiple pregnancy, and cost considerations. However, no stone to be left unturned to make the mother fertile and return the smile on the face of the family.

VI.   Recommendations

1. Infertility should be treated as a public health problem.
2. To create awareness among the affected population so that they report to fertility expert in time.
3. Government should come forward with a basic policy change to create effective fertility center.

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