Original Research Article

Clinical Profile of the Patients with Male Infertility: Study in a Tertiary Care Infertility Centre, Dhaka, Bangladesh

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Abstract

Introduction: The annual number of infertility rate is increasing day by day, globally. The number of infertile couples is estimated at between 60 and 80 million. *Objective:* Our main aim was to identify the clinical profile of the patients with male infertility. *Methodology*: This descriptive cross sectional study was conducted in Care Hospital, Dhaka, Bangladesh during the period from January 2019 to December 2019. Study selected 200 male infertile patients from the record book as study participant. *Result*: The mean age was 36.14 ± 5. The highest no of patients 104 (52%) were in the 35 to 44 years' age group. The main disturbance was Asthenozoospermia in 59 (29.5%) cases and Diabetes Mellitus11 (5.5%). *Conclusion*: The study reveals that Asthenozoospermia was the most frequent sperm alteration in male infertile patients. Moreover, patient's age range from 35-44 years old was the most facing the problem of Infertility in Bangladesh.
Keywords: Infertility, Clinical profile, Asthenozoospermia, DM.

1. INTRODUCTION

Infertility is defined as the inability of a sexually active couple, without the use of contraceptive methods, to obtain a pregnancy within one year. It is an important pathological condition that affects around 8–15% of couples regardless of socioeconomic and cultural factors. Moreover, it is not characterized as a permanent disability to have children [1]. For a long time, the difficulties in obtaining a pregnancy were systematically attributed to women. But today, this is no longer the case, because male infertility, as an isolated or non-isolated factor, is present in more than 50% of the infertility of the couple [2]. However, it affects 15% of couples in the world, approximately 80 million men and women are concerned [3] and is a real public health problem because of its prevalence, generalization, distribution and also the difficulties inherent in its care [4], particularly male infertility affects the Psycho-emotional balance of the couple and by that of society [5]. The male infertility, in turn, is characterized by the failure to produce sperm

with regular concentration, morphology and/or motility, consisting in an abnormal spermatogenesis [6-8]. Lately, the correlation of males' age and infertility has been extensively studied. Recent researches have shown that the higher the paternal age, more likely to have disorders of production and quality of the sperm [9]. According to other, there isn't an age threshold to the male fertility, although a decrease can be seen since 40 years old. In addition, factors like urogenital infection, exposure to toxics substances and vascular diseases can contribute to changes in the seminal parameters, having many consequences as: difficulties in the embryo formation, increased risk of early pregnancy loss and a higher probability to develop genetic syndromes or other diseases [10]. Thus, it is important to note that male infertility is multifactorial, presenting manyetiologies [11]. As the first choice test, the semen analysis, although not sophisticated, is used to determine if a seminal sample are in accordance with WHO (World Health Organization) reference values [8]. The diagnostic of male infertility depends on a

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descriptive evaluation of the ejaculate, with emphasis in the concentration, motility and morphology of the sperm, being these parameters of great clinical relevance. The changes detected in the semen analysis include: azoospermia, total absence of spermatozoa in the ejaculate; oligozoospermia, reduced number of sperm; teratozoospermia, presence of abnormal morphologies in the sperm; asthenozoospermia, low sperm motility and; necrozoospermia, high percentage of immotile spermatozoa [8, 12]. In some cases, a combination of two or more alternations is found [12]. Considering that only few data about male infertility in Bangladesh are available.

2. OBJECTIVE
The aim of the study was to define the clinical profile of the infertile patients of Bangladesh.

3. METHODOLOGY
This study was conducted in Care hospital, Dhaka, Bangladesh during the period from January 2019 to December 2019. A total two hundred (200) male patients who were diagnosed with infertility were selected as study participants. All the findings were collected from the patient's record. Purposive sampling technique was followed. The inclusion criteria for case group Couples with "pure" male factor infertility of six months or more, defined as not pregnant in spite of being desirous of pregnancy for at least six months with normal sexual activity and no birth control. Primary and Secondary infertility included. Descriptive statistical analysis has been carried out in the present study. The

statistical data analysis was done using SPSS software version 23.0.

INCLUSION CRITERIA
- Couples with "pure" male factor infertility of twelve months or more, defined as not pregnant in spite of being desirous of pregnancy for at least six months with normal sexual activity and no birth control. Primary and Secondary infertility included.
- Abnormality of any one of the sperm parameters according to WHO or Kruger for concentration, motility or morphology.
- Age between 25 to 55 years.
- Candidate for ICSI treatment.

Exclusion criteria
- Abnormal karyotype.
- Y micro deletion.
- Semen infection.
- CFTR gene mutation.
- Anti-sperm antibodies

4. RESULT
The study was conducted among the 200 infertile patients. The highest no of patients104 (52%) were in the 35 to 44 years' group and the lowest no of patients 2(1%) were in 55 to 64 years' group. [Figure 1] The mean age of the patients from Dhaka city was 35.21± 5.32. [Figure 1] The mean BMI 25.18 ± 4.44 and duration of infertility is 4.55± 3.54. [Table 1] The main disturbance was Asthenozoospermia in 59 (29.5%) cases and Diabetes Mellitus were in 11 (5.5 %/) cases. Azoospermia were in 9(4.5%) cases [Table 2].
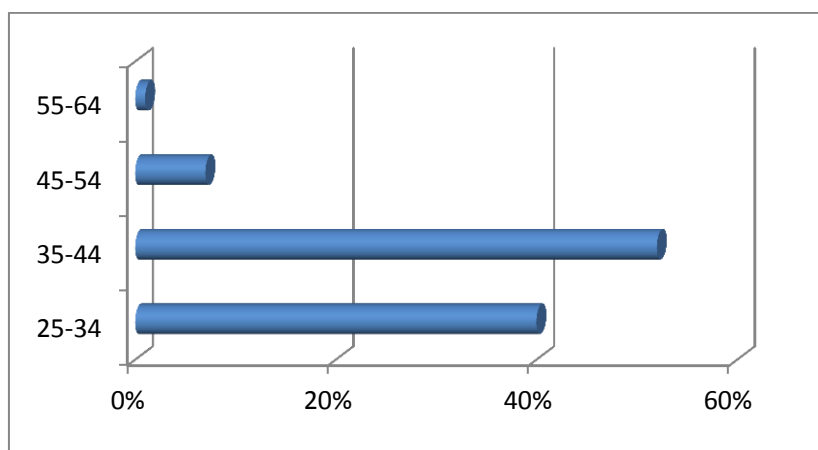

Fig-1: Age distribution of the patients

The mean age of the patients from Dhaka city was 35.21± 5.32.

Table-1: The mean BMI and duration of infertility. (n=200)

Table 1:	
BMI	25.18 ± 4.44
Duration of Infertility	4.55± 3.54

Table-2: Clinical profile of the patients. (n=200)

Diagnosed	Frequency	Percent
Asthenozoospermia	59	29.5
Oligoasthenospermia	5	2.5
DM	11	5.5
HTN	6	3
Bronchial Asthma	5	2.5
Hypothyroidism	5	2.5
Overweight	5	2.5
Azoospermia	9	4.5
Obese	5	2.5
Oligoasthenospermia and DM	4	2
Asthenozoospermia and DM	6	3
DM, HTN and Teratozoospermia	5	2.5
Asthenozoospermia, DM and HTN	5	2.5
Asthenozoospermia and Azoospermia	6	3
Asthenozoospermia and Bronchial Asthma	6	3
DM and HTN	5	2.5
Asthenozoospermia, Hypothyroidism and Overweight	5	2.5
Hypothyroidism and Overweight	5	2.5
Asthenozoospermia and Hypothyroidism	6	3
Asthenozoospermia, DM, HTN and Teratozoospermia	5	2.5
Asthenozoospermia, Oligoasthenospermia, HTN and Teratozoospermia	5	2.5
Asthenozoospermia, Oligoasthenospermia, Teratozoospermia and Azoospermia	5	2.5
Asthenozoospermia, Oligoasthenospermia, DM and Teratozoospermia	4	2
Asthenozoospermia and Teratozoospermia	5	2.5
Asthenozoospermia and Oligoasthenospermia	4	2
Missing	9	4.5
Total	200	100

5. DISCUSSION

The annual number of patients' infertility is increasing more and more. This increase is explained that the growing interest of populations in their reproductive health. The number of infertile couples is estimated at between 60 and 80 million, globally. About 15% of couples of childbearing age consult for possible infertility [13]. Although, Africa has the highest birth rate in the world, infertility remains a very important socio cultural problem and affects 25- 40% of the population with serious social consequences: depression, extramarital sexuality, and conflicts. Age is a very important factor in determining the fertility of couples [14]. In our study, the average age of our patients was 35.21 years with extremes ranging from 25 to 65 years old. The average duration of infertility was 4.5 years with extremes of 2 to 8 years [15, 14]. The alterations noted in the sperm grams suggest the same reflection. These may be chromosomal causes, because the lower the number of spermatozoa, the higher the prevalence of chromosomal abnormalities [16]. According to Nang *et al.* chromosome abnormalities are 3 to 7% in oligospermia before 13% in azoospermia [13]. The high rate of Asthenozoospermia, especially associated with normal FSH levels, should also search for obstructive causes of infertility. Shown in another study that FSH levels are approximately 7 to 12% and

are much more common in azoospermia than these normozoosperms [17]. Becker et al.Argue that the main cause of obstructive infertility is bilateral congenital agenesis of the vas deferens, the best diagnostic method of which is endorectal ultrasound [18]. The insignificance of our data on testicular biopsy, hormonology and deferentography, we are not allowed to rule on the actual etiologies of obstructive azoospermia in our region. The high rate of sexually transmitted infections, which cause stenosis of the seminal tract, is an additional risk factor for these obstructive inferences. Moreover, the infectious balance revealed that infections with chlamydia, mycoplasma and ureaplasma were common in men with subfertility but we did not establish the role of these infections on spermatic parameters [14].

6. CONCLUSION

The study revealed that Asthenozoospermia as the most frequent sperm alteration. Moreover, patient's age range from 35-44 years old is the most facing the problem of Infertility.

REFERENCES
1. Orbiclinic. (2011). Infertility in men is increasing. San Francisco, CA 94104, USA

2. Hammoud, A.O. (2008). Gibson M, Peterson CM, Meikle AW, Carrell DT. Impact of male obesity on infertility: A Critical Review of the Current Literature. *Fertil Steril, 90*(4); 897-904

3. Cousineau, T. M., & Domar, A. D. (2007). Psychological impact of infertility. *Best Practice & Research Clinical Obstetrics & Gynaecology*, *21*(2), 293-308.

4. Thonneau, P., Marchand, S., Tallec, A., Ferial, M. L., Ducot, B., Lansac, J., & Spira, A. (1991). Incidence and main causes of infertility in a resident population (1 850 000) of three French regions (1988–1989). *Human reproduction*, *6*(6), 811-816.

5. Jaoul, M. (2013). The suffering of sterility among men: From objectal to identitaire suffering, how to give support journee SALF Mai.

6. Vogt, P. H. (2004). Molecular genetics of human male infertility: from genes to new therapeutic perspectives. *Curr Pharm Des, 10*; 471–500

7. Mesquita, W. E. D. J. C., Approbato, M. S., Moura, K. K. V. D. O., & Jesuíno, R. S. A. (2009). Absence of the exon 1 coding sequence of the androgen receptor gene associated with teratozoospermia in a Brazilian population.

8. Cavalcante, M. B., Rocha, M. D. P., Dias, M. L. C. M., Dias, O. J. Q., Souza, D. O. D. A., & Roberto, I. G. (2008). Interferência da idade sobre a qualidade seminal. *Revista Brasileira de Ginecologia e Obstetrícia*, *30*, 561-565.

9. IG. (2008). Interferência da idade sobre a qualidade seminal. *Rev Bras Ginecol Obstet, 30*; 561–5.

10. da Silva, M. C. B., Wessler, L. B., Madeira, K., & da Silva, C. C. (2017). Male infertility profile in an assisted human reproduction clinic from the south of Santa Catarina, Brazil, from 2012 to 2014. *Reprodução & Climatério*, *32*(2), 90-96.

11. da Silva, M. C. B., Wessler, L. B., Madeira, K., & da Silva, C. C. (2017). Male infertility profile in an assisted human reproduction clinic from the south of Santa Catarina, Brazil, from 2012 to 2014. *Reprodução & Climatério*, *32*(2), 90-96.

12. Santos, T.R.M. (2013). Consideracões sobre infertilidade masculina. *Cadernos Graduacão – Ciên Biol Saúde*; *1*; 21–6.

13. Keiding, N., Slama, R., Ducot, B., Blondel, B., Bouyer, J. (2012). The fertility of couples in France. *Weekly Epidemiological Bulletin*, (7-8-9):87-91

14. Westoff, C.F. (1986). Fertility in the United States. *Science, 234*(4776):554-559

15. Thonneau, P., Marchand, S., Tallec, A., Ferial, M. L., Ducot, B., Lansac, J., ... & Spira, A. (1991). Incidence and main causes of infertility in a resident population (1 850 000) of three French regions (1988–1989). *Human reproduction*, *6*(6), 811-816.

16. Retief, A. E., Van Zyl, J. A., Menkveld, R., Fox, M. F., Kotze, G. M., & Brusnický, J. (1984). Chromosome studies in 496 infertile males with a sperm count below 10 million/ml. *Human genetics*, *66*(2-3), 162-164.

17. Jarow, J. P., Espeland, M. A., & Lipshultz, L. I. (1989). Evaluation of the azoospermic patient. *The Journal of urology*, *142*(1), 62-65.

18. Belker, A. M., & Steinbock, G. S. (1990). Transrectal prostate ultrasonography as a diagnostic and therapeutic aid for ejaculatory duct obstruction. *The Journal of urology*, *144*(2), 356-358.