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ORIGINAL ARTICLE

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Infertility problems in couples with temporarily migrant male partner – an analytical overview

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OBJECTIVE(S) : To assess the effect of temporary migration of male partner on various male, female and general factors causing infertility.

METHOD(S) : Various male, female and general factors causing infertility and problems in infertility management were compared statistically by chi-square test and Z test in couples having temporarily migrant male partner (Study Group A; n=800) and couples staying together permanently (Control Group B; n=1200).

RESULTS : Study group showed significantly higher incidence of moderate to severe oligospermia and semen infection. Among female factors, incidence of ovulatory disorder and hormonal imbalance were not significantly different in the two groups. Various chronic pelvic inflammatory diseases were higher in study group but differences were not statistically significant. Blockage of both fallopian tubes was most significant factor causing infertility in both the groups. There was higher but not significantly different incidence of psychosexual marital problems and general ill health in the study group. Drop out rate for infertility treatment was significantly higher in the study group.

CONCLUSION(S) : Migration of male partner decreases sperm count and increases semen infection

Key words : migration, infertility, male factors, female factors

Introduction

The effect of migration on biology of human population is almost unknown. Each year 16 million people migrate from rural to urban areas of developing countries excluding China [1]. In addition 2-4 million people migrate internationally each year and 20 million people are internally displaced.

Young male population is most prone to migrate in search of better living conditions and jobs, leaving their families behind in villages and small towns. Till now special reproductive health needs of migrant population has received little attention [2]. Temporary migration of male partner can greatly influence fertility status of the couple. While there has been revolutionary advancements in management of infertility in the last decade by way of diagnostic procedures, drugs, and assisted reproductive technologies, there has been a serious lack of studies in the community to assess factors, that can seriously affect fertility in groups of people. Temporary migration of one partner is one such factor, which poses a specific problem in infertility management.

Present study was done to assess various aspects of infertility problem in couples having temporarily migrant male partner as compared to couples permanently staying together.

Method

A total of 2000 couples attended our infertility clinic from January 2003 to July 2005.

Records of all couples were kept in detail. All couples were subjected to detailed history taking including temporary migration of the male partner. Medical history was also recored and after physical examinations, husband's semen analysis, serial ultrasound evaluation for oulation,

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sonosalpingography, hysterosalpingography, and laparoscopy for tubal factor evaluation, and hormone profiles were carried out.

The couples were divided into two groups – Study Group (n=800) included couples having temporarily migrant male partner and Control Group (n=1200) included couples staying together permanently. Various male and female factors causing infertility were analyzed and compared in the two groups statistically by application of chi-square test and Z test of significance.

Results

Forty percent of all couples attending infertility clinic were having temporarily migrant male partner. In no case female partner was migrant.

In the study group in 15% the male came home once in a week, in 22% once in a month, in 35% once in 3 months, in 18% once in 6 months, and 10% once in a year (Figure -1).

53.12% migrant persons worked as manual laborer, 17,5% were doing small scale business, 6.25% were doing medium scale business, 20% worked in police or defence services, and 3.12% were studying for various qualifications or competitive examinations.

Average age of male and female partners in the study group was 28 and 26 years respectively and in the control group 25 and 22 years respectively.

As seen in Table 1 significantly larger number of males had semen counts of <10 m/mL, between 10 and 20 m/mL, and between 21 and 40 m/mL. Sperm counts were signficiantly higher in the control group (P<0.01).

Table 2 shows that pyospermia or more than 10 pus cell per high power field in the husband's semen was present in 19% of male partner in Group A as compared to 5% in Group B. Pyospermia was present in significantly higher number of males in the study group. (?²=109.6393, P<0.001). Presence of 1-4 pus cells / hpf was the most significant factor responsible for infertility in both the groups. However the contribution of this factor among Group B was significantly higher (Z 1.80, P<0.01).

As seen from Table 3 there was no significant difference in the hormonal problems in the two groups.

Table 4 shows that the incidences of various chronic pelvic inflammatory problems were present in significantly higher (P<0.01) number of females in the study group than in the control group with the exception of bilateral tubal blockage. Marital disharmony, psychological problems like anxiety and depression, and chronic illnesses like tuberculosis, arthritis, skin problems were noted in significantly higher number of couples in group A as compared to those in group B (P<0.01). The contribution of sexual disorder was important but not significantly so.

Significantly higher (P<0.01) number of couples in the study group left infertility treatment within 6 months. Significantly higher (P<0.01) number of couples in the control group continued infertility treatment (Table 6).

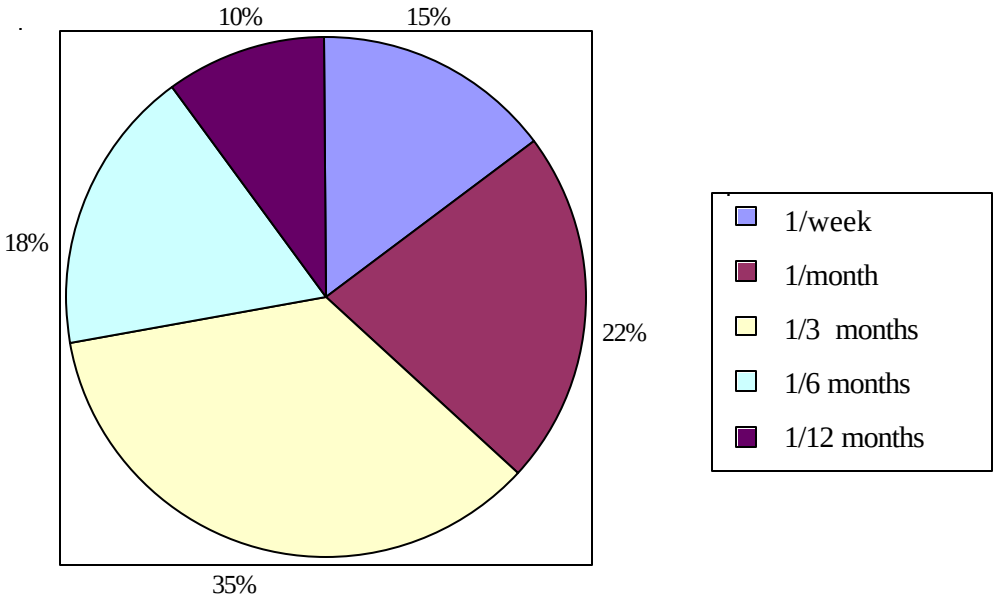

Figure 1. Frequency of home visit by migrant male partner (study growth) n=800)

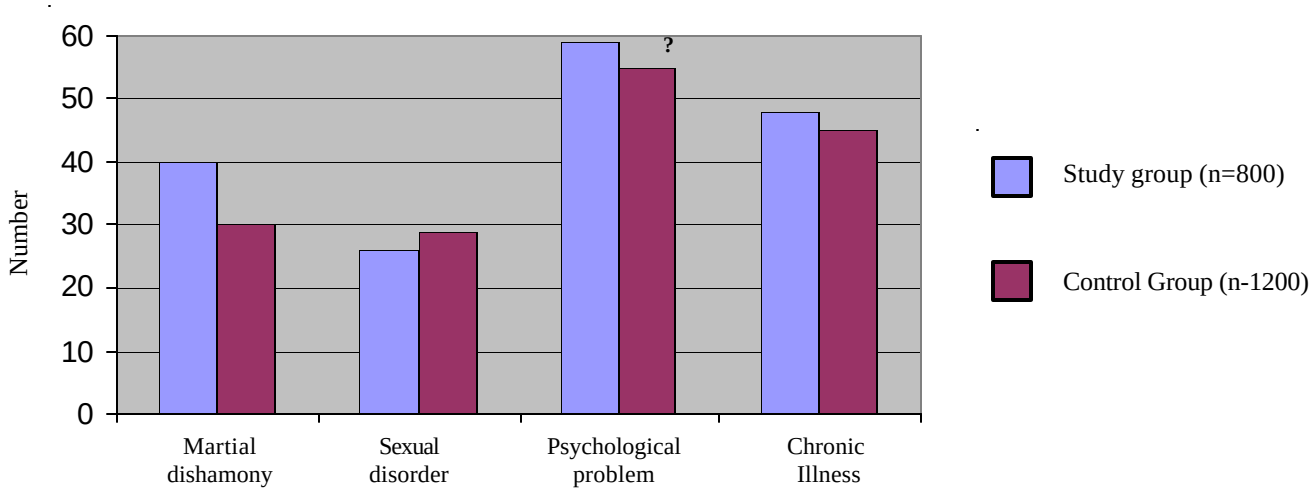

Figure 3. General factors contributing to infertility

Table 1. Sperm count (million/mL)

Sperm count (million/mL)	Study group (n=800)		Control group (n=1200)		Z test	P
	Number	Percent	Number	Percent		
< 10	56	7	30	2.5	4.86	<0.01
10 -20	120	15	78	6.5	6.23	<0.01
21 - 40	256	32	216	18	7.22	<0.01
41 - 60	224	28	438	36.5	3.95	<0.01
61 - 80	80	10	252	21	4.96	<0.01
> 180	64	8	186	15.5		

Table 2. Pus cells in the semen.

Pus cell / hpf	Study group (n=800)		Control group (n=1200)		z test	P
	Number	Percent	Number	Percent		
1 - 4	360	45	660	55	4.38	<0.01
5 - 10	288	36	480	40	1.80	>0.05
11-20	84	10.5	48	4	5.73	<0.01
> 20	68	8.5	12	1	8.38	<0.01

Table 3 Hormonal problems

Hormonal problem	Study group (n=800)		Control group (n=1200)		Z test	P
	Number	Percent	Number	Percent		
Ovulatary defect	96	12	168	14	1.29	>0.05
Luteal phase defect	64	8	84	7	0.84	<0.05
Hyperprolactinemia	28	3.5	36	3	0.62	>0.05
Thyroid disorder	16	2	12	1	1.80	>0.05

Table 4. Chronic inflammatory disease among females

	Study group (n=800)		Control group (n=1200)		Z test	P
	Number	Percent	Number	Percent		
Cervical factor	64	8	54	4.5	3.25	<0.01
One tube blocked	176	22	192	16	3.39	<0.01
Both tubes blocked	96	12	120	10	1.41	>0.05
Endometritis	36	4.5	30	2.5	2.45	<0.05
Peritoneal factor	24	3	12	1	3.29	<0.01

Table 5. General factors contributing to infertility.

General factors	Gr. A (n=800) Study Group		(Gr. B (n=1200) Control Group		Z	P
	Number	Percentage	Number	Percentage		
Marital disharmony	**40**	**5**	**30**	**2.5**	**2.98**	**<0.01**
Sexual disorder	**28**	**3.5**	**30**	**2.5**	**1.31**	**>0.05**
Psychological problem	**56**	**7**	**48**	**4**	**2.96**	**<0.01**
Chronic illness	**48**	**6**	**42**	**3.5**	**2.64**	**<0.01**

? ^{2} at 3 df = 1.014552 P=0.05 NS

Table 6. Duration of infertility treatment

	Study group (n=800)		Control group (n=1200		Z test	P
	Number	Percent	Number	Percent		
< 6 months	432	54	360	30	10.75	<0.01
6 months - 1 year	180	22.5	264	22	0.26	>0.05
1 - 2 year	96	12	300	25	7.15	<0.01
> 2 year	92	11.5	276	23	6.50	<0.01

Discussion

A migrant is someone who changes residence permanently or temporarily across a geographical or political boundary voluntarily. People migrate for a variety of reasons, largely to find better living conditions or jobs. Some may be uprooted by natural disaster and environmental degradation while others are pushed out by developmental projects such as dams or weapon testing areas [1,3,4]. Refugee is the term used to describe those who move involuntarily due to terrorism, riots or war.

Temporarily migrant people are people who migrate to urban areas for only a short time. Some plan to return home soon and some are ambivalent about the future. Target migrants come to cities only to achieve a particular goal.

There are no data available for infertility problems among migrants though some work has been done to assess psychological and specific health problems in them.

Usually changes in reproductive health behavior of rural to urban migrant reflect the forces of selection (migrants are not those who stay behind), disruption (process of moving upsets family life) and adaptation (they eventually adapt to urban life) [1]. But the temporarily migrant people often do not fit in selection, disruption and adaptive pattern. Beside this temporarily migrant do not settle in any one place for long making it difficult for health services to reach there [5]. Nesvodbova et al [6] emphasized that care of migrant health represents a new and important problem not only for health care but also for education, employment and social service.

Monotoyo et al [7] noted that migration was associated with knowledge barrier for all types of health services. Knowledge of contraception among migrant is less than that in urban resident.

In recent years the internal rural to urban migration has increased remarkably in India. In the initial period of migration only the males migrate because of unavailability of safe and cheap housing facility in urban areas. Beside domestic and farming responsibilities are left to the spouse at home. As a result they loose important reproductive years due to temporary separation.

Infertility is thus a hidden problem among temporarily migrant couples which has not received due attention by medical fraternity. Temporary migration of male partner poses many problems causing infertility and affecting infertility treatment.

Our study reveals that 40% of all infertile couples attending our infertility clinic are having temporarily migrant male partner, emphasizing increasing tendency of internal migration in our area.

Couples with migrant male tend to come at a later age for infertility treatment as compared to couples in the control group. The apparent cause is preoccupancy of migrant couple with resettlement of family life.

Male factor infertility is claimed to be the most common single cause of reproductive difficulties. Our study shows a significantly higher incidence of oligospermia and genital tact infection in couples with migrant male than in controls. The possible causes may be –

i) unhygienic and poor living conditions in urban area,
ii) hard and harsh working conditions,
iii) higher incidence of tobacco and alcohol addiction,
iv) poor access to health services, and
v) unhealthy sexual practices like homosexuality or visits to prostitutes.

Migration increases the vulnerability of males to develop infertility.

Among female factors the incidences of ovulatary and hormonal problems causing female infertility were not significantly different in the two groups. But various chronic pelvic inflammatory conditions were significantly higher in wives of temporarily migrant male partner leading to cervical, tubal, endometrial and peritoneal causes of infertility. Infection from migrant male partner and poor access to and availability of health service for lone women in rural set up explain this.

In the study group psychosexual problems and marital disharmony were higher as compared to those in the control group. The causes suggested are repeated periods of separation, doubts over faithful behaviour, and stress of living apart.

Couples having temporarily migrant male partner fail to persist in getting infertility treated possibly because of unwillingness to spend money and lack of regular and repeated availability of the husband to accompany the wife for treatment.

Conclusion

Migration of male partner causes oligospermia, pyospermia and choronic pelvic inflammatory disorders in the female and contributes significantly to infertility. It also leads to marital disharmony and psychosexual problems.

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