

## SPECIAL ARTICLE

# Primary health care for infertile couple

Anek Aribarg FRCOG.

*Department of Obstetrics and Gynaecology, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand*

Infertility causes considerable social pressure and psychological stress to many childless couples. As the consequence some of these distress couples have to seek medical assistance. Management of infertility can be done at different health care levels (a) at primary physician contract level which is not usually done in our country, (b) secondary level by gynecologists and (c) tertiary level by few specialists at University or private medical centers. In Thailand infertile couples usually seek specialists' help at large University centers, particularly in Bangkok without being seen or screened by general practitioners first. No trained general practitioner is available to do this duty.

The method of investigation and diagnosis of an infertile couple varies in different medical settings, depending on the clinical and laboratory facilities available. Generally there are no uniformity in diagnostic criteria, interpretation of laboratory results

and standardized diagnostic procedures. Often the informations collected are excessive and irrelevant for the diagnosis and conversely sometimes are insufficient.

The Department of Obstetrics & Gynecology, Medical Faculty, Chulalongkorn University, Bangkok, Thailand, investigated 250 couples with a history of infertility for at least one year using WHO standard protocol which is also a part of WHO multicenter study. Some knowledge gained from this study is reported and a further protocol for the initial care of infertile couple at primary health care management<sup>(1)</sup> is presented.

## Materials

Two hundred and fifty infertile couples with a history of childlessness for a period of at least one year were investigated according to WHO standard procedure. The couple characteristics are summarised in Table 1.

**Table 1.** The couple characteristics

Husbands' ages :	25-60 (mean 35.5) years
Wives' ages :	19-41 (mean 31.2) years
Duration of in fertility:	1-15 (mean 4.3) years
Types :	Primary 90% : Secondary 10%
Living areas :	Bangkok 79.2% Province 20.8%
Occupations :	Varies

## WHO STUDY

**Table 5.** Distribution of male diagnosis (n: 6682)

Diagnosis	Numbers	%
No demonstrable cause	3127	46.8
Varicocele	806	12.1
Testicular failure	717	10.7
Accessory gland infection	441	6.6
Abnormal Sperm Morphology	376	5.6
Seminal fluid abnormality	273	4.1
Low Sperm Motility	252	3.8
Immunological factors	193	2.4
Congenital abnormalities	138	2.1
Sexual dysfunction	127	1.9
Systemic / Iatrogenic causes	127	1.9
Obstructive azoospermia	64	1.0
Endocrine causes	41	0.6
<b>Total</b>	<b>6682</b>	<b>100</b>

## Discussion

Protocols for investigation and diagnosis of infertile couples are very much depending on the availability of resources and expertise within particular medical centers. Criteria applied to Western developed countries must be modified to suit the need of developing countries. Some routine investigations have doubtful value, such as post coital test, sperm antibodies test, prolactin estimation and thyroid function test, (if menstrual cycles being regular). While screening test for sexually transmitted diseases, particularly HIV, may be necessary for some underdeveloped communities. However experience of HIV screening of first five hundred female partners of infertile couples investigated at Chulalongkorn Hospital showed no positive case.

From the results of our study and WHO multicenter study using the same protocol of investigation and diagnosis show that "no demonstrable cause" is 35.2 percent in female distribution of diagnosis and 22.0 percent for male diagnosis. (see Table 3 and 2) Spontaneous pregnancy occurred during the investigation and

follow up was five percent, without any therapy given. The figures of WHO multicenter study are higher at average of ten percent. While the diagnosis of "no demonstrable cause" in female diagnosis is 31.4 percent (see Table 4) and the diagnosis of "no demonstrable cause" in male is 46.8 percent (see Table 5). These indicate that many of investigated couples with a history of at least one year of infertility were, in fact, normal and pregnancy might occur spontaneously if these couples were given some instruction on sexual practice and time.

In addition approximately 20 percent of our investigated couples came from provinces. The majority of them were not seen by their local physicians previously. Many of these provincial patients were unable to keep regular appointments and eventually dropped out. Reasons for failure to complete the investigation and treatment in our couples are (a) unable to leave their daily work (b) inadequate knowledge of the burden of the investigation and treatment (c) lack of motivation for parenthood (d) insufficient financial support. These couples should be screened by their general

physicians before travelling to specialised medical centers.

Cost of investigation and treatment of infertility is very high in every country. In Thailand the couples have to pay all the cost of investigation, medication and sophisticated treatment, such as assisted reproductive technique (ART). The standard of ART practice in term of pregnancy rate is different from one institution to another, even though the Royal College of Obstetricians and Gynaecologists of Thailand has already established a standard regulation for this practice. However the regulation emphasises mostly on the availability of certain instruments and equipments rather than qualifications of the personal and quality of practice. Currently there are about twenty registered medical centers for ART service and mostly are in Bangkok.

There is also a danger of over utilization of ART for academic or financial interests. ART service is very costly but it has a low successful rate, certainly less than the clients' expectation. Whatever the etiology of infertility was found and after appropriated therapeutic measures were given, the successful rate of treatment, in term of having a live child, will definitely be less than fifty percent, even under the best care of specialised centers. After failure of therapy, many couples are in state of shock, anger, bitterness and despair, particularly if time and large sum of money have been wasted. In most cases, counseling and emotional support are insufficiently given to them. Trained health care workers may be in the best position to give counseling service to these helpless couples, at their locality, to ease the crisis of their marriage.

From our experience in management of infertility at Chulalongkorn Hospital, it is suggested that certain infertile couples should be taken care at primary health level by either general practitioners or trained health care workers first before being referred to the appropriate specialised medical centers.<sup>(1)</sup> However these medical personal must be adequately trained to handle this problem effectively.

## Recommendation

Outline of the roles of the various levels of service in the prevention and management of infertility is presented.

### (a) Role of primary health service

Primary health care workers (doctors, nurses or midwives) should be trained to take care of

- 1) Health education
  - avoidance of harmful practice or beliefs
  - prevention of sexually transmitted diseases, HIV, postpartum and post abortal sepsis
- 2) Primary screening of subfertile couples
- 3) Advice on correct coital practice, positions and timing
- 4) Perform basic semen examination, if proper training and equipment is available
- 5) Perform simple medical examination
- 6) Detection and treatment of lower genital tract infection
- 7) Appropriate referral to secondary level with help of algorithm
- 8) Counseling and emotional support
- 9) Collect data for analysis and utilization

### Assessment of the couple at primary health care level<sup>(1)</sup>

#### A – Female Partner

##### History:

- Primary and secondary infertility: duration
- Family history –tuberculosis
- Previous pregnancies – outcome
- Previous contraception
- Past medical / surgical history
- History of pelvic inflammatory disease
- Coitus – frequency / timing / technique / psycho-sexual problems
- Menstrual history – menarche / cycle / LMP / oligomenorrhoea / dysmenorrhoea

##### Examination:

- General – blood pressure, height, weight
- Breast development – discharge from nipples
- External genitalia – virilisation
- Hymen – intact

- Presence of vaginal discharge
- Pelvic examination, if trained adequately

### **B. Male Partner**

#### **History:**

- Primary / secondary infertility – duration
- Family history
- Past medical / surgical history
- Urinary symptoms
- Testicular injury / infection
- Sexually transmitted diseases
- Sexual problems

#### **Examination:**

- General – blood pressure, height, weight
- Secondary sexual characteristics
- Penis – abnormality
- Testis – size, site, consistence and varicocele (visible / palpable)

Diagnosis of male partner which can be made at primary health care level after taking medical history and doing simple physical and genital examinations are:

- (a) congenital abnormality of genital organs
- (b) undescended testis
- (c) systemic diseases causing infertility
- (d) sexual dysfunction
- (e) urethral discharge
- (f) varicocele

Diagnosis of female partner which can be made at primary health care level after taking medical history, and doing physical and genital examination are as follows:

- (a) congenital abnormality of genital organs
- (b) systemic diseases causing infertility
- (c) sexual difficulty and dyspareunia
- (d) galactorrhea
- (e) amenorrhoea
- (f) menstrual abnormalities.

The ability to diagnose these problems depends on ability, skill, interest and qualification of the health care workers. The availability of equipment and laboratory is also essential.

Male partner with previous genital pathology,

previous urogenital surgery, previous STD, varicocele, significant systemic illness, abnormal genital examination and abnormal semen examination should be referred to appropriate levels of health care.

Female partner aged over 35 years, being amenorrhoea or oligomenorrhoea, with previous abdominal or pelvic surgery, previous pelvic infection and STD, abnormal genital organs should also be transferred to either secondary or tertiary level of health care as appropriate.

Only the couples with normal medical history, examination and investigation in both partners may be taken care at primary health care for a period of six months depending on the ability of the health care workers. Early detection and adequate treatment of lower genital tract infection are crucial in prevention of tubal damage and infertility particularly in developing countries where resources for ART service are limited.

At least, advice of correct and frequent coital practice should be given. The value of BBT depends on the reliability of the couple in correctly recording the daily basal temperature. Sexual intercourse should advise 2-3 times per week, and regularly throughout the menstrual cycle. It is inadvisable to concentrate having coitus at fertile period only. The usefulness of urinary LH detection and BBT are questionable.<sup>(3)</sup> Smoking, drinking and drugs should be limited.

Counseling and support are important for infertile couples. Investigation and treatment of infertility may take a long time and be very stressful. Furthermore treatment failure also require emotional support to help them accept their fate, face the social implication of their status and suggest alternative solution to their problem. Generally training in counseling for health care workers is better undertaken through participatory exercises rather than through lectures.

### **(b) Role of secondary health service**

Medically trained professions (i.e. doctors or gynaecologists) should be able to give service at this level. Their duty are:

- (1) Guidance and supervision of primary health care teams.
- (2) Able to perform all of primary care level functions
  - standard semen analysis
  - hysterosalpingography
  - laparoscopy
  - hormonal assay
- (3) Treatment with clomiphene citrate monitoring of ovulation with BBT, mucus, ultrasound
- (4) Counseling services
- (5) Appropriate referral to tertiary center
- (6) Collecting, analysing and utilization and also transmitting data to tertiary level.

**(b) Role of Tertiary health service**

Reproductive medical specialists team (including gynaecologists, andrologists, urologists, embryologists

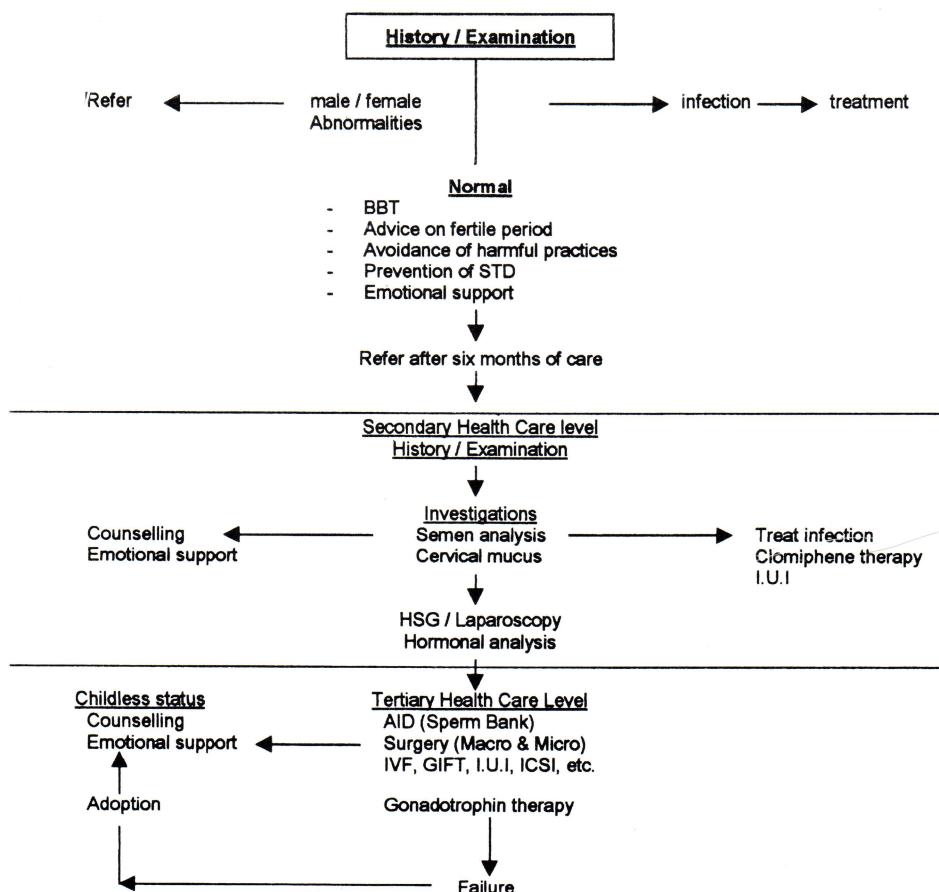
and laboratory personal) should be able to perform the following services:

- (1) Supervision of guidance of primary and secondary centers.
- (2) Treatment with gonadotrophin administration and monitoring
- (3) Assisted conception techniques (i.e. GIFT, IVF and ET, embryo freezing, micro manipulation and micro injection)
- (4) Major infertility microsurgery
- (5) Sperm bank
- (6) Advanced sperm preparation techniques
- (7) Reference laboratory for hormonal assay
- (8) Counseling
- (9) Center for research and post graduate training, data collection, analysis and utilization.

**Management of the infertile couple at different levels of healthcare services**

**Flow Chart**

**Primary Health Care Level**



There are obviously many benefits from primary health care for infertility management, if appropriate medical personnel are adequately trained and the referral system between levels of service functions well. In addition the co-operation of the infertile couples is also of utmost important. Service of infertility care will be disseminated widely specially in the provinces. This will benefit the rural population. The cost of investigation and treatment will be less expensive because there is less cost for travelling and less time off work. The specialised centers will be better utilized and take care only indicated patients as the normal couples have previously been screened off. Rural health care will indirectly improve in standard because the medical health care workers are better trained. In this way an effective referral system between different health care levels is thus established. As the consequence the medical service of the

country will be up graded to the level of developed Western country. The main objective of this proposal is to provide the greatest benefit for the largest number of people within the limited resource available. A research protocol should be undertaken to prove the value of primary health care for infertility at national level.

## References

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