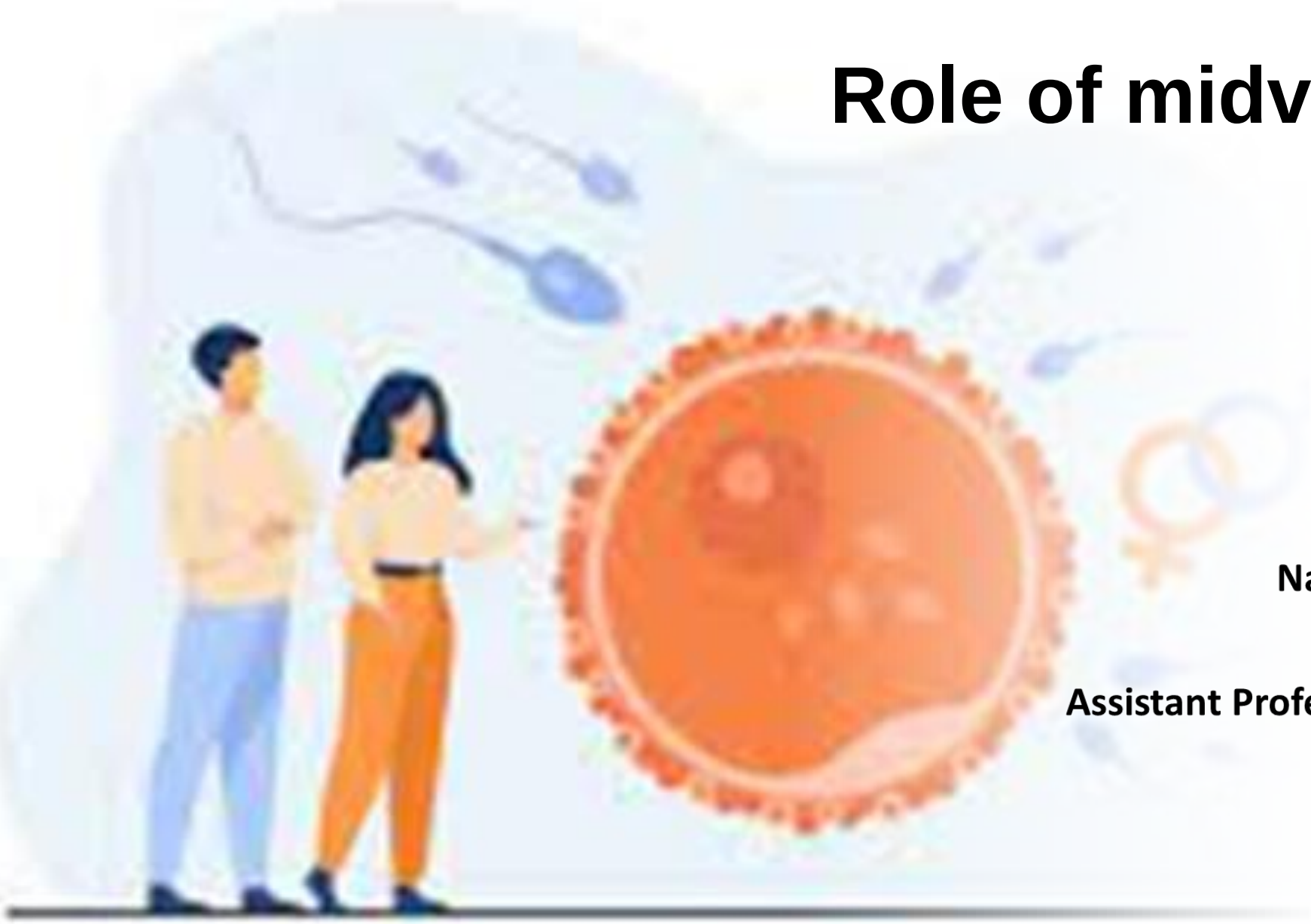
# Role of midvives in fertility



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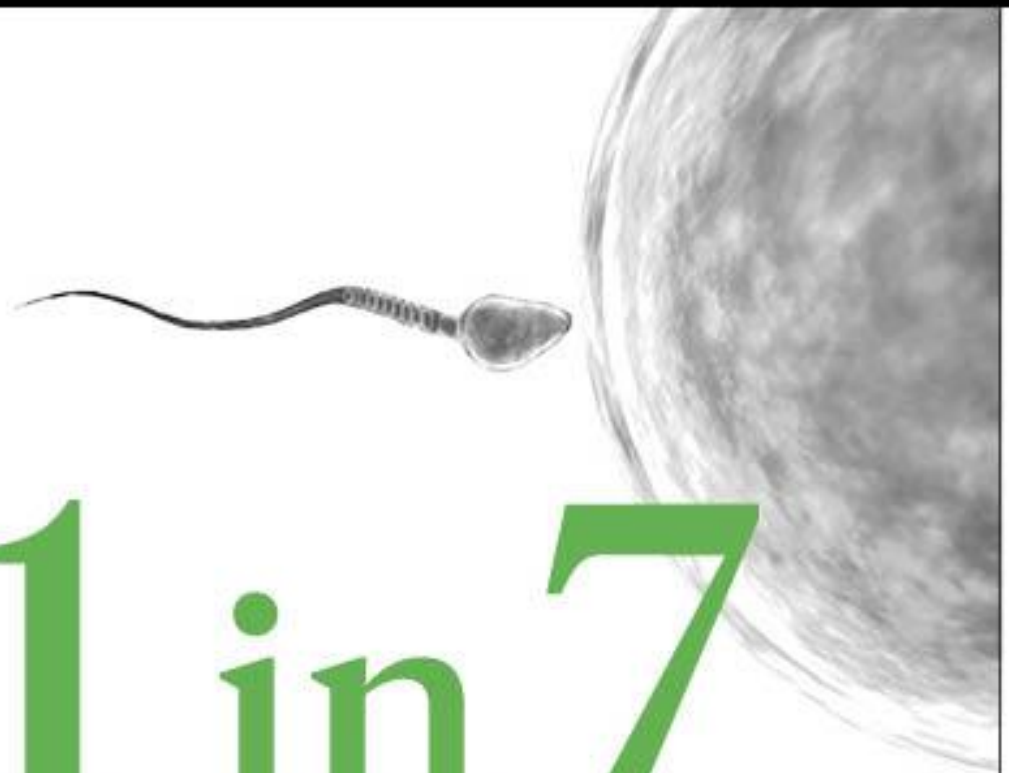


# 1 in 7

couples have difficulty conceiving

NHS 2017

# 84%

of couples will conceive naturally within a year if they have regular unprotected sex

# 25%

of couples who can't conceive naturally do not know why

NHS 2017

- Physiological, genetic, environmental and social factors contribute to a couple’s infertility

- In 30% of referred cases for infertility investigations, two or more causes of infertility co-exist

- After diagnostic testing, 15-30% of couples are diagnosed with unexplained infertility

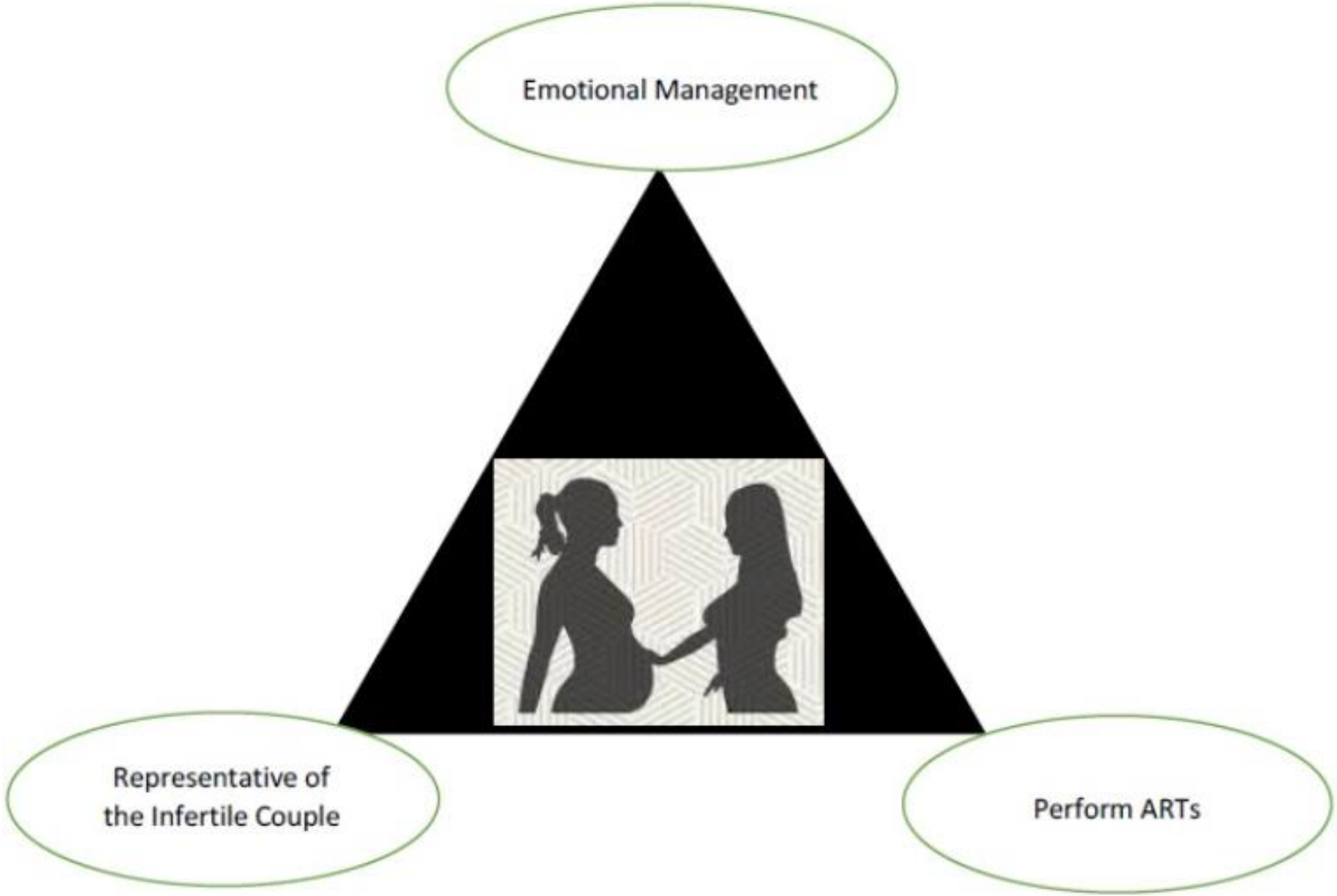



**Figure 1.** The distinct roles of midwifery in the assisted reproductive units

**TABLE 4**
**American Society for Reproductive Medicine Guidelines for the Provision of Infertility Services***

- Level I care
  - Patient inclusion criteria
    - The duration of the infertility is less than 24 months
    - The female partner is less than 30 years of age
    - There are no risk factors for pelvic pathology or male reproductive abnormalities
    - The couple has undergone less than 4 months of unsuccessful treatment
  - Practitioner qualifications
    - Is prepared to consult, educate, and advise both partners
    - Is knowledgeable about the prerequisites for successful reproduction
  - Obligations
    - Interview and physical examination
    - Interpretation of semen analysis and confirmation of ovulation
    - Timely referral of patients with complex disorders
- Level II care
  - Patient inclusion criteria
    - The duration of the infertility is less than 36 months
    - The female partner is less than 35 years of age
    - The couple does not qualify for level II care
  - Practitioner qualifications
    - Possesses the qualifications for level I care
    - Possesses certification or documented experience in the necessary endocrinologic, gynecologic, or urologic procedures
    - Is knowledgeable regarding the effectiveness, adverse effects, and costs of the diagnosis and treatment of infertility
  - Obligations
    - Assessment of tubal patency status
    - Management of uncomplicated anovulation, endometriosis, and tubal disease
    - Management of uncomplicated male infertility
    - Access to necessary laboratory services 7 d/wk
    - Timely referral of patents with complex disorders
- Level III care
  - Patient inclusion criteria
    - The couple does not qualify for level I or II care
    - Assisted reproductive technology is under consideration
  - Practitioner qualifications
    - Possesses the qualifications for levels I & II care
    - Has certification or documented experience in assisted reproductive technology, reproductive endocrinology, or urology/andrology
    - Has infertility counseling services available
  - Obligations
    - Management of complicated anovulation, endometriosis, and tubal disease
    - Management of complicated male infertility
    - The ability to provide direct access to male and female microsurgical services and assisted reproductive technology and related services

* Reprinted with permission from the American Society for Reproductive Medicine (formerly the American Fertility Society).

**TABLE 5**
**Historical Data for the Evaluation of Infertility (8,9,15,26)**

| *History* | *Pertinent Findings* |
|---|---|
| Woman's (partner's) perception of the problem, past evaluations, and experience | Provides an initial understanding of their concerns, coping and financial strategies, potential myths, or misconceptions |
| Menstrual | Age of menarche, interval, duration, quantity of menses, symptoms, mittleschmerz, dysmennorrhea, intermenstrual bleeding, and premenstrual spotting |
| Gynecologic | Use and types of contraception, abdominal and/or pelvic pain, endometriosis, dyspareunia, risk for or history of STDs, PID, abdominal (especially if complicated by peritonitis) or pelvic surgeries, abnormal Papanicolaou smears, colposcopy, cervical treatment (including cryosurgery, cone biopsy and LEEP), dilation and currettages, endometrial biopsy, HSG |
| Obstetric | Full review of prior pregnancies, noting father of each, problems with pregnancies, dates and outcomes, to include all abortions |
| Medical/childhood | General review of past medical history with emphasis on general health, weight gain/loss, serious illnesses, metabolic disorders, collagen vascular, renal, cardiac, genetic disorders, medications, immunizations, exposure to measles, mumps, rubella, varicella, tuberculosis |
| Exposure to potential toxins | Substance history to include all drugs (prescribed, OTCs, and illicit), tobacco, alcohol, caffeine, environmental, chemical (include work, military, garden), radiation, VDTs, high-dose microwave, heat |
| Nutrition | Review of basic nutritional status and diet adequacy to include folic acid, screen for eating disorders |
| Exercise | Review of general activity pattern and history of excessive exercise |
| Social | Support systems, information about partner, spiritual beliefs and impact on beliefs about pregnancy, conception and treatment of infertility, living situation, occupation, insurance issues/financial situation, understanding of nature of infertility evaluation and treatment, history of abuse (sexual, physical, or verbal), domestic violence |
| Family | Maternal history of DES exposure, history of infertility, pregnancy loss, genetic disorders, perceptions and beliefs about fertility and pregnancy, potential stressors |
| Sexual | Any particular sexual concerns, sexual preference<br>If sexually active with male: frequency, timing, positions, postcoital habits (douching, voiding), use of vaginal lubricants, orgasms, penetration, ejaculation<br>If sexually active with female: prior attempts at conception, use of vaginal lubricants |
| Review of systems | General health: (much of the review of systems targets the endocrine system) fatigue, skin/hair changes, heat/cold intolerance, appetite changes, bowel habits, galactorrhea, abdominal pain, vaginal symptoms, dyspareunia |
| Male partner | Past medical history (childhood and adult), especially chronic medical disorders, toxin exposure, prior surgery, infections, trauma, urologic history, prior conceptions, heat exposure, life style and stress, STDs |

STD, sexually transmitted disease; PID, pelvic inflammatory disease; LEEP, loop electrosurgical excision procedure; HSG, hysterosalpingogram; OTC, over the counter; VDT, video display terminal.

**TABLE 6**
**Physical Examination Findings in the Evaluation of Infertility in the Woman (8,15,26)**

| *System* | *Physical Examination Findings* |
|---|---|
| General | Vital signs should be normal, should appear in general good health with weight appropriate for height. Increase in ovulatory disorders with extremes of weight spectrum, unusual body fat distribution can be associated with adrenal abnormalities, buffalo hump. |
| Integumentary | Dry skin, brittle hair, hirsuitism, abdominal scars, pubic hair distribution. |
| HEENT | Exopthalmos, lid lag, fundal examination for signs of increase in intracranial pressure, loss of visual fields (increase with pituitary tumors). |
| Thyroid | Enlargement, goiter, masses. |
| Breasts | Masses or galactorrhea. |
| Heart | Unusual rhythms and gallops. |
| Abdomen | Presence of masses, tenderness, scars and organomegaly. |
| Genitalia | Configuration, clitoral size, vaginal discharge, configuration and condition of the cervix, placement and mobility of pelvic organs, tenderness, masses, nodularity of uterosacral ligament, rectovaginal examination for nodules, masses, or tenderness. |
| Neurologic | Generally intact, no tremors. |

**TABLE 7**
**Practical Guidance for Psychosocial Care**

| *What Helps* | *What Hurts* |
|---|---|
| Respect for the woman and/or partner's needs and desires concerning fertility | Lack of consideration for what this means to the woman; lack of inclusive language indicating respect for alternative lifestyles and sexuality. |
| Carefully developed plan of assessment and treatment with discussion of outcome potentials | Feeling of not being in control, the monthly reminder of menstruation. |
| Validation of the frustrations of infertility | Trivialization of complaints or concerns. |
| Regular check in times and follow up plans | Long periods of time without provider contact. |
| Recognition of the cyclic nature of depression in fertility, as well as side effects of many drugs associated with infertility treatment | Mood swings. |
| Consideration of timing visits of prenatal visits at different times from infertility visits | A waiting room full (even one) of pregnant women; too many stories of other women's successes. |
| Consideration of waiting room literature that is arrayed to be read by choice rather than accident (ie, pregnancy, adoption) | Excessive pregnancy literature and pictures; premature talk of adoption. |
| Respect the time restraints of women in treatment as well as the time limited nature for some | Being told to "relax—you have plenty of time." |
| Provide ample office time to develop the plan of care and answer questions | Feeling rushed and taking too much of provider's time. |
| Offer or refer to support groups such as RESOLVE | Feeling different from everyone else; abnormal. |

# Throughout evaluation, the woman and partner can be offered either

## Stepwise approach

- Proceed more slowly
- For limited financial resources
- Targeting the most common causes of infertility
- Only one or two tests should be considered
- For the woman younger than age 35 who does not have a prolonged history of unsuccessful conception or a history suggestive of infertility.

## Quick and all-inclusive approach

- Multiple tests are ordered
- Only a few of them are likely to be helpful
- The evaluation is completed in a more timely fashion
- For women who are older than age 35 or with risk factors that would lead to a high index of suspicion for infertility

# Continuation of care

## When treatment has been successful

The prenatal care is essencial

Unless high risk pregnancies, midwifery care is appropriate and invaluable in its family-centered approach

To attain pregnancy may heighten the anxiety and the need to regain control during the gestation, requiring sensitive and careful attention to the woman's concerns

## Unsuccessful treatment of infertility

- Represents a deep and personal loss for those who have invested time, hope, and finances to future parenthood
- A decision is made to discontinue treatments and to evaluate other options, such as adoption or acceptance of a child-free life
- It would be helpful, at future well-woman visits, to examine the continued evolution of her feelings and provide support as it is needed

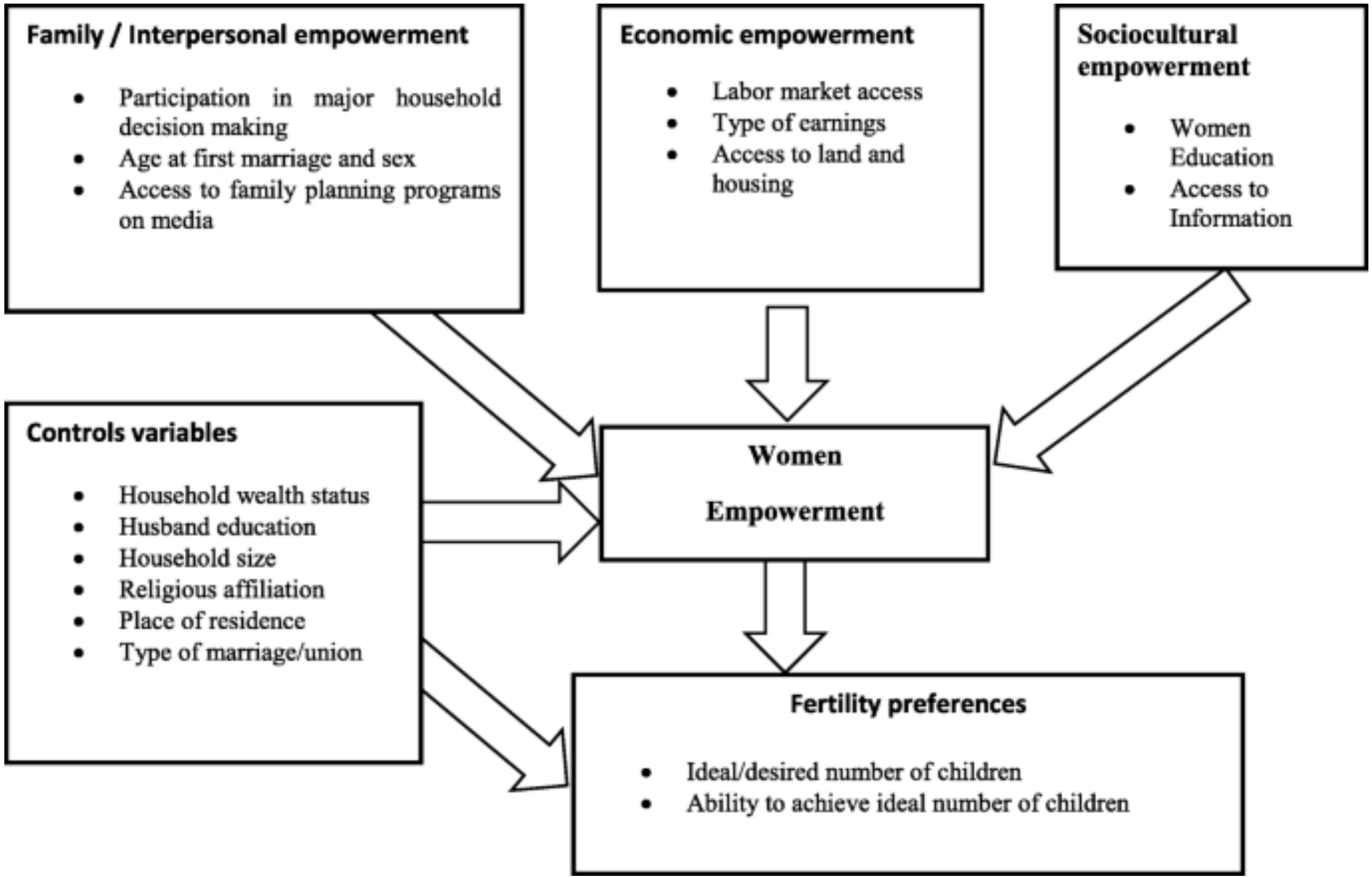
# THE CONCEPT OF ENABLING

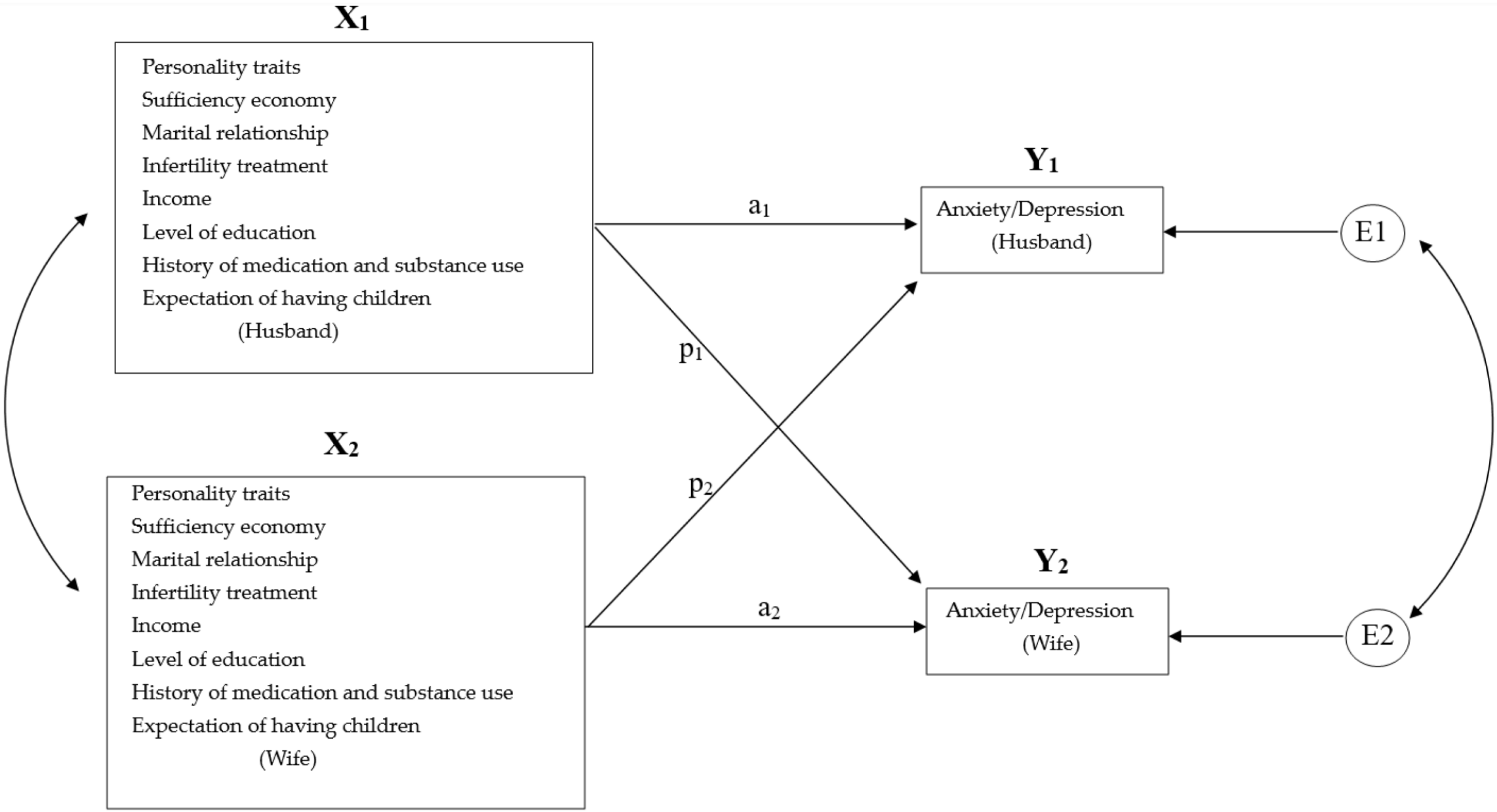
- knowledge
- Opportunity

- to make possible
- to come to be
- to come to have

Patients will have different needs during their

fertility treatment


Family / Interpersonal empowerment
Participation in major household decision making
Age at first marriage and sex
Access to family planning programs on media
Economic empowerment
Labor market access
Type of earnings
Access to land and housing
Sociocultural empowerment
Women Education
Access to Information
Controls variables
Household wealth status
Husband education
Household size
Religious affiliation
Place of residence
Type of marriage/union
Women Empowerment
Fertility preferences
Ideal/desired number of children
Ability to achieve ideal number of children


X1
Personality traits
Sufficiency economy
Marital relationship
Infertility treatment
Income
Level of education
History of medication and substance use
Expectation of having children
(Husband)
X2
Personality traits
Sufficiency economy
Marital relationship
Infertility treatment
Income
Level of education
History of medication and substance use
Expectation of having children
(Wife)
a1
p1
p2
a2
Y1
Anxiety/Depression
(Husband)
Y2
Anxiety/Depression
(Wife)
E1
E2

# THE CONCEPT OF ENABLING

It is the midwife’s role to assist women with

1. Understanding why the opportunity for pregnancy has been denied them
2. What their options are to achieve conception and pregnancy
3. Support them in their decisions

# Nurses and midwives have a role in promoting patients' well-being

## health

A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity

## Well-being

A concept combining an individual's health, their quality of life, and their satisfaction

Women undergoing fertility treatment have identified that psychological support is a necessity during

- ❖All aspects of their treatment cycle
- ❖Prior to their pregnancy test result
- ❖Embryo transfer

- Patients who feel stressed are not experiencing well-being

- The role of the fertility nurse in alleviating stress and providing emotional support is important

- Fertility nurses are well placed to deliver this important aspect of care

- Continuity of care depends on the support of patients through their emotional journey

# THE CONCEPT OF ENABLING

Consultation training is so important to qualify midwives for this mission

Whether fertility nurses are the most appropriate health professionals to fulfil such roles is less clear

Fertility nurses are involved in all aspects of patient care that contribute to well-being

| The provision of emotional support | Promoting continuity | Keeping patients informed |
| --- | --- | --- |

Some gaps are evident and not all patients feel supported during their fertility journey

- Midwives is dedicated to the care of women and tend to treat women

  just like they are treated in their work environment

- They need to balance the demands of their new profession with their past role in the field of obstetrics

- Their role needs to get further re-evaluated in order to find their proper place in assisted reproductive units

# Infertility causes

- Individual distress
- Family conflict
- Emotional impact

# Anxiety and depression in infertile couples affects adherence to infertility treatment and follow-up

- Anxiety and depression are the main psychological problems
- Women were 2.54 times more likely than men to suffer from anxiety
- The psychological effects of fertility treatment vary for individuals
- Parents who gave birth to twins after infertility treatment were more likely

**Women are more likely to comply with the therapy needed when**

**they are sure they understand the necessity of the intervention**

# Midwives can do

- Emotional supporter (knowledge and empathy)
- Being close to the infertile couples during the whole process(diagnosis and treatment)
- The representatives of the infertile couples
- Discussing worries, explaining treatments and providing feedback to the doctors involved
- Midwives can demonstrate couples` understanding of the processes/procedures couples have endured to reach pregnancy

# Midwives can do

Midwives could potentially get involved with some of the medical interventions for fertility reasons

Their role can be further expanded, and they can contribute as well, in an assisted reproductive unit

Specialised training is a must though, in order to maintain a high level of medical skills

# Midwives can do

Pregnancies achieved through assisted conception are at increased risk of complications and this may be relevant to the midwifery care they receive

Neonatal outcomes and maternal health are also adversely affected following assisted reproduction

- Midwives should **remain aware** of the continuing developments in the field of assisted reproduction

  - New techniques
  - Pre-pregnancy screening
  - Ethical dilemmas
  - Social and legal issues

# Preconception care is

- Biomedical, behavioural and social health interventions to couples before conception in order to
  - Improve pregnancy outcomes
    - Lower maternal and child mortality
    - Fewer complications in pregnancy
  - Promote women's health
  - Enhance the health of future generations

# Preconception care

**Midwives have an opportunity to deliver important advice to infertile couples in both primary care and specialist infertility services**

- promotes better maternal outcomes
- preventing birth defects
- improves fertility awareness

Preconception care may include the delivery of a number of preventative and interactive programmes including advice on lifestyle, to optimise pregnancy outcomes

- Folic acid,
- Genetic screening,
- Environmental health,
- Interpersonal violence,
- Planned pregnancies,
- Sexually transmitted infections,
- Mental health,
- Drug and alcohol use,
- Vaccination programmes,
- Female genital mutilation (FGM)
- Infertility/sub-fertility

This advice is important at a societal and individual level

# Preconception care

Biologically women are most fertile between ages 18 and 30 years and the ability to conceive and bear children decline progressively

| | | |
|---|---|---|
| Births are more strictly planned | Greater numbers of women delaying conception until age 40 or over | Choosing to have fewer children |

Older age at conception affects fertility but seemingly the need for preconception advice and care in this respect may go unrecognised

# Preconception care

Awareness of the menstrual cycle and the optimum times for conception

Awareness of age-related infertility

Young people overestimate

- The effectiveness of fertility treatments like in vitro fertilisation (IVF)
- Believing they can conceive spontaneously and easily after 35 years of age

Delayed child bearing is socially reproduced through

- Couples' ambivalence over parenthood
- The availability of arts
- Social factors such as work
- Social pressures for women to be independent

# Preconception care

The optimum age for conceiving spontaneously is

| | | |
|---|---|---|
| 32 years old or younger for a single child | at 27 years for two | at 23 years for three children |

This knowledge is important for couples to plan their family

Delayed birth timing is key to understanding the increased demand and provision of assisted reproductive techniques (ART)

# The postcoital test (PCT)

Evaluating the presence of sperm in the cervix and the nature of the cervical environment.

At the time of the leutenizing hormone surge

Within 2–8 hours after coitus, after 48 hours of abstinence

Cervical mucus removed from the os via a pipette or tuberculin syringe

The most common cause of an abnormal PCT is poor timing

Several tests may be required before a normal result or a confident diagnosis of cervical factor can be obtained

**TABLE 2**
**Postcoital Test Results (9,27,30)**

| *Factor* | *Normal Values* | *Implications* |
|---|---|---|
| Spinnbarkeit (stretchability) of the cervical mucus | At least 8–10 cm at midcycle when placed on a slide with cover slip, which is then lifted. | Reflects adequate estrogenization |
| Fern pattern | Demonstrates ferning pattern when dried. | Poor quality may be related to inadequate estrogenization but is often because of poor timing of the test. |
| Quantity and quality of cervical mucus | Copious, watery, acelluar discharge. | Thick, opaque mucus will decrease sperm penetration.<br>The presence of cellular debris, organisms, or WBCs may be indicative of infection. |
| Presence of sperm | >20 sperm/HPF. | Sperm count above 20 million/mL indicates a greater probability of pregnancy.<br>Some authors believe a minimum of one motile and progressive sperm is compatible with normality. |
| | No sperm or dead sperm. | May be oligo or aspermia or can also be associated with use of vaginal lubricants and sperm antibodies. |
| | Shaking sperm without forward progression. | May indicate sperm antibody (requires further testing). |
| Cervical mucus pH | In presence of normal semen >6. | If <6 may be too acidic and can be treated with precoital douche (1 TBL NaBicarbonate: 1 Qt $H_2O$). |

# Timing intercourse

The life span of an egg is approximately 12–24 hours

The sperm’s ability to survive in the woman’s reproductive tract ranges from 48–72 hours in the presence of normal cervical mucus

A couple may be having intercourse with ejaculation not taking place in the vagina

- It is useful to recommend and encourage both partners to come to all visits and appointments together
  - Helps them to work through the issues surrounding infertility
  - Allow them to support each other
  - Humanize the process
  - Decrease the chance of miscommunication

## The minimal initial evaluation should consist of

| Complete history | Physical examination | Semen analysis |
| --- | --- | --- |

Much of the historical data can be gathered on preprinted forms completed by the woman prior to the initial visit

Diagnostic tools are then chosen based on history and physical findings and consideration of the potential etiologies that seem to be indicated

**The most frequently stated reason for exclusion of comprehensive infertility coverage is economic**