



INFERTILITY AWARENESS PREVENTION AND MANAGEMENT



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INTRODUCTION



What is Infertility?

Infertility is defined as the failure to conceive after a 12 months period of regular unprotected sexual intercourse.

This condition is further subdivided into:

1. Primary infertility(couple that never ever conceived before).
2. Secondary infertility(couple that has conceived before but now failing to fall pregnant again)

Worldwide, 186 million people suffer from infertility with majority living in developing countries. The prevalence is estimated to be 1 in every 7 couples in the western world and 1 in 4 couples in developing countries.⁽¹⁾


In Sub-Saharan Africa infertility is caused by infections in over 85% of women compared to 33% worldwide. Approximately 70% of pelvic infections are caused by STDs while the other 30% are attributable to pregnancy-related sepsis. Similarly, many cases of male factor infertility are caused by previous infections of the male genitourinary tract.⁽²⁾

Developing countries experience the negative consequences of childlessness to a greater extent when compared with western societies. Women tend to receive the major blame for the reproductive setback and suffer personal grief and frustration, social stigma, ostracism and serious economic deprivation regardless of the medical causes.⁽³⁾

1.Inhom M.C, Patrizio P.P Infertility around the globe: new thinking on gender, reproductive technologies and global movements in the 21st century:human repro update 2015 Jul- Aug;21(4):411-26.

2.Ombelet W.Globalaccess to infertility care in developing countries: a case of human rights, equity and socialjustices. Facts, views and Vision in ObGyn 2011;3(4):257-266.

3.Dyer SJ, Patel M. The economic impact of infertility on women in developing countries - a systematic review. Facts Views Vis Obgyn. 2012;4(2):102-109.



ANATOMY AND PHYSIOLOGY OF INFERTILITY

FEMALE: The Female Reproductive System consists of the following structure:

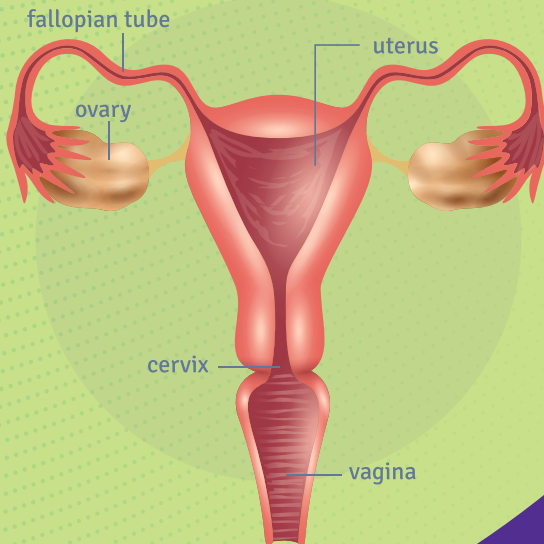
Uterus(womb):Where the baby grows when pregnant

Fallopian tubes: Tubes where eggs travel from the ovary to the uterus.

Ovaries: Where eggs (Ovum/female gametes) and hormones are produced

Hormones: substances that helps with egg production.

FEMALE REPRODUCTIVE SYSTEM



ANATOMY AND PHYSIOLOGY OF INFERTILITY

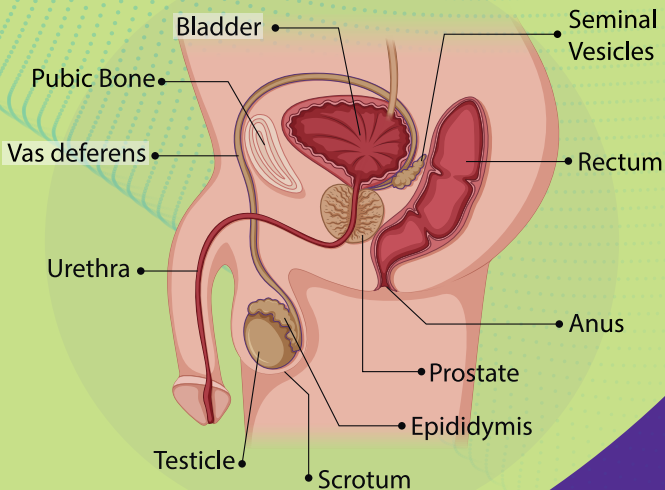
MALE: The male reproductive system consists of the following structure:

Testicles: Where semen (male gametes) is produced

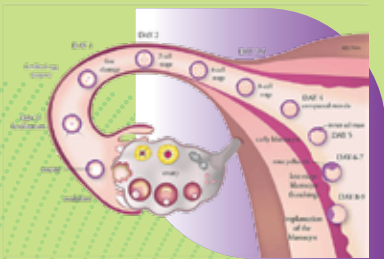
Penis: Where semen travels.

Hormones: substances that helps with semen production.

MALE REPRODUCTIVE SYSTEM



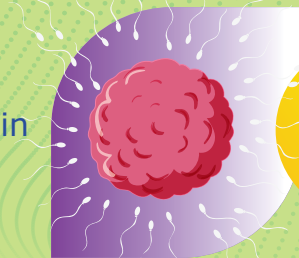
HOW IS A BABY CONCEIVED?



Each Partner produces a Gamete: Ovum or Eggs is produced by the Female which is also called **Ovulation**.

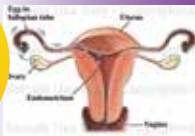
FERTILIZATION OF EGG AND SPERM

Sperm is produced by the Male. The Ovum and the sperm meets in the fallopian tube and this is called **fertilization**.



2

3



When fertilization has happen embryo moves and then implantation happens in the **womb**.

In the womb the pregnancy grow for months and then **later a child is born**.



4

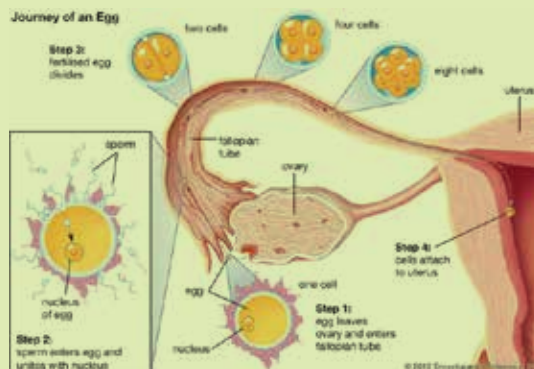


WHAT IS REQUIRED FOR A COUPLE TO BECOME PREGNANT?



In order for a couple to become pregnant, at least four things have to happen:

1. A woman must produce and release a healthy egg from one of her ovaries (**ovulation**).
2. A man must produce viable sperm which can successfully fertilize the woman's egg (**fertilization**).
3. The egg must travel through a fallopian tube toward the uterus (**transportation**).
4. The fertilized egg must attach to the inside of the uterus (**implantation**).



Any obstacle at any stage to this process of fertilization is a Factor of Infertility in the Couple

Infertility causes(internet) available on
<https://my.clevelandclinic.org/health/diseases/16083-infertility-causes>

Causes of Infertility



Percentage of causes of couple infertility

Male Factors:

30% of Causes

Female Factors:

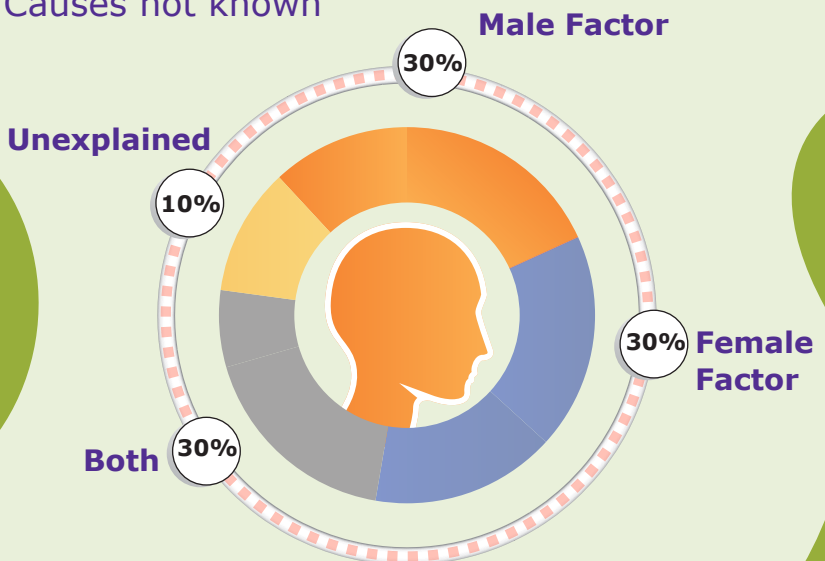
30% of Causes

Both sides

30% of Causes

Unexplained Infertility

10% of Causes not known



Male and Female are affected Equally

MALE FACTOR:

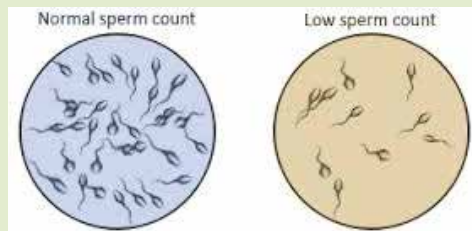


A common cause of infertility in men is poor-quality semen, the fluid containing sperm that's ejaculated during sex.

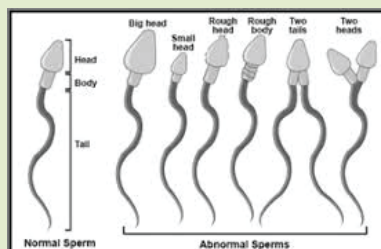
Possible reasons for abnormal semen include:

- A lack of sperm – you may have a very low sperm count or no sperm at all
- Sperm that are not moving properly– this will make it harder for sperm to swim to the egg
- Abnormal sperm – sperm can sometimes be an abnormal shape, making it harder for them to move and fertilize an egg

Low sperm count



Abnormal sperms



WHAT ARE THE CAUSES OF LOW SPERM COUNT



OR

ABNORMAL SPERM FUNCTION IN MEN?

Low sperm count or abnormal sperm function may be caused by different things. These include:

1. Infections: STD and other bacterial or viral infections such as mumps or adenovirus.
2. Trauma or prior surgeries on the testicles.
3. Enlarged veins (varicoceles) in the testes.
4. Exposure to chemicals like pesticides, radiation, and chemotherapy.
5. Alcohol use, marijuana use, and tobacco smoke.
6. Overexposure to heat.
7. Diseases like Diabetes

In addition, there can be problems with the delivery of sperm and subsequent fertilization due to any of the following:

1. Premature ejaculation
2. Damage or injury to the reproductive organs

Infertility causes(internet) available on <https://my.clevelandclinic.org/health/diseases/16083-infertility-causes>

WHAT

ARE THE CAUSES OF INFERTILITY IN WOMEN?



Infertility is commonly caused by problems with ovulation, blocked tubes and implantation problems.

The causes of infertility in women can include many of the following:

1. Hormonal problems making it difficult to produce or release the eggs.

2. Structural problems:

- Benign growths (such as polyps and fibroids) in the uterus,
- Blocked fallopian tubes due to pelvic infections
- Endometriosis
- Diminished ovarian reserve

3. Additional factors:

- Poor diet that is lacking in nutrients
- Over Exercising
- Over weight
- Stress
- Too much exposure to certain chemicals and toxins (for example, tobacco smoke, alcohol, marijuana, pesticides, radiation, and chemotherapy)
 - Certain Diseases
 - Kidney disease
 - Diabetes



DIAGNOSIS

How are the causes of infertility identified?

Male:

1. Semen analysis.

This test will evaluate the number and health of the sperm.

2. Blood test can check the level of hormones.

3. Screening for infection is also done.

Female:

1. A blood test to check hormone levels and screen for infections.

2. An ultrasound to check the uterus/ovaries

3. Hysterosalpingography (HSG): To assess if the fallopian tubes are open or blocked.



3. Laparoscopy: It enables the doctor to view the outside of the uterus, ovaries, and fallopian tubes to detect abnormal growths.

Infertility causes(internet) available on

<https://my.clevelandclinic.org/health/diseases/16083-infertility-causes/diagnosis-and-tests>

TREATMENT

The options depends on personal situation and what's causing the infertility.

Sometimes only one person needs treatment, other times both partners will use a combination of treatments together.

Fertility treatments often include:

1. Medications:

- That help with hormones and ovulation.
- That helps to treat infections.
- That helps with semen production.

2. Assisted Reproductive Technology

- These are procedures that make it easier for sperm to fertilize an egg, and help the egg implant in your uterine lining.

Two of the most common fertility treatments⁽¹⁾

- Intrauterine insemination (IUI):

Healthy sperm is collected and inserted directly into your uterus when ovulating.



- In vitro fertilization (IVF) :

Eggs are taken from the ovaries and fertilized by sperm in a lab, where they develop into embryos.

Then a doctor puts the embryos into your uterus.



1.Fertility treatment for infertility(internet) available from:

<https://www.plannedparenthood.org/learn/pregnancy/fertility-treatments>



IMPORTANT HEALTH FACTS

In Africa, some traditional, cultural and religious practices, combined with low resource environment are linked with higher levels of preventable causes of infertility in women⁽¹⁾:

1. Untreated sexually transmitted diseases (STDs) and consequence of infections caused by the practice of female genital mutilation, unsafe abortions and unsafe deliveries.
2. Poor nutrition.
3. Physical exercise.
4. Alcohol use, smoking Tobacco and Drug abuse.
5. Exposure to Industrial and environmental toxins.

1. INFECTIONS and INFERTILITY sexually transmitted infection

Sexually transmitted diseases (STDs) can cause serious complications including pelvic inflammatory disease (PID), blockage of fallopian tubes, ectopic pregnancy and prostatitis, which can subsequently lead to infertility.

In women, STDs such as Chlamydia and Gonorrhoea may have few or no symptoms. If left untreated, these 'silent infections' can result in pelvic inflammatory disease a condition that can cause permanent damage to the fallopian tubes, uterus and surrounding tissues leading to serious complications such as chronic pelvic pain, ectopic pregnancy (pregnancy outside the womb) and infertility consequences of infections caused by the practices of female genital mutilation, unsafe abortion and infections unsafe delivery of the baby can also lead to infertility.⁽¹⁾

HIV

Besides the negative impact that HIV has on the body's immunity. It can also affect the body's ability to produce hormones required to fall pregnant, or lead to early menopause in women.⁽²⁾

1. Ombelet W. Global access to infertility care in developing countries: a case of human rights, equity and social justice. Facts, views and Vision in ObGyn 2011;3(4):257-266.

2. Hammarberg K, Kikman M. Infertility in resource-constrained settings; Moving towards Amelioration. Reproductive BioMedicine 2013;26:189-195.

2. Poor nutrition⁽¹⁾

Eating a balanced diet and maintaining a healthy weight is important. Being overweight or underweight can affect hormone production or result in disturbance of the monthly period in women, which may cause infertility.

3. Physical Exercises⁽²⁾

Regular exercise is important, intensive exercising can cause infrequent or absent periods, this can lead to infertility.

4. Alcohol, smoking tobacco and Drug abuse^(3,4)

Alcohol, smoking tobacco and Drug abuse has multiple negative effects on fertility, not to mention general health and the health of the unborn baby.

5. Exposure to industrial and environmental toxins.⁽⁵⁾

Pesticides, heavy metals and chemicals from paints may damage sperm and egg production.



1 Weight and fertility fact sheet (internet). American society of Reproductive Medicine; 2015(cited 2020 jan 9).

2. Maleki BH, Tartibian B. High intensive exercise training for improving reproductive function in infertile patients : a randomised controlled trial. J obst Gyne Can 2017;39: 545-558

3. Optimizing natural fertility fact sheet (internet). American society of Reproductive Medicine; 2015(cited 2020 jan 9).

4. Optimizing natural fertility: a committee opinion. Fertil steri 2013; 100:631-7

5. SharpeRM. Lifestyle and environmental contribution to male infertility. British Medical Bulletin 2000; 56(3) ; 630 – 642.

STRATEGIES TO HELP INCREASE THE CHANCES OF BECOMING PREGNANT

1. Both men and women should have regular check up and see the doctor early if unwell.



2. Both men and women should practice safe sex and avoid risky behaviour that can lead to sexually transmitted diseases (STDs) such as Chlamydia.^(1,2)



3. Both men and women should exercise Moderately.⁽³⁾



1. Ombelet W. Global access to infertility care in developing countries: a case of human rights, equity and social justice. *Facts, views and Vision in ObGyn* 2011;3(4):257-266.
2. Hammarberg K, Kikman M. Infertility in resource-constrained settings; Moving towards Amelioration. *Reproductive BioMedicine* 2013;26:189-195.
3. Maleki BH, Tartibian B. High intensive exercise training for improving reproductive function in infertile patients: a randomised controlled trial. *J Obst Gynae Can* 2017;39: 545-558

4. Both men and women should eat a balanced diet and maintain a healthy weight.⁽¹⁻³⁾



5. Both men and women should quit smoking.⁽¹⁾⁽²⁾



6. Both men and women should avoid alcohol and drug abuse.^(1,2)



1. Optimizing natural fertility fact sheet (internet). American society of Reproductive Medicine; 2015(cited 2020 jan 9).
2. Optimizing natural fertility: a committee opinion. Fertil steri 2013; 100:631-7
3. Weight and fertility fact sheet (internet). American society of Reproductive Medicine; 2015(cited 2020 jan 9).

7. Both men and women should avoid industrial and Environmental toxins.⁽¹⁾



8. Both men and women should avoid stress.⁽²⁾



9. Women should Limit caffeine use.⁽³⁾



1. SharpeRM. Lifestyleand environmental contribution to male infertility.British Medical Bulletin 2000: 56(3) ; 630 – 642.
2. Stress and infertility fact sheet (Internet). American society of Reproductive Medicine; 2014(cited 2020 jan 9).
3. Optimizing natural fertility fact sheet (internet).American society of Reproductive Medicine; 2015(cited 2020 jan 9).



10. Men should avoid High temperatures.⁽¹⁾



Fertility is a shared responsibility, couples must be well informed and get tested together. A Man should support his wife and share the treatment journey together.



1. Sharma R, Biedenharn KR, Fedor JM, et al. Lifestyle factors and reproductive health: taking control of your fertility. *Reprod Biol Endocrinol.* 2013;11:66.

INFERTILITY AND STIGMA

Infertility is a shocking tragedy leading severe disruption in an individual's or a couple's lives creates a social stigma, perceived as a disgraceful condition.⁽¹⁾

The Society and our Culture places a high premium on childbearing among marriage couples. The need for children is expressed in African maxims as 'there is no wealth where there are no children'.

Culturally, voluntary childlessness is uncommon in Africa. Women who fail to bear children suffer humiliation and sometimes ridiculed and abused. The experiences of infertile women prevents them from sharing with others what they go through further leading to high levels of stress and depression.⁽²⁾

Why are women stigmatised?

Women are stigmatized because most people have poor knowledge of fertility and infertility issues.

When it come to infertility we know that ⁽³⁾;

1. It affects both men and women equally.
2. Men have big difficulties to consult on issues of infertility.
3. Poor Management of Infertility Problems.
4. Low purchasing power of women who consult for infertility.
5. Unfavourable health pyramid which includes:
 1. lack of qualified medical staff.
 2. Insufficient specialized treatment centres.
 3. Very high cost of effective treatment.



1. Benksim A, Elkhoudri N,. *Difference between Primary and Secondary Infertility in Morocco: Frequencies and Associated Factors. Int J Fertil Steril. 2018;12(2):142-146.*
2. Oti-Boadi, M., & Asante, K. O. (2017). *Psychological health and religious coping of Ghanaian women with infertility. BioPsychoSocial Medicine, 11,*
3. APA Gwet-Bell, Ernestine MDa, *The 5 main challenges faced in infertility care in Cameroon, Global Reproductive Health: September 2018 - Volume 3 - Issue 3 - p e16*

HOW TO FIGHT AGAINST THE STIGMA OF INFERTILE COUPLES.

Merck Foundation “Merck More Than a Mother campaign”

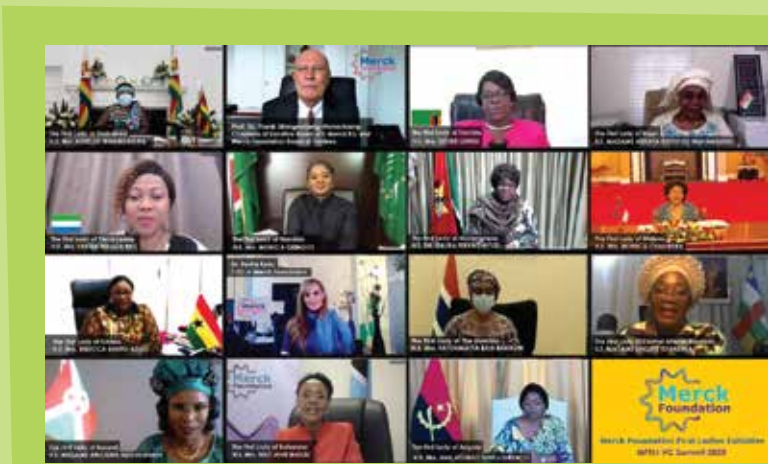
“Merck More Than a Mother” is a strong movement that aims to:

1. Empower infertile women through access to information, education and change of mind-sets.
2. Support Governments in defining policies to enhance access to regulated, safe and effective Fertility care.
3. It helps identify innervations to break the stigma around infertile women and raises awareness about infertility prevention, management and male infertility.

The campaign is in partnership with **The First Ladies:**

Ministry of Health
Ministry of Education
Academia
Media and art
Public Authorities

Ministry of Information
Ministry of Gender
Policy makers
Civil society



African First ladies and Ambassadors of Merck More Than a Mother together with Dr. Rasha Kelej, CEO of Merck Foundation

How does “Merck More Than a Mother” help fight stigma

The Movement initiated a cultural shift to de-stigmatize infertility on all levels by:

1. Improving awareness
2. Training local Doctors as Fertility specialist and Embryologists
3. Building advocacy in cooperation with the First Lady and Women Leaders
4. Supporting childless women in starting their own small businesses.
5. Community Awareness such as:
 1. Media recognition awards and Health Media Training
 2. Fashion awards
 3. Film awards
 4. Local songs with local artist
 5. Children story books
 6. Awareness Material
 7. Use of Social Media



It's all about giving every woman the respect and the help she deserves to live a fulfilling life, with or without a child.

Impact:

Merck Foundation More Than a Mother Campaign has had significant impact in several countries:



18 African First Ladies are Ambassadors of "Merck More Than a Mother"



Merck Foundation has so far Educated & Trained

180 + Fertility specialists

and Embryologists trained from **155+** doctors enrolled in one-year Diploma and two-year Masters of Sexual and Reproductive Medicine and two-year Master Degree in Biotechnology of Human Assisted Reproduction and Embryology from **37** countries



Partnership with

42 African Ministries of Health, Education, Gender & Information and Academia

Trained 1400 Media Representatives From **20** Countries

To raise community awareness, creating a culture shift and breaking stigma around infertility and infertile women

Millions

of women benefited from Merck More Than a Mother Awareness Campaign



CREATED MORE THAN 20 Songs

Addressing the cultural perception of infertility and how to change it

MORE THAN

3 Million Followers On Social Media





Key messages

- Infertility is not a stigma
- Infertility affects men and women equally
- Get informed
- Support your wife
- Fertility is a shared responsibility
- It takes a man and a woman to have a child
- Men are more than Fathers. Women are more than Mothers



TOGETHER WE CAN CREATE CULTURAL SHIFT

Social media platforms: Merck Foundation
Rasha Kelej



www.merck-foundation.com

MERCK MORE THAN A MOTHER

Share your opinion and stories on social media using hastags

Break the stigma around infertility

#MenToo

#NoToInfertilityStigma

#MerckmorethanaFather

#MerckmorethanaMother

TOGETHER WE CAN CREATE CULTURAL SHIFT