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Studying the causes of secondary infertility in women in Babylon Governorate

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Abstract:

The research included a study of the case of secondary infertility in women in terms of its causes, prevalence rate, and how to treat it. It is a common disease between men and women, so the man is referred to as infertile and the woman as infertile.

Infertility is divided into primary infertility and secondary infertility As for the causes of secondary infertility, some of them may be due to increasing age, infections in the vaginal wall, and related reasons.

In addition to congenital abnormalities in the cervix, hormonal disorders, and the presence of tumors or Polyps or adhesions as a result of infections, previous surgical interventions, or congenital anomalies To causes in the fallopian tubes or a defect in ovarian function or psychological reasons in addition to other reasons.

Explained where both partners are healthy by medical examination, however, pregnancy does not occur.

The use of contraceptive pills and injections for long periods of time is also one of the reasons leading to this occurrence Infertility, and some of the reasons can be due to insufficient maturity of the female reproductive system and competition biome between the egg and the sperm.

Hence, the reasons can be divided into:

1. Impaired sperm or impaired eggs.
2. Age.
3. Complications from a previous pregnancy.
4. Complications from a previous surgery.
5. An increase in body weight or BMI (body mass index).
6. Medications or other medical conditions.
7. Sexually transmitted infections (STIs).
8. Lifestyle factors like drinking alcohol and smoking cigarettes.

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As for the treatment of secondary infertility, it begins with identifying its causes first, then giving treatments such as drugs that enhance Fertility to help stimulate ovulation and, in some cases, requires surgical intervention
such as therapy Uterine fibroids or scarring of the uterus, including those associated with advanced reproductive technology (ART).
Keywords: Secondary Infertility; Hormonal; Reproductive; ART; Risk Factors.

دراسة أسباب العقم الثانوي عند النساء في محافظة بابل

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جامعة الفرات الاوسط التقنية المعهد التقني بابل

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ملخص:

شمل البحث دراسة حالة العقم الثانوي لدى النساء من حيث أسبابه، ومعدل انتشاره، وكيفية علاجه. وهو مرض شائع بين الرجال والنساء، لذا يُوصف الرجل بالعقم والمرأة بالعقم.

ينقسم العقم إلى عقم أولي وعقم ثانوي. أما أسباب العقم الثانوي، فقد تعود إلى التقدم في السن، والتهابات جدار المهبل، وأسباب أخرى ذات صلة.

بالإضافة إلى التشوهات الخلقية في عنق الرحم، والاضطرابات الهرمونية، ووجود أورام أو سلائل أو التصاقات نتيجة للعدوى، أو التدخلات الجراحية السابقة، أو التشوهات الخلقية في قناتي فالوب، أو خلل في وظيفة المبيض، أو أسباب نفسية، وغيرها.

يُفسر ذلك بأن كلا الزوجين يتمتعان بصحة جيدة وفقًا للفحص الطبي، ومع ذلك لا يحدث حمل

يُعدّ استخدام حبوب منع الحمل والحقن لفترات طويلة أحد أسباب العقم، وقد يعود بعضها إلى عدم اكتمال نضج الجهاز التناسلي الأنثوي، أو إلى التنافس بين البويضة والحيوان المنوي..

لذا، يمكن تقسيم الأسباب إلى.

1-ضعف جودة الحيوانات المنوية أو البويضات

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2-العمر

3-مضاعفات حمل سابق

4-مضاعفات عملية جراحية سابقة

5-زيادة الوزن أو مؤشر كتلة الجسم

6-الأدوية أو الحالات الطبية الأخرى

7-الأمراض المنقولة جنسيًا

8- عوامل نمط الحياة، مثل شرب الكحول والتدخين.

أما بالنسبة لعلاج العقم الثانوي، فيبدأ بتحديد أسبابه أولاً، ثم تقديم العلاجات مثل الأدوية التي تعزز الخصوبة للمساعدة في تحفيز الإباضة، وفي بعض الحالات، يتطلب الأمر تدخلاً جراحياً

مثل علاج الأورام الليفية الرحمية أو ندوب الرحم، بما في ذلك تلك المرتبطة بتقنيات الإنجاب المساعدة المتقدمة (ART).

الكلمات المفتاحية: العقم الثانوي ، الهرموني ، التناسلي، تقنيات الانجاب المساعده، عوامل الخطر.

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The research

I. Introduction:

Secondary sterility occurs when an individual is incapable of conceiving or maintaining a pregnancy to full term following a prior childbirth. In order to be categorized as secondary sterility, the prior childbirth must have taken place without the assistance of fertility drugs or interventions, such as in vitro fertilization (IVF). Medical professionals commonly identify secondary sterility after a couple attempts to achieve conception for a period of six months to one year (Ali T, Sami N, Khuwaja A2007; 25(2): 189-194).

Fertility is defined as the ability to procreate, that is, the ability of a female to have children, and her stage begins in Puberty years with the onset of menstruation, the appearance of secondary female characteristics and features, and the ovary beginning to produce mature oocytes

Impairment of fertility is defined as the temporary inability to conceive

In a certain period of time and for some reason and that treatment can be done if known The reason for this weakness is that a woman can get pregnant after that without any difficulty. Therefore, poor fertility is considered to be relative infertility. As for primary infertility, it is defined as the inability to conceive at all, and it is a condition in which treatment was not effective because it is an intractable condition that cannot be treated, such as the obstruction of the uterine tubes in women or the scarcity of spermatozoa in men(Safarinejad R. 2007; 31:303-314).

Infertility is prevalent, with recent reports indicating an occurrence of 9 to 18%. In the broader community in 2018, 61,430 offspring were delivered due to assisted procreative technology (ART).

As per the concise overview disclosed by the Association for Assisted Reproductive Technology, 190,394 procedures were carried out in 2019 for oocyte retrieval, cryopreserved embryo transfer, and oocyte defrosting(Papreen N, Sharma A, Sabin K.2000; 8(15): 33-44).

These figures underscore the substantial quantities of females undergoing fertility therapy. Since the late 1970s when antiretroviral therapy became accessible, emphasis has been placed on fulfilling the immediate procreative requirements of infertile individuals. Extensive research has been conducted on the impact of infertility and antiretroviral therapy on gestation and neonatal well-being. Extensive records indicate heightened probabilities of

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premature delivery, low birth weight, and perinatal mortality. Nevertheless, limited knowledge exists regarding the concurrent ailments of infertility in impacted females with this diagnosis or with conditions such as PCOS and endometriosis, which are recognized contributors to infertility Numerous factors are likely involved in the susceptibility of infertile women to developing subsequent physical health issues(Wilkes S, Murdoch E, Alison D.2009; 35: 181-185).

An upsurge of inherent genetic irregularities and endocrine imbalances associated with persistent anovulation or androgen escalation, or other environmental factors, to some degree, acknowledge correlations between infertility and particular pathological processes. Nonetheless, until recently, monitoring the long-term health consequences in infertile women was not straight forward (Povey, A. C., Clyma, J. A. 2012).

There is a mounting collection of evidence supporting the notion that infertility extends beyond immediate procreative needs. Roughly 5-10% of infertile females may possess latent genetic anomalies like chromosomal anomalies, single or multiple gene mutations, and genetic variations. A significant portion of infertility can be elucidated, in part, by exposure to environmental elements and endocrine gland disorders as well as hormonal imbalances. A heightened risk of gynaecological malignancies has been proposed in infertile females across various.(Tabong, P. T. N., & Adongo, P. B. 2013; 13(1), 1-10).

studies. Additionally, endometriosis has been associated with elevated incidences of skin cancer, asthma, autoimmune disorders, and allergic conditions, cardiovascular ailments, and ovarian malignancies. PCOS has been correlated with an escalation in waist circumference, insulin resistance, elevated serum insulin levels, raised lipoprotein levels, type II diabetes mellitus, hyperlipidemia, and augmented central/visceral adiposity even within a normal BMI context. (Akhondi, M. M., Kamali, K.;2010).

1:1. AIMS OF STUDY

Search to know the following:

1. Knowledge of secondary infertility and its diagnosis.
2. Treatment of secondary infertility.
3. The difference between primary infertility and secondary infertility.
4. Why does secondary infertility occur?
5. Symptoms of secondary infertility.
6. Causes of secondary infertility.

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7. Risk factors for secondary infertility.
8. Prevention of secondary infertility.
9. Treatment of secondary infertility.

1:2. difference between primary infertility and secondary infertility

primary Infertility: A disease that affects the reproductive system, whether in males or females, and is defined as the inability to achieve sexual intercourse Pregnancy after 12 months or more of regular, unprotected sexual intercourse. Secondary infertility: It is the inability to conceive a child or complete a full pregnancy again after a previous childbirth(Pal, M., Devgun, P., Chalana, H., Kaur, H., Biswas, A., & Sen, S. 2016



Figure1: Represents secondary infertility in women.

1:3. WHY DOES SECONDARY INFERTILITY HAPPEN?

Secondary infertility is caused by the following conditions:

1- Sperm problems, such as not producing enough sperm for fertilization to occur, or sperm moving in the wrong direction.

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2- Damage to the fallopian tube, which results in obstruction of the descent of the egg into the uterus, or obstruction of the meeting of the animal The sperm in the ovum.

3- Challenges in the quantity or calibre of ova (Amritsar, Punjab, India; 3(6), 1472-1476).

Females and individuals assigned female at birth are innately endowed with a finite reservoir of ova and are incapable of generating new ova. As one approaches their forties, the quantity of ova remaining in the ovaries dwindles, and the residual ova are more prone to chromosomal irregularities. Autoimmune or hereditary ailments and previous surgical procedures or exposure to radiation are additional factors that may contribute to an individual possessing a diminished quantity of high-quality ova.4-Structural issues (like scars or blockages) (Mittal, A., Yadav, S., Yadav, S. S; 2015) .

Infections and surgery can cause damage to parts of your fallopian tubes or uterus. Your fallopian tube carries an egg to your uterus. Complications from infections like chlamydia, gonorrhea and pelvic inflammatory disease (PID) can block your fallopian tubes. Similarly, certain conditions can affect your uterus and cause secondary infertility. Scarring from certain procedures can interfere with pregnancy. These procedures include dilation and curettage (D&C) or C-section delivery. Uterine fibroids or polyps can also block portions of your uterus, impairing a pregnancy. (
Ambala, Haryana;2,124-130)

5- Polycystic ovary syndrome (PCOS) PCOS is a hormonal condition that causes irregular and infrequent menstrual periods. Most people with PCOS don’t ovulate regularly, which can affect their ability to conceive.]01[

6- Endometriosis:

Endometriosis is a condition where tissue that normally grows inside uterus grows in ovaries or other body parts. While endometriosis is common, not all endometriosis causes infertility.

7- Weight gain or other lifestyle changes, Weight gain can lead to ovarian dysfunction in some people. Medications or treatments for certain conditions can also contribute to infertility. Things like smoking cigarettes or drinking alcohol can also impact ovulation and conception. (Al
Subhi, T., Al Jashnmi, R. N;2013:14(4), 214-216)

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Figure 2: Shows damage to the fallopian tube .

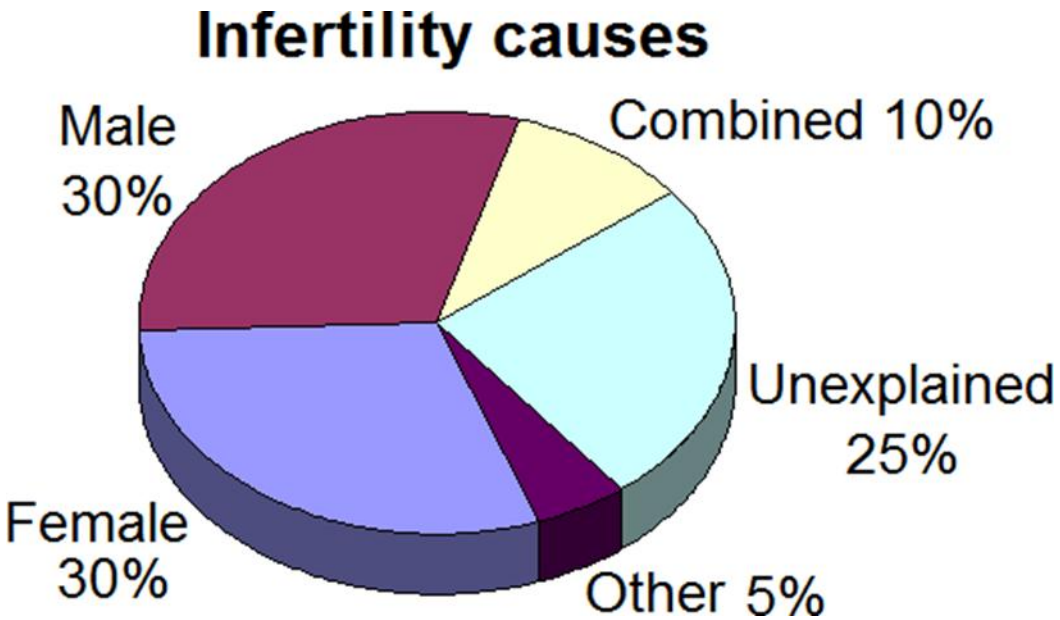


Figure 3: Shows the causes of infertility for women and men, in addition to the unknown causes.

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1 :4.SYMPTOMS:

The main symptom of infertility is the failure to conceive. He may not have any other obvious symptoms. But sometimes it includes:

Symptoms Irregular or interrupted menstrual cycles in infertile women. However, most couples eventually conceive, with or without treatment. (Benksim, A., Elkhoudri, N., Addi, R. A., Baali, A ;2018.12(2), 142-146).

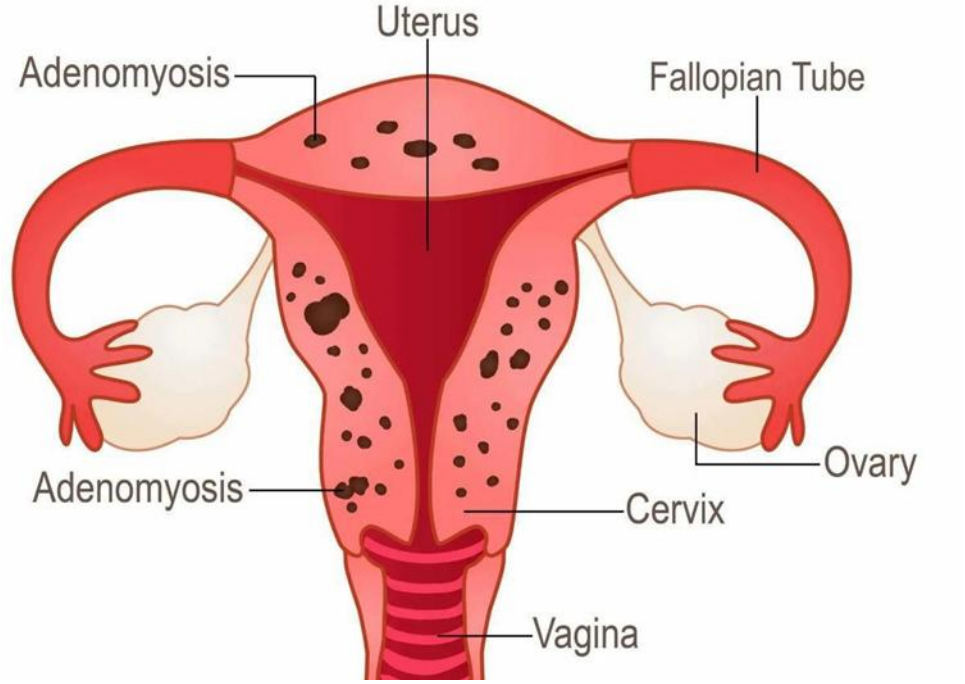


Figure 4: shows adenomyosis.

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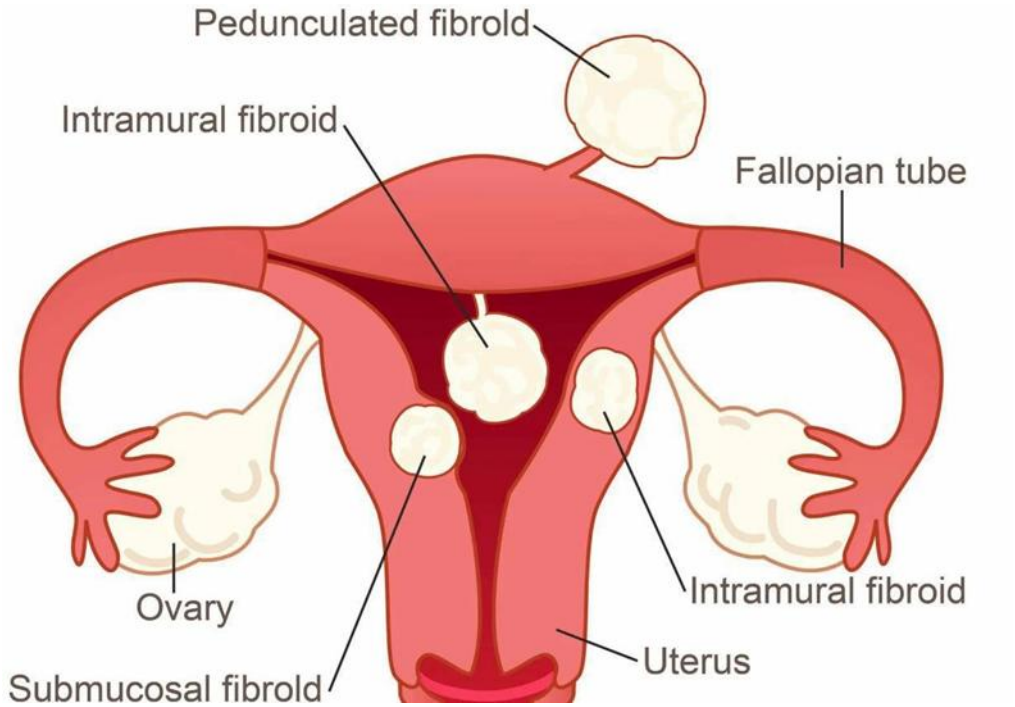


Figure 5: shows uterine fibroids]06[

1 :5.AT RISK FOR SECONDARY INFERTILITY?

Your risk for secondary infertility may be higher if you've had(Ahmadi, A. B. Y., Madaen, K., HAJEBRAHIMI, S ;2004) :

-Pelvic inflammatory disease (PID) or other STIs.
-Irregular menstrual cycles.
-Miscarriages.
-Low sperm count .
-Hormonal imbalances.

1 :6.CAN SECONDARY INFERTILITY BE CORRECTED?

Yes, there are many treatment options for secondary infertility. Your healthcare provider can work with you on a treatment plan that works for you based on your diagnosis and goals (Deshpande, P. S., & Gupta, A. S. ;2019 ;12(4), 287-293) .

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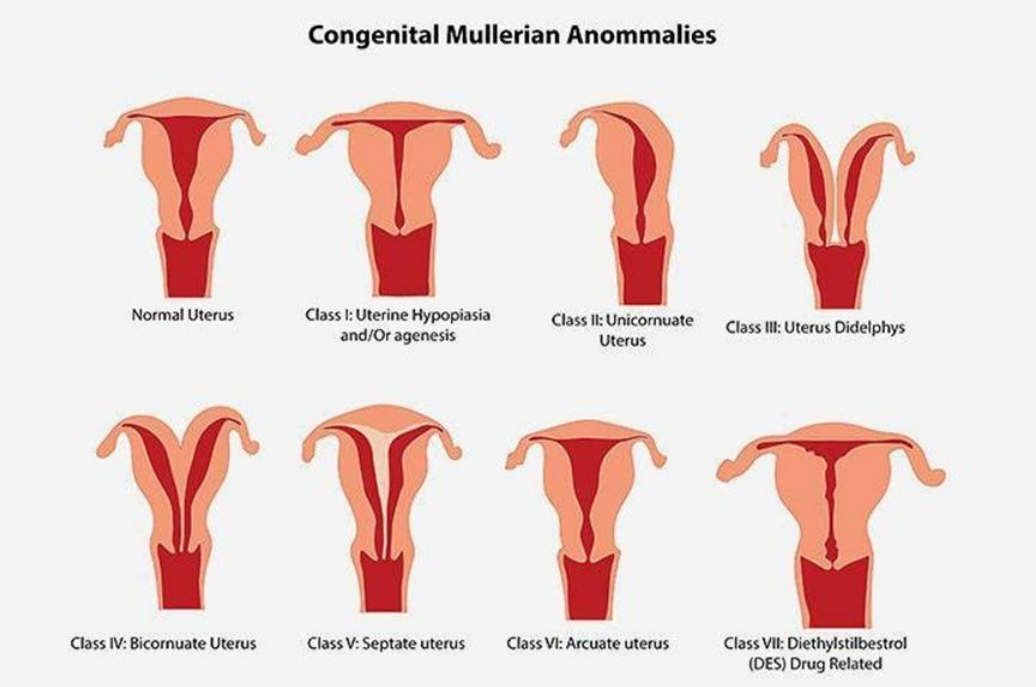


Figure 6: shows congenital abnormalities in the cervi .

II .RESULTS AND DISCUSSION

2:1. DIAGNOSIS

If a pair is concerned about secondary sterility, what actions should they take? In the event of suspecting secondary sterility, arrange an appointment with your medical practitioner, fertility specialist, or urologist. Timely assessment is crucial to guarantee the broadest range of therapeutic choices.(Zhang, H., Wang, S., Zhang, S., Wang, T., & Deng, X. ;2014;127(4), 691- 695).
medical practitioner will:
Examine your medical history to determine if any changes have occurred since your previous gestation.
-Discuss your menstrual cycles to determine if you're ovulating and producing eggs.
-Evaluate if certain diseases are affecting sperm count or sperm quality

2:2.TESTS:

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What tests will diagnose secondary infertility?
Your healthcare providers may want to perform certain tests to determine what could be causing infertility. Some of these tests include(Vahidi, S., Ardalan, A., & Mohammad, K.;2009; 21(3), 287-293).

1. A semen analysis.
2. Blood tests to look at hormone levels.
3. A transvaginal ultrasound.
4. A hysterosalpingogram, a type of X-ray that allows your provider to see your uterus and fallopian tubes.
5. Ovulation tests.
6. Pelvic examination.

2:3.CONTROL AND MEDICAL INTERVENTION

For secondary infertility, what kinds of treatment options are available
Treatments are comparable regardless of whether the infertility is primary or secondary, and they include the following treatment options(Hosseini, J., Emadedin, M., Mokhtarpour, H., & Sorani, M. ;2012;15(29), 1-7).

- Letrozole and clomiphene (Clomid®) are two examples of medications that can be used to induce ovulation in individuals who do not ovulate on a regular basis.
- Intrauterine insemination, often known as IUI, is a method that includes inserting sperm into the uterus in order to better increase the likelihood of fertilization.
- The in vitro fertilization (IVF) procedure is a complicated procedure that involves the removal of eggs from the ovaries and the manual combination of those eggs with sperm in a laboratory for the purpose of fertilization.
- To correct issues connected to the uterus, surgical procedures such as the removal of scar tissue, polyps, and fibroids are performed.

2:4.PREVENTION:

Some types of infertility cannot be prevented. But several strategies may increasethe chances of pregnancy(Raque-Bogdan, T. L., & Hoffman, M. A. ; 2015;39(4), 484-496).

1. Quit smoking.
2. Avoid consuming alcoholic beverages and street drugs.
3. Reducing caffeine intake.
4. Exercising in moderation.
5. Avoid extreme weight disparity.

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Can get pregnant with secondary infertility?
Yes, can get pregnant with secondary infertility. It's a common condition that usually results in pregnancy with treatment..

2:5.PSYCHOLOGICAL EFFECTS DOES SECONDARY INFERTILITY

Individuals and their partners might experience a significant emotional toll as a result of the tragic condition known as infertility. If therapies for secondary infertility are unsuccessful, spouses may experience a variety of feelings, including anger, sadness, grief, guilt, and loneliness. These feelings may be experienced by both partners. There is a possibility that they will encounter a lack of empathy from members of their family and friends, who may tell them that they ought to be grateful for having only one child. The unfortunate reality is that even those who give medical treatment might be lacking in sympathy, which contributes to a sense of being alone.
Partners and individuals who are experiencing secondary infertility may require emotional support and may benefit from meeting with a mental health specialist or participating in support groups(Hoffman BL;2022).

2:6.Healthcare provider

should see your healthcare provider if :
35 or older and haven't been able to conceive after six months of regular, unprotected sex. Younger than 35 and haven't conceived after one year of regular, unprotected sex. (Kuohung W;2022).
A note from Cleveland Clinic
Secondary infertility is a real and common condition that can be disappointing to partners and families. If you're trying to get pregnant and haven't been able to, it might be helpful to talk to your healthcare provider In some cases, there aren't any apparent causes for secondary infertility. However, your provider can work with you on a treatment plan that matches your desire to expand your family. Know that most people with secondary infertility go on to have a healthy pregnancy. (Anawalt,BD;2022).

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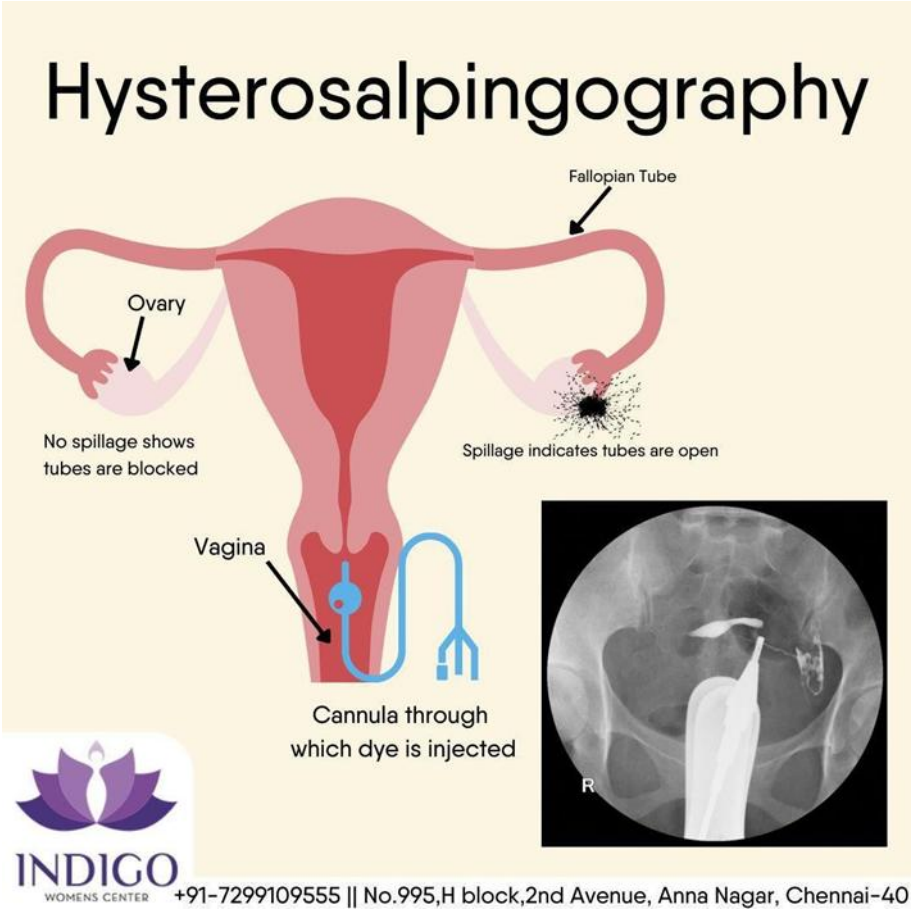


Figure 6: Represents a colored diagnostic for tubal obstruction examination.]29[

III.Research Methodology:

A questionnaire was designed after reviewing the studies related to the research. It consisted of two paragraphs and was distributed to a sample consisting of (100) women with secondary infertility who attended the consulting clinic at the Maternity and Genecology Hospital in Babil Governorate for the period from(1-02-2025 to 1-1-2026)

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Variable		Number	ratio
Age	18-28	11	11%
	29-39	25	25%
	40-50	64	64%
Educational level	Uneducated	90	90%
	Primary	85	85%
	Secondary	70	70%
	High school	55	55%
	Institute	30	30%
Economic situation	Good	20	20%
	Medium	65	65%
	Not good	90	90%

Table 1- A questionnaire about age, educational level, and economic situation

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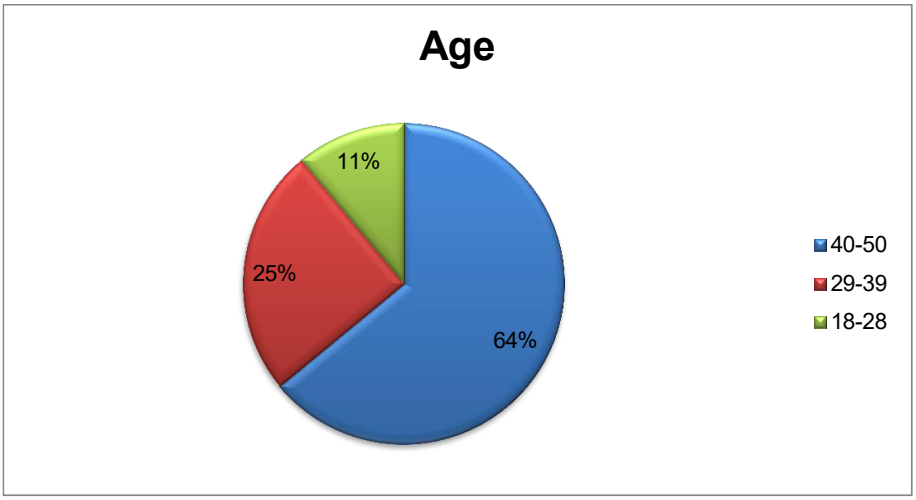


Chart 1- distribution of women according to age

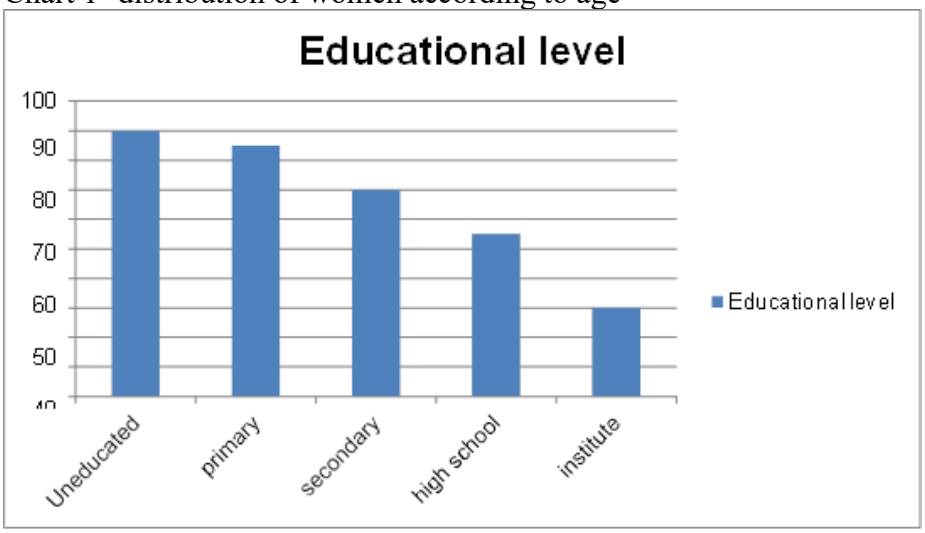


Chart 2-distribution women according educational level

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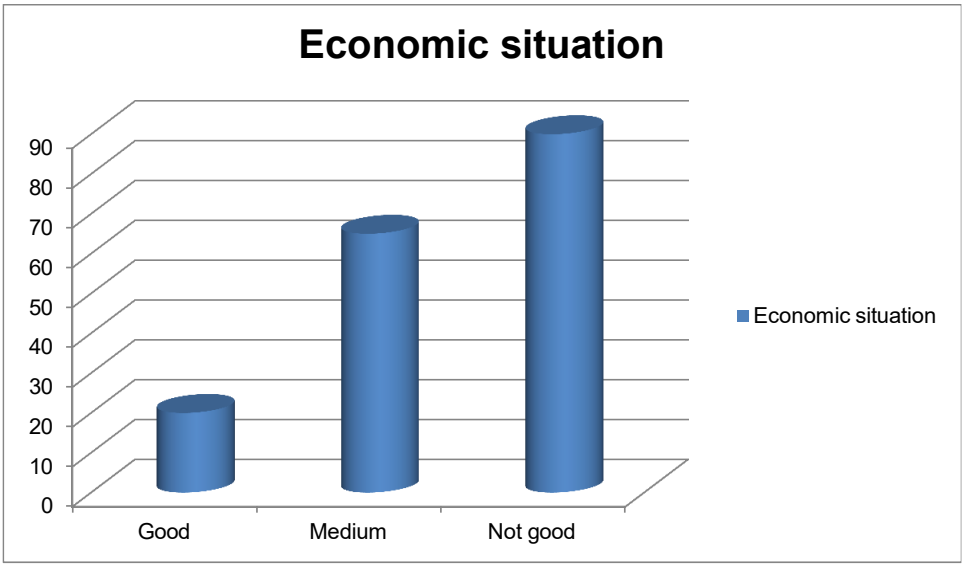


Chart 3- distribution women according to Economic situation

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Elements	number	ratio
Ovulation disorders	93	93%
Overweight	85	85%
Polycystic ovary syndrome	70	70%
Fallopian tube blockage	50	50%
Growing old	20	20%
Cervical problems	18	18%
genetics	10	10%
Uterine abnormalities	8	8%
Endometriosis	5	5%
smoking	1	%0

Table 2 - the medical conditions that cause secondary infertility

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IV.DISCUSSION:

The results of our study indicate that the women with secondary infertility in the highest percentage are women with ovulation disorders, whose percentage is (93%),the egg does not exit the ovary(Infertility FAQs;2020). followed by those who suffer from overweight, whose percentage is (85%), then followed by those with polycystic ovary syndrome, whose percentage is (70%) In addition to cases of fallopian tube obstruction, it is in the fourth degree, as its percentage is (50%) of the rate of secondary infertility cases. (Secondary infertility;2019).As for age, it is normal due to the weakness and low number of eggs, and the percentage of women is (20%) The percentage of cervical problems is (18%) among women with secondary infertility, and the genetic factor is the cause of secondary infertility, where the percentage appeared (10%), in addition to uterine deformities and endometrial diseases, where the percentage is in order (8%).) and (5%), and in the last order, smoking appeared to be a cause of this infertility, as the results showed a percentage of (1%) of the total women suffering from infertility in the city of Hila due to societal customs that limit the phenomenon of smoking. (World Health Organization)

V.RECOMMENDATIONS:

1- Awareness and health education for women through various media and social media to spread awareness about the causes of secondary infertility in women.

2- The necessity of implementing an educational program about the lifestyle that may affect reproductive health in terms of dietary habits and physical work activity.

3- The reproductive health education program is necessary to create the necessary awareness of the causes of infertility.

4- Awareness of the risks of lifestyle behaviour and facilitating them appropriately through lifestyle changes that may improve reproductive.

VI.CONCLUSION

Infertility is inherently a stressful situation. This is especially distressing when past pregnancies have resulted in abortions, stillbirths, neonatal/infant deaths, or the birth of only girls. However, it exposes the lady to disdain and misuse, leading to significant psychological harm.

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