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### A COMPREHENSIVE CLINICAL STUDY & THERAPEUTICS RESPONSES OF UNANI FORMULATION IN INDUCTION OF OVULATION (TASHJEE-E BAIZA / BAIZA AWARI) AT GOVT, NIZAMIA TIBBI COLLEGE. HYDERABAD

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### **ABSTRACT**

Infertility, particularly anovulatory infertility, is a major reproductive health concern affecting millions of couples worldwide. The present clinical study titled "A Comprehensive Clinical Study & Therapeutic Responses of Unani Formulation in Induction of Ovulation" was conducted at Government Nizamia Tibbi College and Hospital, Hyderabad, to evaluate the efficacy of a traditional Unani formulation in inducing ovulation among women suffering from anovulatory infertility. A total of 40 female patients, aged 20-40 years, with 1-12 years of married life and diagnosed with anovulatory infertility, were selected and divided into two treatment groups. Group A received a combination of oral medication and Humool (pessary), while Group B received oral treatment alone. The therapeutic regimen was administered from the 3rd to 12th day of the menstrual cycle, and follicular studies were performed through ultrasonography (USG) to confirm ovulation. The Unani formulations included herbal ingredients such as Saleb Mesri (Orchis mascula), Tukhm-e-Gazar (Daucus carota), Kaiphal (Myrica nagi), Tudari Surkh (Matthiola incana), and Roghan-e-Chambeli (Jasminum grandiflorum), each possessing aphrodisiac, nutritive, uterine tonic, and hormonal modulating properties. The study observed significant improvement in ovulatory response, restoration of normal menstrual patterns, and symptomatic relief in the majority of patients, particularly in Group A. The findings suggest that this Unani ovulation-inducing regimen can serve as a safe, economical, and effective alternative to conventional hormonal therapies, offering a natural approach to restoring fertility. Further large-scale clinical trials are recommended to validate and standardize these outcomes.

**KEYWORDS:** Unani medicine, Infertility, Anovulation, Ovulation induction, Humool, Herbal formulation, Saleb Mesri, Tukhm-e-Gazar, Kaiphal, Tudari, Traditional medicine, Follicular study, Reproductive health.

### I. Introduction of Infertility

The desire of woman for children is some time stronger than self-interest in beauty and figure and may be stronger than the claim of a career; in men it is less intense. Childlessness may be a tragedy to the married women and can be cause of marital upsets as well as of personal un happiness and ill health. The having of children cement's a marriage and, when a breakdown of the partnership is threatened as it is some stage in many if not most marriages the future welfare of their offspring may deter man and wife from separating; it thus gives time and opportunity for reconciliation and adjustment which may result in permanent and happy union.

### II. Infertility & Islamic Law

Ovulation occurs due to rupture of one or more follicles with in the ovary, 30% of infertility are due to problem associated with ovulation. Anovulation occurs, when there is either no development or immature development of Graffin follicle due to inadequate gonadotrophin stimulation or defect of steroidogenesis. Ancient Unani physician describes the dominance and the important of humours [Nafeesi 1230-85 AD Tarjuma Sharah-e-Asbab, 1936] causes of uqar are dominant humor or its temperament is probably for induction of ovulation they have treated uqar on the basis of symptoms like dysmenorrhea [usre-tams] amenorrhea [quilath-e-tams]. The problem of infertility has been with us as long as the

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history of mankind. While the ancient civilizations of Babylonia, Persia and Greek had their goddesses of fertility, and fertility rites. In the ancient times medicine was generally based on magic till Hippocrates (460-377 B.C.) of Cos, who was the first person to propose the scientific and ethical aspects of medicine and is also is known to be the first person to establish a hospital Beemaristan' in Persian. He was the first to record his medical views and called the 'father of medical literature and the father of medicine' Hippocrates (460-377 B.C.) and Aristotle (AD 384-322) were aware of the external and internal reproductive organs, although knowledge of the latter was based mainly on observation and dissection of animals and regarded the terminology quite similar to that used today.

When Hippocrates died in 377 BC, son-in-law of Hippocrates, Polybos (Crica 360 BC) had assumed leadership on the basis of his treatises. On diseases of women and on sterility'. This may be considered one of the earliest tests on gynecology. Aristotle was not a physician, he was a great naturalist and zoologist and gave medicine many fundamentals relative to conception, sterility, menstruation and the gravid state of humans. He believed that semen and menstrual blood mixed in uterus and formed a fetus (Adams 1849, peck 1943). He noticed that incompatibility between ovum and sperm is an important part of sterility. Herophillus of chalcedon and RUFUS of Ephesus bridged the junction between B.C and A.D. both were brilliant students of reproductive anatomy and probably had access the bodies of criminals for dissection. Galen correctly described the termination of oviducts. Rufus of Ephesus (around 100nmAD) had correctly regarded the uterus and vagina as separate organs. Gynecologists and obstetrician of antiquity are soranus and Rufus, when gynecology was at its height. Before the death of Soranos, a man whose accomplishments remained alive many years longer than any of his roman predecessors. His name was Galen.

Galen (130-210AD) as the ultimate authority and produced such theoretic consideration and as the hypothesis that the female reproductive tract is mirror image of the male the vagina, a penis turned inside out, he analogues the uterus of the scrotum and oviducts to seminal ducts.

About sterility wrote in his book 'De Lous Affectis' if menstruation stops, among other symptoms, the patient complains of nausea and a decreased appetite, examine the neck of the womb with finger. If the cervix is closed but feels soft then the women is pregnant. Roman physician Galen taught that there was a mixing of male and female semen from the ovaries, with the formation of a conception.

The renowned Muslim physicians Zakaria Al Razi (850-925 A.D.) in this book Al- Havi in VOL. IX exclusively devoted about infertility, conception pregnancy and

diseases of uterus. While Rayees was known as "The Father of Arabian Medicine', another rather dominating figure in Arabian medicine known as the 'prince of physicians' (shaikh-ur-Rayees) was Avicenna. wrote at least twenty major treatises on medicine canon dominate European medicine in canon of medicine in III part exclusively devotes about causes infertility and its treatment. smellie was first to suggest leucorrhea a cause of sterility.

Arabian did tremendous job of translating, modifying and preserving the Greek literature. The basic biochemical and biophysical ideas in the medicine were given by Arabians. The unani literature is very much rich on the subject of infertility [uqar]. uqar has been known to the unani physician from ancient time they describe uqar due to altered temperament of the uterus, impairment and dominance of akhalth [humor]. The temperament of the uterus and cervix is hot and moist. The humoral theory was postulated by father of medicine Hippocrates [460 BC).

The body contains four major kinds of humors. Khoon [blood], balgham [phelgam], safra [yellow bile] and sauda [black bile], a right proportion according to quality and quantity, and missing of which [homeostasis] constitutes health and un right proportion and irregular distribution, according to their quantity and quality constitutes disease.

Uqr is described by the almost all scholar in their books as: kamilus sana, Majoosi [1889 AD Vol. iii]. Qanoon-e-shaikh-Avicenna [1934-Vol. I] Zakhira khawazm-shahi-Ismail Jurjani [1902-Vol. vi]. Uqar is describe under suo-e-mizaj-e-Har, barid, rabat and kushk, and was thought to be produced by the dominance and impairment of the humours. It may be damavi, safravi, Belghami and saudavi.

According to humoral theory of Hippocrates the cause of the disease is alteration in the kamiyat [quantity] and kayfiyath of akhlat; i.e., alteration in the mizaj of akhalat. Therefore, the diagnosis and treatment of the disease is based on akhalath.

Hippocrate held the view that seeds came from all parts of the body of men and women, followed together forming a fruit, and then developed.

The eminent Unani physician like Hippocrates in his book Hippocratic corp Galen in his book Delocis affectis. Ali bin Rabban Tabri Firdous-ul-Hikmat, Zakaria Razi in Alhawi, Majoosi in Kamil-us-sana, Avicenna in Al-Qanoon-Fi-Tib, Burhauddin Nafees in Kuliyath-e-Nafeesi, Mansoor Bin Mohd Yousuf in Kifayeth-c--Mansoori have discussed the subject in detail and have almost the same opinion as cited above.

According to Unani system of medicine, Quwa-etanasuliyah [Reproductive faculties] is responsible for the generation of mani [semen] i.e., sperm and ovum. Quwa-e-tanasuliyah are two kinds.

I] Al-quwah-al-muwalliadah [Generative faculty].

II] Al-quwah-al-musawira [Formative faculty]

Al-Quwah-ql-muwallidah, according to Ibn-Nafis, quwaal-muwallidah is that quwah which separates the essence of mani [semen] i.e., sperm or ovum, from imshaj [compounds of the body inside the testis and ovary and makes each of its part to become and ovary and makes each of its part to become a particle organ. Thus, this quwah controls spermatogenesis in males and oogenesis, ovulations and formation of corpus luteum in females and also the process of menstruation in females with the help of different Akhlat muharrikah [hormones].

The main causes of uqar in the female are due to the defect in ovulation. The process of ovulation according to Avicenna is the transformation of genetic material from each organ of the body to ovaries which was beautifully described by Avicenna in the chapter of Akhlath while describing Rutubath-e-manvia. The process of ovulation in the female genital organ is completed in the following ways.

- 1. Tabia provides nutrition and genetic material to the site of ovulation.
- The Quwat-e-jazeba absorbs the genetic material and nutrients.
- 3. The Quwat-e-masika retained the material and nutrients, for a required time, while the quwat-e-mugira act upon this material and from the shape of ovum so that it can contact with the sperm, and of ovum so that it can contact with the sperm.
- 4. The Quwat-e-dafiya is responsible for ejecting the ovum into a proper place and the quwat-e-dafiya release the waste of these processes of metabolism. Now it can be said that if there is any defect in the faculties qua will disturb the process of ovulation.
- 5. Dioscorides [40-90AD] are the notable scholar and physician of the first century who is referred to as the father of herbal drugs. His work "Kitab-al-Hashaish [Arabic translation] is the most celebrated work in pharmacology. The work consists of researches made on more than 600 drugs. This work has hailed as the primary source of pharmacology for centuries. It dealt with around 100 herbal drugs which effect semen, menstruation, contraception, abortion, extraction of placenta etc.

Soranus of Ephesus [98-138 AD] was a renowned physician of his age. He is acknowledged as a specialist in gynecology, obstetrics and pediatrics. His work "Diseases of women" [English version] is acclaimed to be the first book on obstetrics gynecology, and pediatrics. Its first part deals with pregnancy and delivery and second part covers gynecological issues.

Yuhanna Ibn Musawyh [77-857 AD] wrote "why I forbid the physicians to treat women during the period of pregnancy". His other work is "ilaj-ul-nisa al-Lawati-la-

Yahbalna Hatta Yahblana" discussing the devices of gestating pregnancy [830-1100AD].

Hippocrates [460-377BC] knows the shape of the uterus but he imagines that parts, so constructed clearly attracted are always filled with foreign juice.

### III. PATHOLOGY OF INFERTILITY

Infertility is an extremely complicated problem and it is thought that the fault lies entirely with the female but, conception depends on the fertility potential of both the male and female partner. The male is directly responsible in about 30-40%, the female in about 40-50% and both are responsible in about 10% cases. The remaining 10% is unexplained. Here only the pathology of female infertility will be discussed. Infertility is defined as a failure to conceive with in one or more years of regular unprotected coitus. Infertility can be primary or secondary.

Primary infertility denotes those patients who have never conceived. Secondary infertility indicates previous pregnancy but failure to conceive sub sequent.

### A. INCIDENCE

80% of couples achieve conception if they so desire, within one year of having regular intercourse with adequate frequency [4-5 times a week]. Another 10% will achieve the objective by the end of second year. As such, 10% remains infertile by the end of second year.

### **B. CAUSES**

The cause of decreased fertility with age is multifactorial, including increased incidence of anovulation, old oocytes, environmental factors, and increased incidence of disease. In the last category the most significant are endometriosis and pelvic inflammatory disease [PID], uterine abnormalities may also be contributed. The important causes of female infertility as given by FIGO manual [1990] are

1) Tubal and peritoneal factors: 25-35%

11) Ovulatory factors: 15-25% III) Endometriosis: 1-10%

### C. TUBAL FACTORS

The impaired tubal function includes defective ovum pickup. Impaired tubal motility and loss of cilia and partial to complete obstruction of the tubal lumen. The impaired function of any one is related to tubal infection or peritubal adhesions following pelvic surgery or infection or endometriosis.

### Endometriosis

It is the condition in which aberrant endometrium exists outside the uterus. There are several types of deposits including plaques, implants nodules and endometriosis.

### D. OVARIAN FACTORS

The ovulatory dysfunctions encompass Anovulation or oligo-ovulation 1)

- II) Luteal phase defect LPD
- II) Luteinised unruptured follicle [LUF]

According to WHO, ovulatory disorders are grouped into:

### **GROUP 1**

Hypothalamic-pituitary failure women in this group have hypogonadotrophic hypogonadism, low gonadotrophin and estrogen level, normal prolactin and negative progesterone challenge test. Included in this group are: stress related amenorrhea, kallmans syndrome, anorexia nervosa.

### **GROUP II**

Hypothalamic pituitary dysfunction: women are nor mogonadotrophic, nor moestrogenic anovulatory and oligomenorrhoeic, women with PCOS are in this group.

### **Group III**

Ovarian failure: women are hypergonadotrophic and hypogonadal with low estrogen level.

### IV. Aim and objectives of the study

Failure to ovulate is a major problem in reproduction disorders. It is a main cause of infertility. The infertile women and the anovulatory cycle are clinical problems which can now be successfully treated. My objective here is to review the concept of Unani system of Medicine. To trace out the anovulatory cycle cases and provide the induction with Unani drugs with least or without side effects and prevents further complications.

## V. Factors to address to help naturally induce ovulation

If you suspect that your cycles may be anovulatory, consider addressing some of the following factors that may be causing your anovulatory cycles. Some of the most common but overlooked factors contributing to ovulatory dysfunction include:

- Low body weight
- Poor diet, i.e. lacking in essential vitamins, minerals, carbohydrates and fats
- Excessive athletic training
- Excessive alcohol intake
- Stress
- Hormone imbalances

Five simple changes to help your body ovulate naturally

### 1. Increase your body weight

First, determine your BMI. If it's low, then gradually increase your caloric intake to achieve a slightly higher body mass.

### 2. Swap low carb for slow carb

If you've been skipping grains, fruit and starchy vegetables, gradually add back some whole grains, delicious fruits and veggies like sweet potatoes and peas that contain sugars that release slowly into your

bloodstream. Bonus: Your ability to cope with stress may improve!

### 3. Add some good fats-including animal fat

Preferably grass-fed for an optimal fatty acid profile. Keep eating the avocados, oily fish, and nuts and seeds, but don't forget the occasional serving of red meat! Balance in everything is key.

## 4. Improve your sleep: Not just the length, but the quality of your rest

Easy changes to do so include making your bedroom darker (or using a sleep mask), regular bedtime and waking hours, and adjusting the room temperature. Also, avoid or reduce any caffeine intake or smoking at least six hours before bed. Add a bedtime routine that includes a time of meditation or prayer, a good read, and no digital screen exposure at least an hour before bed.

### 5. Balance hormones naturally

There are several ways to naturally balance hormones and improve ovulation quality. Seed cycling involves eating certain types of seeds during certain phases of your cycle to promote a hormone balance. Evidence is limited, but some studies have suggested a relationship between the ingestion of foods high in lignans (such as flax seeds) and an effect on sex steroid action. [5]

You can also make simple lifestyle changes to naturally boost progesterone and improve ovulation. For example, there are several foods that can help promote progesterone production, including broccoli, spinach, beans, and pumpkin, among others. Sometimes, herbal supplements or prescription medications can do the trick. If you're interested in either of those options, we recommend consulting your doctor.

### VI. Indications

The following are the indications of ovulation induction:

- 1. WHO Group II patients having anovulatory cycles
- 2. Luteal phase defect
- 3. Unexplained infertility
- 4. Polycystic ovarian syndrome
- 5. Controlled ovarian hyperstimulation in assisted reproductive technology (ART) cycles
- 6. Superovulation in intrauterine insemination (IUI)
- 7. Hyperprolactinemia
- 8. Poor responders

### VII. Contraindications

Ovulation induction is contraindicated in:

- 1. Hypergonadotropic hypogonadism
- 2. Liver diseases
- 3. Functional ovarian cysts (> 5cm)
- 4. Tubal factors (tubal blockage/damage)
- 5. Male factor infertility
- 6. Severe grade 3 and 4 endometriosis
- 7. Premature ovarian failure
- 8. Genetic abnormalities (example: Turner syndrome)

#### VIII MATERIAL AND METHODS

The patients visiting outpatient Department of Nizamia General Hospital. Charminar were screen and about 40 established cases of infertility due to anovulatory cycle were selected for present study.

### A. CRITERIA FOR THE SELECTION OF **PATIENTS**

The female with anovulatory cycles aged between 20-40 years and 1-12 years of married life were selected. At patient's first visit the following investigation were carried out.

### Investigations

- CBP, ESR, RBS, VDRL, CUE | for both partners]
- Semen analysis [ for male partner]
- FSH, LH, PROLACTIN, T3, T4, TSH & USG for pelvic and Transvaginal Sonography for follicular study was done for conformation of ovulation and HSG for tubal patency. [ for female partner]

The cases that fulfill the above conditions were selected for the selected cases were divided into 2 groups for the allotment of treatment group 'A' and 'B' alternatively to compare the efficacy of the coded drugs.

### B. GYENAECOLOGICAL EXAMINATION

Inspection/Palpation: vulva, condition of hymen

Per vaginum: vagina, length of cervix uterine size, position, mobility. fornices.

- $\triangleright$ Examination:
- Condition of the cervix:
- Discharge:
- Quantity:
- Colour:
- Consistency:
- Odours:

### **Duration of treatment**

Group 'A' 10 days for oral and 5 days for Humool [pessary]

Group 'B' 10 days for oral.

### **Treatment**

The patients were treated with group 'A' medicine, oral for 10 days from 3rd day of menstrual cycle to 12th day and Humool [pessary] from 5th to 9th day of MC. patients were instructed to undergo for follicular study from 12th day till ovulation occurred. If the patient did not get ovulation in I cycle, the same procedure followed. If the patients get ovulation in 1 cycle or 2 cycle, the above treatment stopped, if not ovulated the same treatment and procedure has been continued for 3rd

### C. SELECTION OF DRUGS

The drugs selected for clinical trials, after a concentration study of the disease and its management described by the ancient physician and their experience.

The drugs selected for the present study were economical, easily available, low cost.

### **Drugs Ingredients**

The drugs selected for the clinical trials for this study are divided in to two groups they are:

- group 'A'
- group 'B'

The ingredients of each group are given below.

### Group 'A': For oral administration

Salebmesri	4 grams
Tukham-e-Gazar	4 grams
Kaiphal	4 grams
Tudari surq	4 grams

### **Preparation and Administration**

The above drugs were taken in equal quantities and made them in powder form.

Dosage: 5grams of powder three times a day was given for 10 days from third day of MC to twelth day of MC. For Humool:

- Roghan-e-chambeli: 5ml
- Sufaidi-Baiza-e-Murgh.

Preparation and administration: 5ml of the Roghan-e-Chambeli with Safaidi-Beiza c-Murgh these both drugs were mixed thoroughly, and a sterilized cotton swab with a thread is dipped in the above preparation and inserted into the vagina in posterior formix., for 5 days, from fifth day to ninth day of MC.

### Group 'B': for oral administration

Bahaman-e-svfaiid: 4 grams Inderjow shereen: 4 grams Ushba Daisi 4 grams Khand siya kohana: 4 grams.

Preparation and administration: All the above 4 drugs were made in fine powder from and given orally 5 grams three times a day from 3d day of MC to 12th day of MC.

'B' group patients were treated with only oral drugs.

Orchis Mascula: (Salab Misri) Orchis mascula was used traditionally as astringent, demulcent, expectorant, nutritive, restorative, invigorator and sexual tonic. In addition to its aphrodisiac effect, like erectile dysfunction and impotence, and also as a nervine tonic in mental disorders. Orchis mascula contained alkaloids, saponins, tannins, phenolics, terpenes, sterols and flavonoids. Orchis mascula possessed cardiovascular, hypolipidemic, antioxidant, antiepileptic, DNA protective, antimicrobial, cytotoxic, aphrodisiac, smooth muscle relaxant.

Part used: Root

**Dacus Carota: (Tukhm-eGazar)** Daucuscarota, whose common names include wild carrot, European wild carrot, bird's nest, bishop's lace, carrot flower, , is a flowering plant in the family Apiaceae. It is native to temperate regions of the Old World and is naturalized widely elsewhere. Carrots cultivated as a food crop are cultivars of one of the subspecies.

Action; Aphrodisiac and nervine Tonic

Part used: Seed



Matthiola incana is a species of flowering plant in the cabbage family Brassicaceae. Common names include Brompton stock, common stock, hoary stock, ten-week stock, and gilly-flower. The common name stock usually refers to this species, though it may also be applied to the whole genus Matthiola.

Part Used: Seed

Action: Nervine Tonic, Amenorrhea, Uterine Tonic

Myrica nagi (Kaiphal) is a celebrity medicinal plant that is distributed in sub-Himalayan regions. Kaiphal and used in the prevention and the management of several common disorders viz. Amraz-i-Riya, Amraz-i Hazam, Amraz-i-Aasab, and Amraz-i-Bawl. Kaiphal consist of numerous phytoconstituents viz. tannins, flavonoids, phenolic acids, terpenes, glycosides, amino acids, steroids, and volatile oils.

Part Used: Bark

**Jasminum Grandifolorum** (Chembeli) also known variously as the **Spanish jasmine**, **Royal jasmine**, is a species of jasmine native to South Asia, the Arabian peninsula, East and Northeast Africa and the Yunnan. The species is widely cultivated and is reportedly naturalized in Guinea, he Maldive Islands, Mauritius, Réunion, Java, the Cook Islands, Chiapas, Central America.

Part Used: volatile oil Action: Aphrodisiac

### Gallus Domesticus

The **chicken** is a domesticated subspecies of the red junglefowl (*Gallus gallus*), originally native to Southeast Asia. It was first domesticated around 8,000 years ago and is one of the most common and widespread domesticated animals in the world. Chickens are primarily kept for their meat and eggs, though they are also kept as pets.

Part used: Egg White

Action: Egg white is to good soothing agent specially in virginal irritation.





Carrot Seeds









### Centraurea Bahen (Bahaman Safaid)

Centaurea behen is a species of Centaurea that grows in the wild under full sun in northern Iraq and Armenia and in many other areas of Western and Central Asia with a roughly similar environment. The plant's leaves near ground-level are relatively large, comparable to broad dock or spinach leaves.

Part Used: Root

Action: Aphrodisiac, Stimulant, spermatogenic, Refreshing, tonic for Heart.



### **Inderiow Shereen**

Pala Indigo / Indarjo Shireen is also called Dyer's Oleander and Wrightia Tinctoria, belongs to the genus wrightia and comes from the family of Apocynaceae. It is originated in India and is also a native of Burma. Recommended Dosage: 1 to 3 g powder of dried seeds.



### Khand -e-Siyah

Jaggery is a traditional non-centrifugal cane sugar consumed in the Indian subcontinent, Southeast Asia, North America, Central America, Brazil. It is a concentrated product of cane juice & often date or palm sap without separation of the molasses and crystals, and can vary from golden brown to dark brown in colour.



### Hemidesmus indicus

Hemidesmus indicus, commonly known as Indian Sarsaparilla or Anantamul, is a perennial shrub characterized by a woody root stock and slender wiry branches, utilized in Ayurveda, Siddha, and Unani medicine to treat various diseases, including epileptic seizures and chronic nervous conditions.

Action: Antioxidant, antimicrobial, blood purifier, Demulcent, Diaphoretic, Diuretic.



### OBSERVATION AND RESULTS

Table No. 1: Age wise distribution of the patients.			
S. No.	Age	No.cases	Percent %
1	20-25	14	35
2	26-30	19	47.5
3	31-40	7	17.5
	Total	40	100

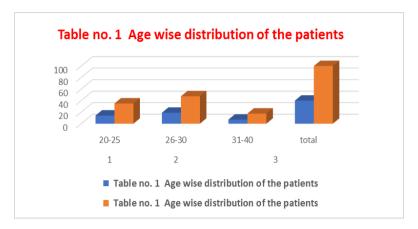


Table. No. 2 Distribution of the patients according to socio-economic status.			
S. No.	Income groups	No. of cases	percent
1	High	4	10
2	Middle	15	37.5
3	low	21	52.5
	Total	40	100

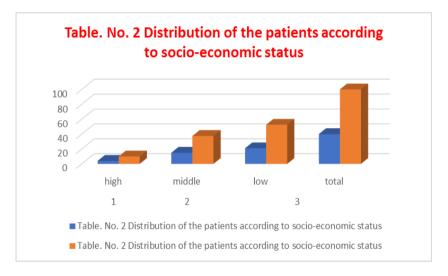


Table No. 3 Distribution of patients according to marriage life.			
S. No.	Marriage life	No. of cases	percent
1	1-5 years	21	52.5
2	6-10 years	14	35
3	11-15 years	5	12.5
	Total	40	100

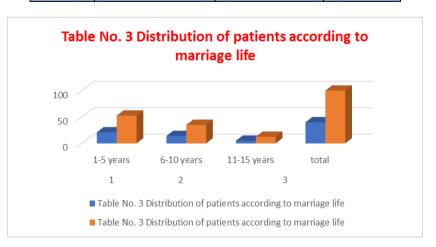
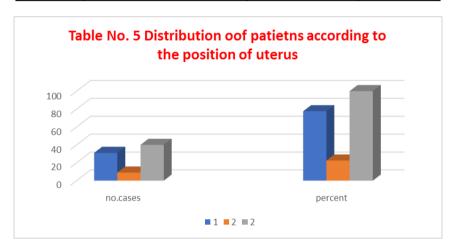


Table No. 4 Distribution of cases according to type of infertility.			
S. No.	Type of infertility	no. of cases	percent
1	Primary	28	70%
2	Secondary	12	30%
	Total	40	100%

Table No. 5 Distribution oof patients according to the position of uterus.			
S. No.	Position of uterus	no. of cases	percent
1	AVNS	31	77.5
2	RVNS	9	22.5
	Total	40	100



### X. DISCUSSION

The present clinical study was undertaken to evaluate the efficacy of a Unani formulation in the induction of ovulation among women suffering from anovulatory infertility, a major cause of female infertility worldwide. The condition is often associated with hormonal imbalance, nutritional deficiencies, obesity, stress, and disorders such as polycystic ovarian syndrome (PCOS). In the Unani system of medicine, infertility (Uqool-un-Nisa) and anovulation are linked to disturbances in the balance of humors (Akhlāt), particularly dominance of cold and moist temperaments (Balghami Mizaj) that impair ovarian function and uterine receptivity. In this study, 40 female patients aged between 20–40 years were enrolled and divided into two groups—Group A (oral medication + Humool or vaginal pessary) and Group B (oral medication only). Both groups received the regimen from the 3rd to 12th day of their menstrual cycle, with follicular monitoring through ultrasonography (USG) to evaluate ovulation. The age group with the highest incidence of infertility was between 25-30 years, consistent with previous findings that reproductive challenges often arise in women during their prime fertility years due to hormonal irregularities or lifestylerelated stress. The study observed that Group A showed superior ovulatory response compared to Group B, indicating that the combined use of oral and local therapy (Humool) enhances uterine tonicity, improves blood circulation to the reproductive organs, and facilitates follicular maturation. The results are in accordance with classical Unani literature, where Humool applications are recommended to strengthen the uterus (Taqwiyat-e-

Rahem), remove uterine coldness (Burudat-e-Rahem), and restore normal menstruation (Tadeel-e-Haiz). The pharmacological properties of the formulation ingredients substantiate the observed outcomes. Saleb Mesri (Orchis mascula) and Tukhm-e-Gazar (Daucus carota) are well-known uterine and ovarian tonics (Mugawwī-e-Rahem), enhancing reproductive vitality. Kaiphal (Myrica nagi) and Tudari Surkh (Matthiola incana) exhibit hormonal balancing, anti-inflammatory, and blood-purifying actions, while Roghan-e-Chambeli (Jasminum grandiflorum), used in the Humool, acts as a local uterine stimulant that improves endometrial receptivity and facilitates conception. These combined reflect a multi-dimensional therapeutic mechanism, including modulation of hormonal activity, improvement of folliculogenesis, and normalization of the menstrual cycle. The absence of adverse effects throughout the treatment period confirms the safety and tolerability of the Unani regimen compared to synthetic ovulation-inducing drugs, which often carry the risk of ovarian hyperstimulation syndrome (OHSS), multiple pregnancies, or metabolic disturbances. The Unani approach, by contrast, aims at restoring natural balance (E'tidal-e-Mizai) and optimizing reproductive physiology without disturbing systemic harmony. Overall, the findings validate the classical Unani understanding that infertility resulting from anovulation is primarily due to uterine coldness, weakness, and humoral imbalance, all of which can be corrected by appropriate tonic, stimulant, and balancing therapies. The significant ovulation rates observed in Group A highlight

the synergistic effect of combining oral and local interventions.

In conclusion, this study provides encouraging evidence that the Unani ovulation-inducing formulation, especially when administered with Humool, can effectively stimulate ovulation and regulate menstrual cycles in anovulatory women. These results justify its traditional use and suggest that it can serve as a natural, cost-effective, and side-effect-free alternative to modern hormonal therapies. Further large-scale clinical and pharmacological studies are recommended to validate these findings, elucidate mechanisms of action, and support its integration into contemporary reproductive healthcare.

### XI. CONCLUSION

The present clinical study concludes that the Unani formulation, particularly when combined with Humool (vaginal pessary), is effective, safe, and well-tolerated in inducing ovulation among women suffering from anovulatory infertility. The treatment led to a significant improvement in follicular development, restoration of normal ovulatory cycles, and symptomatic relief, confirming its therapeutic potential in managing infertility due to hormonal or functional imbalance. Patients in Group A (oral medication + Humool) demonstrated better outcomes than those in Group B (oral therapy only), indicating the added benefit of local uterine stimulation in enhancing ovulation reproductive function. These findings validate the Unani concept of Taqwiyat-e-Rahem (uterine toning) and E'tidal-e-Mizaj (temperamental balance) as crucial for fertility restoration. The pharmacological properties of the herbal ingredients such as Saleb Mesri, Tukhm-e-Gazar, Kaiphal, Tudari Surkh, and Roghan-e-Chambeli aphrodisiac, hormonal balancing, inflammatory, and uterine tonic effects, which likely contributed to the improved outcomes. Importantly, no adverse effects were observed, underscoring the formulation's safety and tolerability compared with conventional hormonal therapies, which often carry significant side effects. Therefore, the Unani regimen used in this study offers a natural, holistic, and costeffective alternative to synthetic ovulation-inducing drugs, aligning with the Unani philosophy of restoring physiological harmony and reproductive health. Further large-scale, randomized clinical trials are recommended to confirm these findings, standardize dosage, and explore its potential for broader application in infertility management.

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