

# **ETIOPATHOGENESIS OF OVARIAN DYSFUNCTION USING ANTHROPOMETRIC MEASUREMENTS, LIFE STYLE FACTORS AND VARIOUS BIOMARKERS**

**A THESIS**

*Submitted by*

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# **CHAPTER VII SUMMERY AND CONCLUSION**

## SUMMARY

Regenerative time of ladies from menarche to menopause is typically described by eumenorrhe and pathological portrayed by oligomenorrhe and oligomenorrhe with polycystic ovarian syndrome (PCOS).

PCOS is portrayed by oligomenorrhe as well as Anovoulation, clinically with biochemical indications of hyperandrogenisms and poly cystic ovaries. In any case, the etiopathogenesis of ovarian brokenness is multifactorial which both hereditary and way of life factors.

The phenotypic articulation of the above conditions is the consequence of collaboration between the factors dependent on genotype with the effect of ecological variables. Thus, the target of the investigation is to investigate the job of biomarkers, way of life factors and anthropometric estimation with ovarian brokenness. With the end goal to recognize the Etiopathogensis of ovarian brokenness, in the wake of getting the institutional moral council leeway and educated assent from the members, this work was isolated in to 3 stage s.

Stage I: To look at the way of life style, menarchelage , history of menstrual cycle, BMI, religion, healthful propensity and financial condition in the juveniles gathering of eumenorrheic, oligomenorrheic. Stage II: The biomarkers identified with ovarian brokenness were surveyed among eumenorrheic and oligomenorrheic in PCOS youthful and moderately age d ladies. Stage III: A relative report was study to know the distinction in the anthropometric estimation of the new conceived infants of typical mother and PCOS mother.

Stage I: The examination of 288 youthful young ladies were taken an interest. Their age ranges from 17-19 years. Pre - structured secret survey was set up with arrangement of inquiries to know understudies (girls) age at menarche, their mom's menarcheage , the cycle design (eumenorrheic/normal or oligomenorrheic/irregular)

tallness and weight for ascertaining BMI, financial condition , religion and sustenance propensities (vegan or non-veggie eaters). Extra data about menarcheal age was gotten through a meeting.

Stage II: The subjects in this investigation were isolated into two gatherings and subgroups. Gathering 1(A) had youthful young ladies with ordinary cycle. Group 1(b) unpredictable cycle (Oligomenorrhea) age range eighteen to nineteen years. Gathering 2(A) included moderately age ladies with ordinary cycle and Group (B) with PCOS with age between thirty to thirty eight years.

which is both clinical hyperandrogenism, hyper insulin and corpulence were figured. The uncommon marker for ovarian

Stage III: The present examination was embraced on 169 moms and their live babies from the division of Obstetrics and Gynecology, from various healing facilities in and around Chennai. They were partitioned and two gatherings were shaped with them. Gathering 1 included control ladies with normal cycle while PCOS ladies framed Group 2. Span of incubation, introductory BMI, BMI in the 3<sup>rd</sup> trimester, weight increase amid pregnancy were calculed for moms.

Instantly conveyance, a physical observation of the new conceived is performed. Anthropometric strategy is utilized to estimating the length, weight, head

perimeter and chest periphery. Percentile bends was utilized for isolating gestational period of new conceived. They were partitioned into three gatherings as little for gestational age ( $>10$ ), fitting for age of gestational ( $<10$ and  $>90$ ) and extensive for age of gestational ( $<90$ ).

Result:

### Stage I

In the Phase I of the examination the accompanying outcome were the normal menarche time of girl was 12.7 years and their moms was 13.3 Years.

The menstrual history of little girl and their moms uncovered that 83.68% daughter had their cycle consistently and 80.90% of mother had standard cycle. On the off chance that we contrast and sporadic cycle design it demonstrates 16.31% little girl and 11.11% moms cycles were unpredictable. The correlation between the BMI and Cycle example of little girls indicates 48.61%, 8.33%, 4.16% and 22.91% of typical, overweight, large and underweight BMI had their cycle consistently.

Whatever remains of the girl who were 9.02%, 3.81% and 3.81% of ordinary weight, overweight and underweight separately had their cycles unpredictably. In moms it was watched 45.94% of ordinary weight, 30.55% of overweight 18.05% of fixate and 5.57% underweight had their cycle consistently. There were 43.75% of normal weight, 12.5% of overweight 15.45% of fixate and 6.32% of underweight had their cycle routinely.

The examination investigation of financial status appears out of 188 young ladies of high monetary status, 63.82% of little girls had ordinary weight and the 100 little girls having a place with center financial status indicates 45% were typical

weight. As per the high financial status 38.82% of mother had ordinary weight and 58% of mother who having a place with center financial status had typical weight.

The similar investigation of nourishment propensity appears in all out number of little girls 87% of veggie eaterss and 83.82% non-vegans getting their menstrual cycles routinely. 12.5% of veggie eaters and 16.18 % non-vegetarians getting their menstrual cycles sporadically. In the moms gather 100% veggie eaterss and 79.70% of non-vegan getting their cycle consistently. The rest 11.80% of moms getting their cycles sporadically.

## Stage II

The stage II result demonstrates the patient's age , stature, weight was not essentially unique among eumenorrheic and oligomenorrheic and eumenorrheic with PCOS in both group1 and group2. There was additionally no measurably huge distinction between lipid profile, for example, add up to cholesterol, triglycerides, HDL, LDL and VLDL.

Be that as it may, in gathering 2 the estimation of insulin and testosterone were higher in PCOS bunch than in eumenorrheic assemble however mean estimation of insulin demonstrates measurably critical p-estimation of (0.00).

The estimation of AMH is additionally more in PCOS and their mean esteem is statically critical in gathering 2 and the estimation of AMH is more in group1 yet their mean esteem isn't factually huge.

The AUC of LEPTIN level was 0.434 in gathering 1 and 0.359 in gathering 2 and ideal leptin cut-off dimension was 40.6 in gathering 1and 25.69 in gathering 2. The AUC of INSULIN level was 0.505 in gathering 1 and 0.563 in gathering 2. The

ideal insulin cut-off dimension was 13.6 in gathering 1 and 17.23 in gathering 2. The AUC of testosterone was 0.475 in gathering 1 and 0.683 in gathering 2. The AUC of SHBG level was 0.485 in gathering 1 and 0.350 in gathering 2.

The AMH a level in the PCOS bunches were fundamentally higher than the oligomenorrheic gathering and the control gathering.

### Stage III.

In this investigation clinical information of the infants of the control and PCOS moms demonstrated a few attributes contrasts. The head boundary and chest periphery were more prominent in infants of PCOS mother than without PCOS mother, furthermore factually noteworthy between the two gatherings. The present investigation recognized ladies have PCOS demonstrated fundamentally higher predominance of Small babies contrasted and the control moms. In the substantial gestational gathering birth length, birth weight and Ponderal file were more prominent and appeared to be measurably huge between the two gatherings.

Catchphrases: menstrual cycle, menarche, PCOS, way of life factors biomarkers, anthropometric estimation, ponderal record, eumenorrheic, Oligomennorrheic

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## **CONCLUSION**

- 1) The etiopathogenesis of ovarian brokenness is phenotypic yield of bi factorial connection among genotype and way of life factors with time related reasonable dysphysiological component.
- 2) Phase 1 of this examination infers that menstrual anomalies is hereditarily decided and furthermore reduce the job of way of life factors in impacting the etiogenesis of PCOS.

Phase I of the study highlights patterns of menstrual cycle history like regular and irregular is mostly genetically determined. It also interfered that menarcheal age is related to BMI, nutritional, socioeconomic status and religion of the individuals. The early menarcheal age is one of the reasons of life style factors which initiate the genetic of PCOS.

- 3) Phase II establishes the time dependence and compensatory physiological abnormalities using clinical biomarkers. PCOS, a not well characterized manifestation complex needs its due consideration. As ethnicity assumes a critical job in this manifestation complex, there is a more prominent need to know the qualities of the equivalent in various populaces. Awkwardness of various hormonal

capacities can influence ovarian homeostasis bringing about anovulation, which will show as PCOS. The interaction between gene type and the life style factors initiated the pattern of PCOS. This is analysed with statically approach of AUC and ROC curves in bio clinical markers of adolescent girls as well as middle age d women. The hyperinsulinia and obesity native of individual the genetics of PCOS while lead to hyperandrogenism. The menstrual irregulars during the course of individual leads to the form of non-growth follicles in ovary. This is reflected in the value of AMH in this study. The life style factors the given experience of PCOS

4) The Phase III of the examination reasons that phenotype for PCOS is communicated in neonatal life itself. The stage III of this investigation inferred that there is gain in BMI in third trimester of foetus born to PCOS Mothers. It is also concluded and observed that there is increase in chest circumferences and ponderal index of new born of PCOS mother. SGA and LGS are also in higher number born to PCOS mother.

**Future Direction:** Ladies giving oligomenorrhea ought to be additionally researched for PCOS and treated as needs be. By and large event of a solitary or couple of highlights is less normal when contrasted with that of numerous characters. This is suggestive of a chain of obsessive and hormonal responses. Opportune remedial mediation can end this progressing procedure. By and by, objection identified with a solitary element ought not be ignored. Despite the fact that weight is regular in PCOS, non-large ladies are likewise in danger of PCOS. There is a need to expand mindfulness with respect to heftiness, as not very many patients know about their strange BMI and PCOS ladies can be sub-assembled dependent on clinical highlights suggestive of endocrinological glitches and can be examined in like manner for determination of proper treatment modalities.

### Limitation of the work

1. Lipid profile not taken in the middle age women because they were under treatment for PCOS it does not reflect true profile status.
2. Adolescent age group does not true in the population and it is biased.
3. Certain drugs taken by individuals may be AUC diagnostic population of biomarkers.
4. Follow up study will take longer period to complete the study .The correct pathway should be identified. The exact therapy needs. We have to identify the ethnic variants. The life style factors should be identified.