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A study on understanding and managing polycystic ovary syndrome in adolescent girls of 17-21 years age group with homoeopathic remedies

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Abstract
Polycystic ovary syndrome (PCOS), is a common reproductive endocrine disorder in women. Women with PCOS experience difficulty to conceive (i.e., infertility) and may have large amounts of androgens. The prevalence of PCOS is increasing rapidly worldwide.
The main objective is to study, collect data, determine, and interpret the prevalence of symptoms of PCOS in female students, and assess the percentage of female students suffering from menstrual irregularities, obesity, hirsutism, alopecia, and severe acne.

Keywords: Managing polycystic, syndrome in adolescent girls, homoeopathic remedies

Introduction
Polycystic ovary syndrome (PCOS) is a condition in which the ovaries produce abnormal amounts of androgens, male sex hormones that are usually present in women in small amounts. The name polycystic ovary syndrome describes the numerous small cysts (fluid-filled sacs) that form in the ovaries. However, some women with this disorder do not have cysts, while some women without the disorder do develop cysts. In some cases, a woman doesn't make enough of the hormones needed to ovulate. When ovulation doesn't happen, the ovaries can develop many small cysts. These cysts make hormones called androgens. Women with PCOS often have high levels of androgens. This can cause more problems with a woman's menstrual cycle leading to development of many symptoms.

Causes
PCOS can also develop during adolescence, presenting unique challenges for diagnosis, treatment, and management. This article aims to provide a comprehensive overview of PCOS in adolescents, including its causes, symptoms, investigations, diagnosis, and efficacy of homoeopathic remedies. It is a complex condition that involves multiple factors, including hormonal imbalances, metabolic dysfunction, and genetic predisposition. While the exact cause of PCOS remains unknown, research suggests that it involves a combination of genetic and environmental factors.
In adolescents, the condition often emerges after the onset of puberty, when hormonal changes are already occurring.
In the present-day scenario, stress due to various pressures in variable aspects of life tends to be the most common causative factor, which almost affects everyone and portrays itself in the form of various diseases. It can have a significant impact on the hypothalamic-pituitary axis (HPA) in individuals with polycystic ovary syndrome (PCOS). The HPA axis is a complex network involving the hypothalamus, pituitary gland, and adrenal glands, and it plays a crucial role in regulating stress responses and hormone production.
Stress can activate the nervous system through a complex interplay between the brain, hormones, and various physiological responses. When a person experiences stress, whether it's due to physical or psychological factors, their body goes into a state of alertness and readiness to respond to the perceived threat or challenge. This response is commonly known as the "fight-or-flight" response.
Here's a general overview of how stress activates the nervous system:

Perception of stress
When a person encounters a stressful situation or perceives a threat, their brain's amygdala, which is involved in processing emotions, triggers a stress response.

Activation of the sympathetic nervous system
The amygdala sends signals to the hypothalamus, a region in the brain that acts as a control center for many bodily functions. The hypothalamus then activates the sympathetic nervous system, which is responsible for the body's rapid, automatic responses in stressful situations.

Release of stress hormones
Activation of the sympathetic nervous system stimulates the adrenal glands, located on top of the kidneys, to release stress hormones, including adrenaline (epinephrine) and noradrenaline (norepinephrine), into the bloodstream.

Physiological responses
The release of adrenaline and noradrenaline triggers several physiological responses that prepare the body to either fight or flee from the stressor. These responses include increased heart rate, elevated blood pressure, rapid breathing, dilation of the pupils, increased blood flow to the muscles, and heightened mental alertness.

Activation of the HPA axis
In addition to the immediate sympathetic response, stress also activates the hypothalamic-pituitary-adrenal (HPA) axis, which involves the hypothalamus, pituitary gland, and adrenal glands. The hypothalamus releases a hormone called corticotropin-releasing hormone (CRH), which signals the pituitary gland to release adrenocorticotropic hormone (ACTH). ACTH then stimulates the adrenal glands to produce cortisol, another stress hormone.

Effects of cortisol
Cortisol helps regulate various bodily functions, including metabolism, immune response, and the body's inflammatory processes. In stressful situations, cortisol increases glucose levels in the blood, providing the body with a quick source of energy. It also dampens certain bodily functions that are not essential in the immediate response to stress, such as digestion and reproductive processes.
It's important to note that while stress can be beneficial in short bursts, chronic or excessive stress can have negative effects on physical and mental health. Prolonged activation of the stress response can lead to fatigue, impaired immune function, increased risk of cardiovascular disease, and other health problems. Managing stress through relaxation techniques, exercise, and healthy coping mechanisms is crucial for overall well-being.
According to homeopathic principles, mental and emotional factors play a significant role in the development and progression of various diseases, including polycystic ovary syndrome (PCOS). Homeopathy aims to treat the individual as a whole, taking into account their mental, emotional, and physical symptoms.
In homeopathy, PCOS is considered a constitutional disorder, meaning that the symptoms of the condition are viewed in the context of the individual's overall state of health. Homeopathic remedies are selected based on the principle of "like cures like," where a substance that can cause symptoms in a healthy individual is used to treat similar symptoms in a person who is unwell.
Regarding the mind and PCOS, homeopathy recognizes the influence of mental and emotional factors on the development and progression of the condition. Emotional stress, anxiety, depression, and other psychological factors can impact hormonal balance and contribute to the underlying imbalances seen in PCOS. Homeopathic remedies aim to address these mental and emotional factors, along with physical symptoms, to restore overall health and promote healing.
Homeopathic treatment for PCOS focuses on individualization, meaning that each person's symptoms and experiences are unique and require tailored remedies. A homeopath will consider not only the physical symptoms associated with PCOS but also the emotional state, personality traits, and specific stressors or traumas that may be contributing to the condition.
In PCOS, the HPA axis can be dysregulated, and chronic stress can further exacerbate this dysfunction. Stress can affect the HPA axis in PCOS in the following ways:

1. **Hypothalamic Dysfunction:** Stress triggers the release of corticotropin- releasing hormone (CRH) from the hypothalamus. In PCOS, the hypothalamus may be hyperactive, leading to an overproduction of CRH. Elevated CRH levels can disrupt the normal feedback mechanisms in the HPA axis, impacting the release of other hormones.
2. **Pituitary Dysfunction:** The pituitary gland responds to CRH by releasing adrenocorticotropic hormone (ACTH). In PCOS, the pituitary gland may become sensitized to CRH, resulting in exaggerated ACTH release. Increased ACTH levels can stimulate the adrenal glands to produce more androgens, such as testosterone, which are already elevated in PCOS.
3. **Adrenal Dysfunction:** The adrenal glands, in response to ACTH, release cortisol, commonly known as the **stress hormone.** In PCOS, the adrenal glands may produce excessive amounts of androgens in response to ACTH stimulation, contributing to the hormonal imbalances seen in the condition. Elevated cortisol levels can also disrupt insulin sensitivity and promote abdominal weight gain, further aggravating PCOS symptoms.
4. **Feedback Mechanism Disruption:** Normally, cortisol acts as a negative feedback signal to the hypothalamus and pituitary gland to suppress CRH and ACTH release, respectively. However, chronic stress and HPA axis dysregulation in PCOS can disrupt this feedback mechanism, leading to sustained elevation of stress hormones.

The dysregulation of the HPA axis due to chronic stress can contribute to several PCOS symptoms and complications, including:

1. **Hormonal Imbalances:** The excessive production of androgens, driven by the dysregulated HPA axis, can worsen the hormonal imbalances characteristic of PCOS. This can lead to increased hirsutism (excessive hair growth) and acne.
2. **Menstrual Irregularities:** Stress-induced disruptions in the HPA axis can affect the release of gonadotropin-releasing hormone (GnRH) from the hypothalamus, which regulates the menstrual cycle. Irregular or absent menstrual cycles are common manifestations of PCOS

and can be exacerbated by stress.

3. **Insulin Resistance:** Chronic stress and elevated cortisol levels can impair insulin sensitivity, leading to insulin resistance. Insulin resistance is often associated with PCOS and can contribute to weight gain and difficulties in managing blood sugar levels.
4. **Emotional Well-being:** PCOS itself can cause emotional distress, and chronic stress can further impact mental health. Stress can exacerbate mood swings, anxiety, and depression commonly experienced by individuals with PCOS.

Therefore, managing stress is crucial for individuals with PCOS to help mitigate its impact on the HPA axis and overall well-being. Techniques such as regular exercise, mindfulness, relaxation exercises, and seeking support from mental health professionals can be beneficial in reducing stress levels and supporting hormonal balance in PCOS. Additionally, adopting a healthy lifestyle, including a balanced diet, adequate sleep, and stress management strategies, can help restore HPA axis function and improve PCOS symptoms.

Sig NS & Sympto MS

PCOS can manifest differently in adolescents compared to adult women, which can make diagnosis challenging. Some common symptoms of PCOS in adolescents include:

- **Irregular menstrual cycles:** Adolescents with PCOS often experience irregular or infrequent periods. Menstrual cycles may be longer than usual or completely absent.
- **Excessive hair growth (hirsutism):** Increased hair growth on the face, chest, back, or abdomen can occur due to elevated androgen levels in PCOS.
- **Acne:** Adolescents with PCOS are more prone to developing severe acne due to hormonal imbalances.
- **Weight gain:** Many adolescents with PCOS struggle with weight management. Weight gain and difficulty losing weight are common symptoms. Weight gain, especially around the belly (abdomen).
- **Mood changes:** Hormonal imbalances can also contribute to mood swings, irritability, and depression.
- Ovaries that are large or have many cysts
- Male-pattern baldness or thinning hair
- Infertility
- Small pieces of excess skin on the neck or armpits (skin tags)
- Dark or thick skin patches on the back of the neck, in the armpits, and under the breasts.

Diagnosing PCO Sin Adolescents & Investigations

Three tools can be used to diagnose PCOS. In 1990, the National Institute of Child Health and Human Development (NICHD) of the National Institute of Health (NIH) hosted a panel of experts who developed the first known criteria for PCOS. Over the next decade, it was discovered that ovarian morphology was a key component in the diagnosis. The European Society of Human Reproduction and Embryology (ESHRE) and the American Society for Reproductive Medicine (ASRM) sponsored a workshop in Rotterdam. During the workshop, polycystic ovarian morphology on pelvic ultrasound was added to the NICHD/NIH criteria. It was then decided that only two of the three criteria had to be met for a diagnosis of PCOS.

Table 1: Containing diagnostic tools

NIH Consensus 1990 (all required)	**Rotterdam Consensus 2003** (two out of three required)	**AEPCOS definition 2006** (androgen excess and one other criterion)
Clinical and/or biochemical hyperandrogenism	Clinical and/or biochemical hyperandrogenism	Clinical and/or biochemical hyperandrogenism
Oligo/amenorrhea, anovulation	Oligo/amenorrhea, anovulation	Oligo/amenorrhea, anovulation
	Polycystic ovaries appearance on ultrasound	Polycystic ovaries appearance on ultrasound

Exclusion of other androgen excess disorders: NC-CAH, Cushing's syndrome, androgen secreting tumors, hyperprolactinemia, thyroid diseases, drug-induced androgen excess. Other causes for anovulation should also been excluded.

Diagnosing PCOS in adolescents can be challenging due to the overlapping symptoms with normal pubertal changes. A comprehensive evaluation is necessary to rule out other potential causes and confirm a diagnosis. The diagnostic criteria for PCOS in adolescents generally include:

- **Clinical symptoms:** The presence of irregular menstrual cycles, hirsutism, acne, or weight-related issues.
- **Physical examination:** The healthcare provider may perform a physical examination to assess hair growth, acne, and signs of insulin resistance.
- **Blood tests:** Hormonal profiling, including measuring levels of testosterone, luteinizing hormone (LH), follicle-stimulating hormone (FSH), and insulin.
- **Ultrasound imaging:** Pelvic ultrasound is often performed to evaluate the ovaries for the presence of cysts or enlarged ovaries.

A Study on a sample size of 50 female students

Ethical approval

Ethical approval has been obtained by Mahatma Jyoti baa Phule B.C Welfare Residential School and Junior College, Wargal, Siddipet Dist., Telangana. Informed consent forms were obtained from parents/guardians of students between the 17-21 years age group.

Study Design
A prospective cross-sectional observational study was designed and conducted in Mahatma Jyoti Baa Phule B.C Welfare Residential School and junior college. Patients diagnosed with PCOS based on criteria derived from Rotterdam Criteria 2003, were arbitrarily enrolled in the study. PCOS was diagnosed on the basis of the presence of at least 2 or 3 of the following:

1. Oligo-anovulation
2. Hyperandrogenism
3. Obesity.

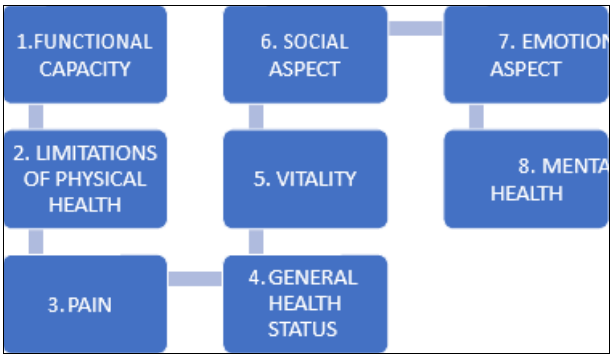
Data source
Data was collected after describing both written & verbal information about the study. After explaining, the informed consent form was signed by each participant and then they were requested to complete the questionnaires. Face- to-face interviews were conducted by investigators.

Part A
Semi-structured pre-validated questionnaires were used to collect information on socio-demographic & economic histories.

Part B
SF-36 questionnaire is a standard diagnostic tool for evaluating various aspects of HRQOL (health-related quality of life) over the previous 6 months. Its reliability, sensitivity, internal consistency, and stability as well as test-retest reliability have been frequently confirmed in various studies**.**

SF - 36
It contains 8 domains
1. Functional capacity.
2. Limitations of Physical aspect.
3. Pain.
4. General health status.
5. Vitality.
6. Social aspects.
7. Emotional aspects

Mental health. The scores for each domain range from 0-100, where higher scores indicate better conditions.



Methodology
Out of 50 samples, 30 adolescents with amenorrhoea, irregular menses, and oligomenorrhoea were diagnosed with PCOS by the doctors of Hamsa Homeopathy Medical College, Hospital & Research Centre, Ksheerasagar, Mulugu, Siddipet, Telangana.

Inclusion criteria
We included all the diagnosed cases of PCOS in females in the age group of 17-21 years and those who have given informed consent.

Exclusion criteria
Patients having cognitive or developmental disabilities/any other major illnesses that substantially influence the HRQOL (health-related quality of life) of women as well as confirmed deformities were excluded from the studies.

Treatment and Management Options
The treatment of PCOS in adolescents focuses on managing symptoms, preventing complications, and promoting long-term health. The management options for PCOS in adolescents may include:

Lifestyle modifications
Encouraging a healthy lifestyle involving regular exercise, balanced diet, and weight management can significantly improve PCOS symptoms.

Hormonal contraceptives
Oral contraceptives may be prescribed to regulate menstrual cycles, reduce androgen levels, and improve acne and hirsutism.

Anti-androgen medications
In cases of significant hirsutism or severe acne, medications that block the effects of androgens may be prescribed.

Insulin-sensitizing agents
Adolescents with PCOS who exhibit insulin resistance may benefit from medications such as metformin, which helps improve insulin sensitivity.

Psychological support
PCOS can have a significant impact on the emotional well-being of adolescents. Psychological support, such as counselling or support groups, can help manage stress, anxiety, and depression.

Homoeopathic approach
Treatment plan
1. Each case was analyzed and evaluated.
2. Construction of totality of signs and symptoms was done.
3. Followed by repertorization of appropriate rubrics.
4. Followed by proper diet and regimen.
5. Final selection of similimum was done according to guidelines given by Dr. Hahnemann.

Rubrics for PCOS
Kent's repertory of homoeopathic Materia Medica
1. Mind-Anger-violent
2. Mind-Anxiety-menses after,
3. Mind-Mood-changeable, variable
4. Mind-Weeping-causeless
5. Genitalia-female-tumors-ovaries-cyst
6. Genitalia-female-menses-scanty

7. Generals-Obesity

Murphy repertory

- Female-Amenorrhoea, menses, absent- girls, in young
- Generals-Obesity, general-young, people, in
- Skin-Hair, skin-unusual parts on
- Skin-Blackish discoloration

Results

In this observational study, Pulsatilla was found to be highly effective in curing PCOS in 16 patients.

Biostatistics of the given sample

S. No.	Name of the medicine given	Number of the patients taken medicines
1.	Pulsatilla	16
2.	Natrum mur	4
3.	Belladonna	3
4.	Mag phos	2
5.	Ferrum phos	3
6.	Sulphur	1
7.	NUV VOM.	1

Hams a homeopathy medical college, hospital & research centre Kshee Rasagar, Mulugu Mandal, Siddipet district list of PCOS - 30 cases

S. No	Date	Name of student	Father name	Year & group	Diagnosis	Treatment
1	1/12/22	B.Manisha	B.Siddiraju	1st B.Com	PCOD	Puls 200
2	1/12/22	B.Maheshwari	B.Ligiganna	1st B.Com	PCOD	Puls 200
3	1/12/22	M.mounika		1st B.Com	PCOD	Sulphur 200
4	1/12/22	N.Sirichandana	N.Shankar	1st B.Com	Irregular periods	Belladonna 200
5	1/12/22	V.Kalyani		1st B.Com	Irregular periods	PULS 200
6	1/12/22	T. Indu	T. Swami Goud	1st B.Com	Irregular periods	PULS 200
7	1/12/22	C. Lakshmi		1st B.Com	Irregular periods	Puls 200
8.	1/12/22	K. Poojitha	K. Gopal	1st B.Com	Irregular periods	Nat.mur 200
9.	1/12/22	S. Soujanya		1st B.Com	Metorrhagia	Belladonna 200
10.	1/12/22	B. Kavya		1st B.Com	Irregular periods	Nat mur 200
11.	1/12/22	Venkateshwari		BBC 1st year	Irregular periods	MAG PHOS 200
12.	29/11/22	Maria		2nd BBC	Amenorrhea	PULS 200
13	29/11/22	R. Vidathri	R. Koteswar rao	2nd MPC	Anemia irregular periods	FERRUM PHOS 200
14	29/11/22	N. Pallavi		2nd BBC	Irregular periods	NAT MUR 200
15	29/11/22	B. Tejaswini		2nd B.com	Scanty menses	PULS 200
16	29/11/22	M. Stuthikeerthana		2nd B.com	Irregular periods	FERRUM PHOS 200
17	29/11/22	Y. Pavani		2nd B.com	Irregular periods	PULS 200
18	29/11/22	S. Rajeshwari		2nd MPC	Irregular periods	PULS 200
19	1/12/22	D. Bhavani	Narasimha	1st BCOM	Irregular periods	PULS 200
20	1/12/22	P. Rupakumari	Anjayya	BSC 1st year	Amenorrhea	Puls 200
21	15/12/22	P.Sreeja	P. ravi	1st MPCS	Delayed menses	BELLADONnA 30
22	23/5/22	B.Gowthami	B.Ramulu	1st yr Degree	Irregular periods	Puls 200
23	14/12/22	Y.Srilakshmi	Dhavalayya	1st BCOM	Amenorrhea	Nux vomica200
24	29/11/22	M. Madhavi	M. Srinivasulu	2nd MPC	Delayed menses	Puls 200
25	14/12 22	K. Roopa		1st B.Com	Irregular periods	Puls 200
26	14/12/22	M.Pratyusha	Dastagiri	1st B.Com	Irregular periods	Puls 200
27	14/12/22	A. Akshaya	A. Chary	1st B.Com	Irregular periods	Ferrum phos 200
28	14/12/22	M.Navya		2nd B.com	Irregular periods	NAT MUR 200
29	14/12/22	G. Pavani	Ramachandriyagoud	1st CSC	Irregular periods	PULS 200
30	1/12/22	Vyshnavi		BBC 1st Year	Irregular periods	MAG PHOS 200

Conclusion

By recognizing the unique challenges faced by adolescents with PCOS, healthcare providers can provide comprehensive care, including medical interventions, lifestyle modifications, and psychological support. With early diagnosis and appropriate treatment, adolescents with PCOS can navigate their condition successfully, minimizing the impact on their physical and emotional well-being, and promoting a healthy transition into adulthood.

Conflict of Interest

Not available

Financial Support

Not available

References

1. https://www.hopkinsmedicine.org/health/conditions-and- diseases/polycystic-ovary-syndrome-pcos
2. https://www.researchgate.net/figure/Diagnostic-criteria-for- PCOS_tbl2_262386638
3. https://perlahealth.com/the-rotterdam-criteria-for-diagnosing- pcos/
4. https://www.google.com/search?q=sf-36+questionnaire+for+pcos+patients&ei=doalZJSSBLOtseMP5cGI4A8&oq=sf-36+questionnaire+for+pcos&gs_lcp=Cgxnd3Mtd2l6LXNlcnAQAxgAMgUIIRCgATIFCCEQoAEyBQghEKABOgoIABBHENYEELADOgcIABCKBRBDOgUIABCABDoHCAAQDRCABDoGCAAQFhAeOggIABAFEB4QDToICAAQCBAeEA06CAgAEIoFEIYDOggIIR

AWEB4QHToHCCEQoAEQCkoECEEYAFDpAVjfHGDJMmgBcAB4AIAB0gGIAa4KkgEFMC44Lj
5. KYAQCgAQHAAQHIAQg&sclient=gws-wiz-serp
6. American College of Obstetrician and Gynaecology. Polycystic Ovary Syndrome; c2015.
7. Textbook of Gynaecology -D.C. Dutta
8. Shaw's Textbook of Gynaecology
9. The Chronic Diseases by Samuel Hahnemann
10. Dynamic Perspectives on Polycystic Ovary Syndrome by Dr. Savitha. K
11. A Dictionay of Practical Materia Medica Vol I, Ii, Iii. By B. Jain Publishers
12. Allen's Keynotes by H.C. Allen
13. Kent's Repertory of Materia Medica
14. Homoeopathic Medical Repertory Revised 3rd Edition- By Robin Murphy.
15. Hahnemann's 6th Edition of Organon of Medicine
16. Gibson-Helm ME, Lucas IM, Boyle JA, Teede HJ. Women's experiences of polycystic ovary syndrome diagnosis. Fam Pract. 2014;31(5):545-549. Doi: 10.1093/fampra/cmu028
17. Copp T, Muscat DM, Hersch J, *et al*. Clinicians' perspectives on diagnosing polycystic ovary syndrome in Australia: A qualitative study. Hum Reprod. 2020;35(3):660-668. Doi: 10.1093/humrep/deaa005
18. Legro, Richard S. Evaluation and Treatment of Polycystic Ovary Syndrome. PubMed, MDText.com, Inc; c2000. www.ncbi.nlm.nih.gov/books/NBK278959/#eval-trt-polycyst-os.toc-etiology-and-pathophysiology. Accessed 3 Feb. 2021.
19. Kovacs G, Norman R. Polycystic Ovary Syndrome. (Kovacs GT, Norman R, eds.).
20. Cambridge University Press; c2001. Doi: 10.1017/cbo9780511545191
21. Executive Summary of National Institutes of Health Evidence-based Methodology Workshop on Polycystic Ovary Syndrome; c2012. http://prevention.nih.gov/workshops/2012/pcos/docs/PCOS_Final_Statement.pdf. Accessed September 13, 2013.
22. Rosenfield RL, Ehrmann DA. The Pathogenesis of Polycystic Ovary Syndrome (PCOS): The Hypothesis of PCOS as Functional Ovarian Hyperandrogenism Revisited. Endocrine Reviews. 2016;37(5):467-520. Doi: 10.1210/er.2015-1104
23. Melmed S, Koenig R, Rosen C, Auchus R, Goldfine A. Williams Textbook of Endocrinology. Elsevier; c2019.
24. Yilmaz B, Yildiz BO. Endocrinology of Hirsutism: From Androgens to Androgen Excess Disorders. Front Horm Res. 2019;53:108-119. Doi: 10.1159/000494907
25. Straseski J. Polycystic Ovarian Syndrome – PCOS | ARUP Consult Lab Test Selection.
26. Arupconsult.com. Published 2019. Accessed October 16, 2019. https://arupconsult.com/content/polycystic-ovarian-syndrome
27. Smet ME, McLennan A. Rotterdam criteria, the end. Australasian Journal of Ultrasound in Medicine. 2018;21(2):59-60. doi:10.1002/ajum.12096

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