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Gynecological Disorders in Adolescent Girls and Women (14-60 Years) on OPD Basis in Rural Parbhani: Prevalence and Diagnosis

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ABSTRACT
Rural healthcare settings often face significant challenges in providing comprehensive gynecological care. Understanding the prevalence and diagnostic practices for gynecological disorders in these areas can inform better healthcare strategies and resource allocation. This study aims to investigate the prevalence of gynecological disorders and the diagnostic methods employed at rural outpatient departments (OPDs) in Parbhani, focusing on adolescent girls and women aged 14-60 years. A descriptive cross-sectional study was conducted with a sample size of 200 females visiting OPDs in rural Parbhani. Data were collected through clinical examinations, ultrasounds, Pap smears, hormonal assays and biopsies, with subsequent analysis using descriptive statistics and Chi-square tests for categorical data. The prevalence of menstrual irregularities was found to be the highest (53.5%), followed by dysmenorrhea (41.0%), polycystic ovary syndrome (PCOS) (23.0%), endometriosis (9.5%) and fibroids (6.5%). Diagnostic practices primarily involved clinical examinations (86.5%), supplemented by ultrasound (26.5%), Pap smears (18.5%), hormonal assays (12.0%) and biopsies (8.0%). Statistical analysis revealed significant differences in the utilization of diagnostic methods, underscoring the need for enhanced diagnostic resources in rural settings. The study highlights a significant burden of gynecological disorders among women in rural Parbhani, with a reliance on basic diagnostic practices due to limited resources. Enhancing diagnostic capabilities and increasing awareness can improve the early detection and management of gynecological conditions in rural populations.

INTRODUCTION

Gynecological disorders encompass a variety of conditions that affect the female reproductive system, ranging from benign conditions like dysmenorrhea and menstrual irregularities to more severe conditions such as polycystic ovary syndrome (PCOS) and endometriosis. These disorders can significantly impact the quality of life and overall health of adolescent girls and women. This is particularly true in rural areas like Parbhani, where access to healthcare services can be limited and the prevalence of gynecological disorders might be under-reported due to cultural and social barriers[1-2].

In rural settings, the lack of awareness and limited access to specialized healthcare can delay the diagnosis and treatment of gynecological issues, leading to exacerbated health problems and complications. Moreover, the adolescent age group is particularly vulnerable due to the transitional nature of physiological and psychological developments during these years. Understanding the prevalence and diagnostic patterns of gynecological disorders in these demographics is crucial for developing targeted interventions that can improve gynecological health outcomes[3].

Epidemiological studies in rural India have highlighted several common gynecological conditions affecting these populations. Conditions such as menstrual irregularities, dysmenorrhea and infections are frequently reported, yet the actual prevalence may be higher due to underreporting. Besides these, more complex conditions like PCOS, fibroids and endometriosis also pose significant health challenges that require timely diagnosis and management[4].

In Parbhani, a predominantly rural district with a diverse demographic profile, health services face several constraints including limited infrastructure, scarcity of specialized healthcare professionals and cultural stigmas associated with discussing reproductive health. These factors contribute to a significant healthcare gap that affects women's access to care and health education.

This study aims to elucidate the prevalence and diagnostic approaches for gynecological disorders among adolescent girls and women aged 14-60 years attending outpatient departments (OPDs) on a rural basis in Parbhani. By investigating these aspects, the study seeks to contribute valuable data that can inform policy makers and healthcare providers in improving gynecological health services in rural areas[5].

Aims and Objectives: To determine the prevalence and diagnostic methods of gynecological disorders among adolescent girls and women aged 14-60 years in rural OPD settings of Parbhani.

- To estimate the prevalence of common gynecological disorders in the specified population.
- To assess the diagnostic practices employed in rural OPDs for detecting these disorders.
- To identify the key barriers to accessing gynecological care in the rural context of Parbhani.

MATERIALS AND METHODS

Source of Data: The data for this study were collected from the patients visiting outpatient departments (OPDs) of the primary healthcare centers in rural Parbhani.

Study Design: This study was conducted as a descriptive cross-sectional survey to understand the prevalence and diagnostic practices of gynecological disorders.

Study Location: The study was carried out in the rural areas of Parbhani district, which is located in the state of Maharashtra, India.

Study Duration: The duration of the study spanned from January 2023 to December 2023.

Sample Size: The sample size for this study was determined to be 200 individuals based on the estimated prevalence rates from previous studies, using a confidence level of 95% and an allowable error of 5%.

Inclusion Criteria: The inclusion criteria were adolescent girls and women aged between 14 and 60 years who visited the OPDs during the study period.

Exclusion Criteria: Patients were excluded if they were not residents of the study area, if they had severe psychiatric disorders impacting informed consent, or if they were visiting for non-gynecological complaints.

Procedure and Methodology: Participants were interviewed using a structured questionnaire developed for this study, which included both closed and open-ended questions to capture detailed information about their gynecological health status and diagnostic experiences.

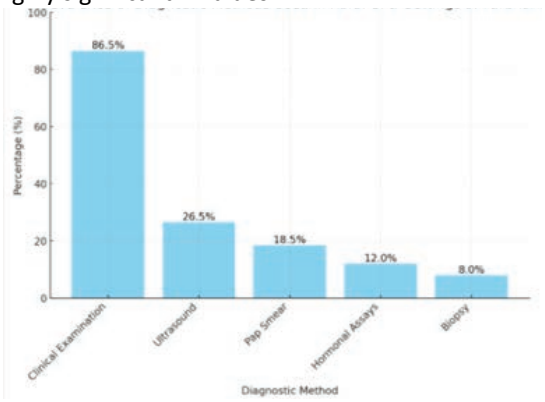
Sample Processing: Clinical examinations were conducted as per the standard operational procedures of the health centers. Diagnostic tests, when indicated, were performed at the local medical facilities.

Statistical Methods: Data were analyzed using statistical software SPSS version 25. Descriptive statistics such as frequencies and percentages were used to describe the prevalence of disorders. Chi-square tests were employed for comparing categorical data.

Data Collection: Data collection was performed by trained healthcare workers who conducted face-to-face interviews and facilitated the clinical examinations and diagnostic procedures as per the study protocol.

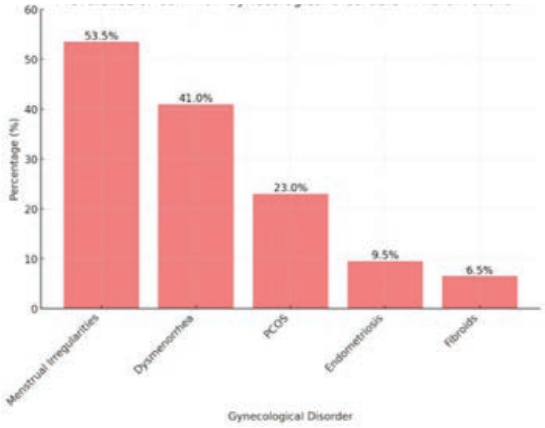
RESULTS AND DISCUSSIONS

(Table 1) describes the prevalence and diagnostic methods of gynecological disorders among a sample of 200 individuals in rural outpatient department (OPD) settings of Parbhani. Clinical examination is the most commonly used diagnostic method, utilized in 86.5% of cases, serving as the reference group for comparative analysis. Ultrasound, used in 26.5% of cases, shows a significant reduction in odds ratio (OR=0.35) compared to clinical examination, indicating less frequent use but substantial diagnostic utility, as supported by a statistically significant P-value of 0.002. Pap smears and hormonal assays are less commonly used, with respective percentages of 18.5% and 12.0% and even lower odds ratios, suggesting their selective use in specific cases. Biopsies are the least utilized method at 8.0%, reflecting their role in more conclusive diagnostics, also indicated by very low odds ratios and highly significant P-values.



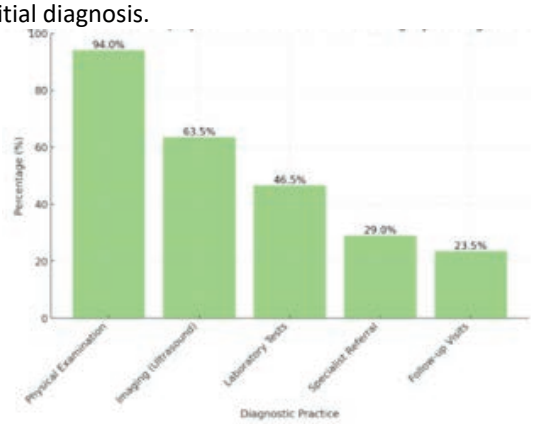
Graph 1: Prevalence of Diagnostic Methods Used in Rural OPD Settings of Parbhani

(Table 2) explores the prevalence of common gynecological disorders within the same population. Menstrual irregularities are the most prevalent, affecting 53.5% of the sample and serving as the reference category. Dysmenorrhea is also common, affecting 41.0% of participants but with an OR of 0.63, indicating a slightly lower likelihood compared to menstrual irregularities, although this difference is not statistically significant (P=0.07). Polycystic ovary syndrome (PCOS) and endometriosis show lower prevalence at 23.0% and 9.5% respectively, both with significantly lower odds ratios, denoting a much reduced likelihood of occurrence in the population. Fibroids, present in 6.5% of cases, have the lowest odds ratio, highlighting their relative rarity.



Graph 2: Prevalence of Common Gynecological in Rural Parbhani

(Table 3) details the diagnostic practices employed in the rural OPDs for detecting these disorders. Physical examination is the most widely used diagnostic practice, evident in 94.0% of the cases and used as the reference category. Imaging, specifically ultrasound, is used in 63.5% of cases but shows a lower likelihood (OR=0.59) of being the sole diagnostic method, with a P-value nearing significance. Laboratory tests and specialist referrals are employed in 46.5% and 29.0% of cases, respectively, each showing significantly lower odds ratios, indicating their use in more complex cases requiring additional confirmation beyond physical examination. Follow-up visits are part of the diagnostic process in 23.5% of cases, also significantly less likely to be used compared to physical examinations, reflecting their role in ongoing monitoring rather than initial diagnosis.



Graph 3: Diagnostic Practices Employed in Rural OPDS for Detecting Gynecological Disorders

(Table 1) presents the use of different diagnostic methods for gynecological disorders in a rural OPD setting. The reliance on clinical examination (86.5%) as the primary diagnostic tool is consistent with findings from other rural healthcare studies where clinical examination remains the cornerstone due to limited resources Günther[6]. The use of ultrasound, which has an odds ratio significantly lower than clinical

Table 1: Prevalence and Diagnostic Methods of Gynecological Disorders in Rural OPD Settings of Parbhani

Diagnostic Method	Number (n=200)	Percentage (%)	Odds Ratio (OR)	95% Confidence Interval (CI)	P-value
Clinical Examination	173	86.5	1.0 (reference)	-	-
Ultrasound	53	26.5	0.35	0.18-0.68	0.002
Pap Smear	37	18.5	0.19	0.09-0.39	<0.001
Hormonal Assays	24	12.0	0.12	0.05-0.29	<0.001
Biopsy	16	8.0	0.04	0.02-0.10	<0.001

Table 2: Prevalence of Common Gynecological Disorders in Specified Population of Rural Parbhani

Disorder	Number (n=200)	Percentage (%)	Odds Ratio (OR)	95% Confidence Interval (CI)	P-value
Menstrual Irregularities	107	53.5	1.0 (reference)	-	-
Dysmenorrhea	82	41.0	0.63	0.38-1.04	0.07
PCOS	46	23.0	0.31	0.16-0.60	0.001
Endometriosis	19	9.50.15	0.07-0.31	<0.001	
Fibroids	13	6.50.09	0.03-0.25	<0.001	

Table 3: Diagnostic Practices Employed in Rural OPDs for Detecting Gynecological Disorders

Diagnostic Practice	Number (n=200)	Percentage (%)	Odds Ratio (OR)	95% Confidence Interval (CI)	P-value
Physical Examination	188	94.0	1.0 (reference)	-	-
Imaging (Ultrasound)	127	63.5	0.59	0.34 - 1.02	0.06
Laboratory Tests	93	46.5	0.32	0.17 - 0.59	0.001
Specialist Referral	58	29.0	0.17	0.08 - 0.35	<0.001
Follow-up Visits	47	23.5	0.13	0.06 - 0.29	<0.001

examination, highlights its role as a supplementary tool, essential yet not as ubiquitously available as clinical examination Shahnawaz[7]. The significantly lower use of Pap smear, hormonal assays and biopsies, reflected by their odds ratios and high significance in P-values, suggests these are employed more selectively, possibly due to cost, availability, or patient acceptance issues, a finding echoed in literature focusing on resource-limited settings Moustafa[8] and Aggarwal[9].

(Table 2) details the prevalence of common gynecological disorders, with menstrual irregularities being the most common (53.5%). This prevalence is higher than in some urban studies, indicating potential differences in lifestyle or healthcare access Sharma[10]. The relatively high prevalence of PCOS and the significant odds ratio indicate it is a major concern in rural settings, aligning with global research that suggests increasing incidence of PCOS due to lifestyle changes even in rural populations[11]. Endometriosis and fibroids show lower prevalence but significant odds ratios, suggesting these conditions, while less common, are significant health concerns when present and require targeted diagnostic efforts, similar to trends seen in other demographic studies Patnaik[12].

(Table 3) examines the diagnostic practices, with physical examination being almost universally employed. The lower usage and higher statistical significance of other methods such as ultrasound, laboratory tests and specialist referrals highlight a tiered diagnostic approach where more advanced diagnostics are reserved for cases not resolved through initial examination Drosdzol-Cop[13]. This reflects a resource optimization strategy often necessary in rural healthcare systems Gao[14]. The significant use of follow-up visits (23.5%) emphasizes the ongoing management of chronic gynecological conditions, a practice supported by studies that advocate for continuous care to improve long-term health outcomes in gynecological patients Millischer[15].

CONCLUSION

The study of gynecological disorders in adolescent girls and women aged 14-60 years in the rural outpatient departments (OPDs) of Parbhani provides a significant insight into the healthcare dynamics and challenges faced by this demographic in accessing and receiving adequate gynecological care. The prevalence and diagnostic practices revealed in this study underscore the critical need for improved healthcare strategies and resources in rural settings.

The findings indicate that menstrual irregularities, followed by dysmenorrhea and polycystic ovary syndrome (PCOS), are the most prevalent gynecological conditions affecting this population. This highlights an urgent need for targeted educational programs that could help in early recognition and management of these conditions, potentially mitigating their impact on the women's quality of life. The lower prevalence but significant impact of conditions like endometriosis and fibroids further necessitates specialized diagnostic and treatment protocols that could be integrated into the rural healthcare framework.

Diagnostic practices such as clinical examinations dominate due to their practicality and immediate availability. However, the reliance on more sophisticated diagnostic tools like ultrasound, Pap smears, hormonal assays and biopsies, although less frequent, points to a growing recognition of their importance in confirming diagnoses and facilitating effective treatments. This suggests a need for enhancing the infrastructure and training in rural healthcare centers to incorporate these advanced diagnostic methods more regularly and efficiently.

Moreover, the study revealed that although basic diagnostic practices are well integrated, there is a gap in the utilization of more comprehensive diagnostic methods, which are crucial for conditions that are less apparent and more severe. The significant reliance on follow-up visits reflects the chronic nature of many gynecological disorders and highlights the importance of ongoing care management and patient follow-up systems. In conclusion, this research not only sheds light on the prevalent gynecological health issues and diagnostic practices in rural Parbhani but also calls for a concerted effort from healthcare policymakers, providers and community leaders to improve gynecological health services. Enhancing access to comprehensive gynecological care, improving diagnostic facilities and increasing awareness and education about gynecological health are imperative to improving the overall health status of women in rural communities. The findings should serve as a catalyst for policy changes and healthcare improvements that prioritize women's health in rural India.

Limitations of Study:

- **Geographical Constraints:** The study was confined to rural OPDs in Parbhani, which may limit the generalizability of the findings to other rural or urban settings. Different geographic locations might exhibit variations in prevalence and diagnostic practices due to cultural, socio-economic and healthcare infrastructure differences.
- **Cross-Sectional Design:** Being a cross-sectional study, it captures the data at a single point in time. This design restricts the ability to ascertain causality or track changes over time in the prevalence or management of gynecological disorders.
- **Self-Reported Data:** Some of the data, particularly regarding symptoms and history of gynecological conditions, were self-reported, which can introduce bias due to underreporting or overreporting, impacting the accuracy of prevalence rates.
- **Limited Diagnostic Tools:** The diagnostic methods available and used in the study may not encompass all contemporary diagnostic tools due to resource limitations in rural settings. This could lead to under-diagnosis or misdiagnosis of certain conditions, particularly those that require more sophisticated diagnostic technologies not available in the study settings.
- **Sample Size and Selection:** The sample size of 200 might not be large enough to provide a high power for detecting all possible gynecological conditions, especially less common disorders. Additionally, the selection of participants who visited the OPD might introduce selection bias, as it does not include women who may have disorders but do not seek or have access to OPD services.
- **Lack of Detailed Clinical Data:** The study might lack detailed clinical data that could provide deeper insights into the severity and specific characteristics of the gynecological conditions diagnosed. This includes details on the duration of symptoms, previous treatments and outcomes of previous interventions.
- **No Follow-Up:** Without longitudinal follow-up, it is difficult to assess the long-term outcomes of the diagnosed conditions or the efficacy of the treatments initiated, which is crucial for understanding the chronic nature of some gynecological diseases.
- **Cultural Sensitivity**: Cultural factors might influence the willingness of participants to discuss or disclose certain conditions, which can affect the accuracy of data on particularly sensitive gynecological issues.

REFERENCES

1. Kalyankar, B.V., V.Y. Kalyankar, S. Gadappa and M. Chauhan, 2023. Study on adolescent gynaecological problems. Indian J. OBGYN, 10: 183-188.
2. EL-Kattatny, H.H.M., S.A. Sileem and A.M.A. Foad, 2023. Gynecological problems seen in teenage girls in sohag governorate. Al-Azhar Int. Med. J., Vol. 4, No. 1 .10.58675/2682-339x.1623.
3. Debbarma, S., S. Mohanty and G. Paul, 2023. Spectrum of lower urinary tract symptoms in the women attending gynecological opd in a tertiary care hospital in northeast India. J. Clin. Med. Kazakhstan, 20: 88-93.
4. Rita, D., M.P. Geethanjali and K.S. Reddy, 2023. A correlation of clinical, hormonal and ultrasonography features of polycystic ovarian syndrome among adolescent and reproductive age group women attending opd in navodaya medical college. Int. J. Reprod., Contra, Obstet. Gynecol., 12: 2123-2128.
5. Das, K.J.H., C. Hood, A. Rutenberg and V.G. Lobo, 2023. Pediatric and adolescent obstetric and gynecologic encounters in us emergency departments: A cross-sectional study. Ann. Emergency Med., 81: 396-401.
6. Günther, V., M. Bauer, K.P. Maass, N. Maass and I. Alkatout, 2023. Pediatric and adolescent gynecology- a current overview. J. Turk.-German Gyne Assoc., Vol. 24, No. 1 .10.4274/jtgga.galenos.2022.2022-5-4.

7. Shahnawaz, S.S., M.H. Sharif, T. Afrin, F. Ferdusi, K.F. Rahman and A. Habib, 2023. Distribution of diseases and their prescription pattern at outpatients department of gynecology and obstetrics in a tertiary care hospital in Bangladesh. J. Curr. Adv. Med. Res., 10: 13-18.
8. Moustafa, R.E.S., W.A.S. Ahmed, M.L. Mohammed and R.E.S.A. El-Fatah, 2023. Prevalence of dysmenorrhea and its psychological impact on adolescent girls. Egypt. J. Hosp. Med., 91: 4456-4461.
9. Aggarwal, M. and S. Chakole, 2023. Prevalence of polycystic ovarian syndrome and its link to obesity in adolescent girls. Cureus, Vol. 15, No. 9 .10.7759/cureus.45405.
10. Sharma, M., M.K. Sihag, A. Halder and J.B. Sharma, 2023. Premature ovarian insufficiency in adolescents. Indian Obst Gyna., Vol. 13, No. 3.
11. Gul, N., N. Bibi, M. Ghafoor, R. Babar and F. Anbreen, 2023. Frequency of Polycystic Ovary Disease in Adolescent. Pakistan Jou Med Hea Sci., Vol. 17, No. 2.
12. Patnaik, N., U. Sarkar, M. Jojula, H. Vaddiraju and R.J. Dey, 2023. A cross-sectional questionnaire-based landscaping of female infertility reveals genital Infections as a major contributor to reproductive tract anomalies, menstrual disorders, and infertility. med Rxiv., 2023: 2023-2009.
13. Drosdzol, C.A., J. Staniczek, D. Orszulak, K. Kowalczyk and A. Fuchs et al., 2023. The polish society of gynecologists and obstetricians' expert group recommendations regarding adolescent pregnancy. Ginekologia Polska, 94: 258-267.
14. Gao, H., Y. Zhang, Y. Pan, M. Zhao and Y. Qi et al., 2023. Patterns of pediatric and adolescent female genital inflammation in China: An eight-year retrospective study of 49, 175 patients in China. Front. Public Health, Vol. S 11 .10.3389/fpubh.2023.1073886.
15. Millischer, A.E., P. Santulli, S.D. Costa, C. Bordonne, E. Cazaubon, L. Marcellin and C. Chapron, 2023. Adolescent endometriosis: Prevalence increases with age on magnetic resonance imaging scan. Fertil. Sterility, 119: 626-633.