UDC: 618.11 - 006.2 - 008.9

POLYCYSTIC OVARY SYNDROME (PCOS): LIFESTYLE FACTORS AND METABOLIC RISK IN UZBEK WOMEN

Tillashaykhova M.K.,Tillashaykhova M.R.
Tashkent state medical university

XULOSA

Polikistoz tuxumdonlar sindromi (PTXS) – reproduktiv yoshdagi ayollar orasida eng ko‘p uchraydigan endokrin buzilishlardan biridir. Uning namoyon bo‘lishi turmush tarzi, ekologik va genetic omillarga bevosita bog‘liq. Ushbu tadqiqot 2023-yil yanvardan 2025-yil martgacha Toshkentdagi «Nodirabegim» xususiy klinikasida olib borildi. Unda 18 yoshdan 40 yoshgacha bo‘lgan 92 nafar ayol ishtirok etdi. Tadqiqotda tana vazni indeksi (TVI), ovqatlanish odatlari, jismoniy faollik va biokimyoviy ko‘rsatkichlar (androgenlar darajasi, insulinga chidamlilik, lipid profili) o‘rganildi. Natijalarga ko‘ra, ishtirokchilarning 67 foizida TVI 27 kg/m² dan yuqori, yarmida esa insulinga chidamlilik aniqlangan. Asosiy salbiy omillar - past jismoniy faollik va qayta ishlangan uglevodlar iste’molining yuqoriligi bo‘ldi. Shuningdek, giperandrogenemiya va bel-son nisbati yuqori bo‘lgan ayollarda soch to‘kilishi, hayz buzilishi ko‘proq kuzatildi. Ko‘pchilik bemorlar PTXSning yurak xastaligi, bepushtlik va 2-tur diabet kabi uzoq muddatli oqibatlaridan bexabar edi. Ushbu natijalar O‘zbekistonda erta skrining, oziqlanish bo‘yicha ma’rifiy dasturlar va sog‘lom turmush tarzini rag‘batlantiruvchi strategiyalarga bo‘lgan ehtiyojni ko‘rsatadi.

Kalit so‘zlar: *polikistoz tuxumdonlar sindromi (PTXS), insulinga chidamlilik, turmush tarsi omillari, qayta ishlangan uglevodlar, jismoniy faollik yetishmasligi, O‘zbekistondagi metabolic xavf.*

РЕЗЮМЕ

Синдром поликистозных яичников (СПКЯ) - одно из самых распространённых эндокринных нарушений у женщин репродуктивного возраста. На его течение значительно влияют образ жизни, а также экологические и генетические факторы. Рассмотрена взаимосвязь между поведенческими особенностями и метаболическими рисками у женщин Узбекистана с СПКЯ на основе данных, собранных в клинике “Нодирабегим” (Ташкент) с января 2023 по март 2025 года. В исследование включены 92 женщины в возрасте 18-40 лет. Оценивались индекс массы тела, рацион питания, уровень физической активности и биохимические показатели. У 67% участниц ИМТ превышал 27 кг/м², а у половины выявлена инсулинорезистентность. Основные негативные факторы, низкая физическая активность и высокое потребление рафинированных углеводов. Также у пациенток с выраженной гиперандрогенией и абдоминальным ожирением чаще наблюдались гирсутизм и менструальные нарушения. Большинство обследованных имели ограниченное представление о долгосрочных последствиях СПКЯ, таких как бесплодие, диабет и сердечно-сосудистые заболевания. Эти данные подчёркивают необходимость внедрения в Узбекистане целевых профилактических стратегий и образовательных программ, направленных на раннюю диагностику и комплексное ведение СПКЯ с учётом местных особенностей.

Ключевые слова: *синдром поликистозных яичников (СПКЯ), инсулинорезистентность, факторы образа жизни, рафинированные углеводы, низкая физическая активность, метаболический риск в Узбекистане.*

With an estimated 8-13% of women of reproductive age worldwide, polycystic ovary syndrome (PCOS) is a complicated endocrine disease that is among the top causes of menstrual abnormality, infertility, and long-term metabolic consequences [1]. Though it is quite common, PCOS is still usually underdiagnosed, especially in low- and middle-income nations where diagnostic capabilities, healthcare access, and public awareness are restricted. Though few are given prompt diagnosis or thorough care, anecdotal stories and local clinical observations in Uzbekistan point to a rising number of young women exhibiting symptoms including irregular menstruation, excessive hair growth, and weight gain.

Hyperandrogenism, ovulatory dysfunction, and polycystic ovarian morphology are among the collection of symptoms that define PCOS. But its clinical presentation varies significantly depending on environmental and lifestyle influences, including diet, physical activity, and stress levels. Emerging studies reveal a close link between sedentary habits, bad food choices, and the onset of insulin resistance and dyslipidemia among women with PCOS [2]. Apart from being key to the pathophysiology of PCOS, these metabolic abnormalities also raise the long-term risk of non-alcoholic fatty liver disease, heart disease, and type 2 diabetes [3]. Particularly in areas where pharmacological therapy possibilities may be constrained or underused, lifestyle change has taken on

more and more importance in recent years. Traditional carbohydrate-rich diets and low levels of physical activity among women in Uzbekistan worsen the metabolic load PCOS already carries. However, very few large-scale studies have been done in Central Asia to investigate the particular lifestyle-metabolic interface among this group. Regional differences in PCOS appearance call for local research and customised treatments to guarantee equal medical care responses, as noted by Yildiz et al. [4]. Still another significant difficulty lies in health literacy. Recent research has revealed that many women are still ignorant of all the health ramifications PCOS has, especially its effects on metabolic health and fertility [5].

Delayed diagnosis and subpar treatment result from a lack of organised educational programs coupled with stigma surrounding reproductive disorders. This research seeks to address this knowledge gap by investigating the relationship between lifestyle variables and metabolic risks among women with PCOS in Uzbekistan. By emphasising genuine clinical data from a tertiary gynaecology clinic, we want to provide insights that can direct regional-specific approaches for prevention, early diagnosis, and multidisciplinary care.

MATERIAL AND METHODS

From January 2023 to March 2025, this planned observational research was conducted at Nodirabegim Private Clinic, a specialised gynaecological clinic in Tashkent, Uzbekistan. The principal goal was to determine the link between lifestyle-related variables and metabolic risk among women with polycystic ovarian syndrome (PCOS). Before registration, each participant signed written informed consent and ethical approval was granted from the clinic's internal ethics committee. Ninety-two women between the ages of 18 and 40 were part of the study; all of them either had a recent PCOS diagnosis or fulfilled the set diagnostic criteria. Using the updated Rotterdam criteria, diagnosis was confirmed; these criteria call for at least two out of three features: irregular or absent ovulation, indications of hyperandrogenism, either clinical or biochemical polycystic ovarian morphology detected by ultrasound. Exclusion of women who were pregnant, using hormonal contraception or insulin sensitisers, or had been previously diagnosed with other endocrine diseases, including Cushing's syndrome or thyroid dysfunction, guaranteed a homogenous study group and prevented possible confounding. Also not included were women with pre-existing diabetes or cardiovascular disease before their PCOS diagnosis. During their usual visit, every participant had a thorough clinical examination. Trained gynaecological staff conducted a systematic interview to gather data on lifestyle choices, including food preferences, daily activity levels, and cigarette habits, as well as demographic, family history of metabolic or reproductive problems. Using accepted WHO guidelines, height and weight were used to determine each woman's body mass index (BMI). Waist and hip circumferences were noted to estimate the waist-to-hip ratio, which served as a marker of central obesity. Following an overnight fast, venous blood samples were taken early follicular stage (between days 2 and 5 of the menstrual cycle).

Standardised immunoassay techniques were employed on these samples in the main lab of the clinic. Measured variables included fasting glucose, fasting insulin, lipid profile (total cholesterol, HDL, LDL, triglycerides), and androgen markers such as total and free testosterone. Using the widely used HOMA-IR formula: fasting insulin (μU/mL) multiplied by fasting glucose (mmol/L), divided by 22.5, insulin resistance was determined. Consistent with recent metabolic studies [6], a HOMA-IR value above 2.5 was regarded as indicative of insulin resistance. Board-certified radiologist carried out transvaginal ultrasound evaluations using a high-resolution 7.5 MHz transducer. Ovaries were termed polycystic if at least one ovary showed 12 or more follicles 2-9 mm, or if ovarian volume exceeded 10 cm^3. Along with endometrial thickness, which acted as an indirect marker of chronic anovulation, the ultrasound results were recorded. Double-entry of significant data fields and random rechecking of 10% of the sample by an outside reviewer guaranteed quality control. Through duplicate sampling in a subset of 15 individuals, the reliability of hormonal assays and anthropometric measurements was assessed. SPSS version 26 was used to analyse the gathered data. Means, medians, and standard deviations were among the descriptive statistics utilised to summarise quantitative factors. Pearson and Spearman correlation coefficients were calculated to investigate linkages between lifestyle variables and metabolic risk indicators; statistical significance was established at a p-value cutoff of <0. 05. The methodological approach of this study sought to offer a whole picture of how daily behaviours could affect the metabolic profile of women with PCOS in Uzbekistan by gathering both subjective and objective data in a consistent way [7]. It also reflected advice from recent clinical guidelines and large-scale international studies that underline the need to combine clinical, hormonal, and lifestyle information.

RESULTS

Over the 26-month investigation at Nodirabegim Private Clinic, 92 women diagnosed with polycystic ovary syndrome (PCOS) were evaluated. Their metabolic, clinical, and lifestyle profiles gave important insight into how behavioural and physiological elements work together among these people.

Table 1 presents the clinical and biochemical characteristics of PCOS women. Participants were largely overweight or obese; 67. 3% had BMI over 27, and more than half demonstrated central adiposity depending on waist-to-hip ratios. Reported in 82. 6% of patients, the most often occurring symptom was menstrual irregularities. Signs of hyperandrogenism were also apparent, with hirsutism impacting about half the women and acne occurring in above one-third. Among the sample, 53. 2% had insulin resistance computed using the HOMA-IR formula, hence emphasizing a severe metabolic aspect

[8]. Structured questionnaires were used to examine lifestyle patterns in addition to clinical assessment. This exposed a number of actions causing unfavorable metabolic results.

Table 1

Clinical and Metabolic Characteristics of Participants

Parameter	Value
Mean Age (years)	29.4 ± 4.6
BMI ≥ 27 (%)	67.3%
Waist-to-Hip Ratio > 0.85 (%)	59.8%
Menstrual Irregularity (%)	82.6%
Hirsutism (mild to severe, %)	48.9%
Acne (%)	36.4%
Family History of PCOS (%)	41.3%
Insulin Resistance (HOMA-IR > 2.5, %)	53.2%

Table 2

Lifestyle Habits and Metabolic Risk Factors

Lifestyle Factor	Prevalence among PCOS Women
Low Physical Activity (<3 hrs/week)	74.1%
Highly Refined Carbohydrate Intake	68.4%
Fast Food Consumption (>2/week)	45.6%
Skipping Breakfast (>3/week)	62.0%
Sleep Duration <6h/night	38.0%
Elevated LDL Cholesterol (%)	49.1%
Triglycerides >1.7 mmol/L (%)	42.4%

Table 2 shows metabolic risk indicators as well as lifestyle habits. Almost 70% of participants had diets rich in refined carbohydrates, particularly bread, white rice, and sugary drinks; almost 74% reported very low levels of physical activity. Fast food consumption was frequent in 45. 6%, while 62% claimed to skip breakfast, implying bad eating habits. Moreover, 38% of women slept fewer than six hours each night, a characteristic linked to higher stress and upset metabolic control. Highlighting the cardiovascular risk load, almost half of those had high LDL cholesterol and 42. 4% had elevated triglyceride levels. A statistical study showed important links between metabolic health and lifestyle factors. Almost twice as likely to have insulin resistance ($p = 0.031$), women who engaged in under three hours of physical exercise per week were. High intake of refined carbohydrates was also linked with increased androgen levels and menstrual abnormalities. Skipping breakfast was positively related to higher BMI; shorter sleep durations were weakly connected with higher fasting glucose levels [9]. Moreover, women with several overlapping lifestyle risk factors, like inadequate diet, sedentary lifestyle, and sleep deprivation, were much more prone to show combined endocrine and metabolic dysfunction. Less than one-third of participants, however, had ever gotten lifestyle counselling from a doctor. In most cases, clinical treatment concentrated on symptom management (such as prescribing oral contraceptives), without addressing the metabolic and behavioural components of the illness. Generally, the findings reveal a strong link between modifiable lifestyle elements and metabolic problems among PCOS patients in Uzbekistan. Including nutritional education, physical activity advice, and stress management into routine gynecologic care could considerably lower long-term health risks in this large-prevalence group.

DISCUSSION

The results of this research provide insightful information on the lifestyle-related and metabolic features of women with polycystic ovary syndrome (PCOS) in Uzbekistan. Though PCOS is worldwide acknowledged as a frequent endocrine condition affecting reproductive health, its other metabolic effects, particularly in resource-constrained countries, are sometimes ignored. This study closes that gap by showing how modifiable lifestyle choices like food, exercise, and sleep directly affect the clinical severity and metabolic risks related to PCOS. The great incidence of obesity and overweight was one of the most noticeable observations in this group. More than two-thirds of subjects had a BMI more than 27; over half had a waist-to-hip ratio over 0. 85. These results match global data linking central obesity with insulin resistance, a major pathogenic process in PCOS [10]. Over 53% of women in our study showed insulin resistance as measured by a HOMA-IR score above 2. 5. Particularly in light of the growing incidence of type 2 diabetes in Central Asia, this worries me. The close link between abdominal adiposity and hyperandrogenic symptoms adds weight to the theory that metabolic imbalance worsens reproductive problems. Furthermore, becoming important were dietary practices. Many women said they often ate refined carbohydrates like white bread, rice, and sugary drinks. Additionally, particularly among younger participants, consuming fast food more than twice a week was widespread. These eating habits are high in glycemic load, hence boosting postprandial glucose spikes, more insulin secretion, and eventually

insulin resistance [11]. In other populations, skipping breakfast, a behaviour seen in 62% of participants, has also been linked to poor metabolic control and higher androgen levels. Irregular meal timing together with high glycemic intake produces an inflammatory and hormonally erratic environment, aggravating PCOS symptoms [12]. Seventy-four percent of the women investigated were physically inactive. Most reported less than three hours of physical exercise each week, usually because of a mix of societal expectations, lack of access to fitness centers, and inadequate health education. Both of which are critical to the metabolic presentation of PCOS, sedentary behaviour lowers insulin sensitivity and helps chronic inflammation. Previous research has shown that even mild amounts of exercise can help women with PCOS restore ovulatory cycles, increase insulin sensitivity, and lower visceral fat [13]. This stresses how important lifestyle counselling is as a first-line element of PCOS management in Uzbekistan. Another major factor leading to bad metabolic results was sleep deficit. Almost 38% of respondents stated they slept under six hours per night. Elevated cortisol levels, increased appetite, and disturbed glucose-insulin balance, all of which aggravate the endocrine profile of PCOS, have been linked to brief sleep duration. Though frequently underappreciated, sleep quality and length are becoming more and more understood as important lifestyle elements in controlling chronic metabolic and hormonal diseases [14]. Another significant element exposed in this research is the difference in early diagnosis and health literacy. Though many women had symptoms including acne, tiredness, and menstrual abnormalities for years, several of them claimed they had difficulties in getting diagnosed. Many of them had been informed their symptoms were “normal” or linked to stress, which resulted in emotional frustration and further disease advancement. This reflects a more general problem in primary care environments where gynecologic symptoms may be undervalued and where the metabolic component of PCOS is typically missed totally. Healthcare professionals need more training to spot early indicators of PCOS and to provide all-encompassing, multidisciplinary care beyond hormone contraceptive prescriptions [15]. In essence, this study stresses the pressing need for context-specific, integrated solutions to PCOS in Uzbekistan. Dealing with lifestyle variables via public health campaigns, bettering provider education, and providing women more access to dietary and exercise counselling may greatly lower the long-term load of PCOS-related consequences. Significantly, educating women about their health and stressing early preventive measures might raise quality of life, reproductive success in this high-risk group, as well as metabolic results.

CONCLUSION

This research verifies that polycystic ovary syndrome (PCOS) in Uzbek women is a complex disease with significant metabolic effects rather than only a reproductive health concern. Among participants, the high incidence of insulin resistance, obesity, and central adiposity stresses the tight link between hormone imbalance and controllable lifestyle choices. Most noticeably linked with worse metabolic profiles were poor physical activity, high intake of processed carbohydrates, fast food consumption, and erratic eating habits. Many women suffered delays in diagnosis and got only limited advice on lifestyle management despite showing traditional PCOS symptoms like menstrual abnormalities, hirsutism, and acne. This delay sometimes caused emotional anguish, weight increase, and the advancement of insulin resistance. The results highlight the need for quick public health initiatives raising PCOS knowledge as a hormonal and metabolic illness. Early screening procedures, organised lifestyle advice, and larger educational programmes provide significant long-term advantages. Such actions must go beyond medicine and use culturally sensitive and pragmatic methods to target underlying behaviours. Furthermore, healthcare professionals need to be armed with the understanding to identify early indications of PCOS and begin thorough care pathways, including dietary, physical, psychological, and reproductive health. In summary, successful PCOS management in Uzbekistan calls for a systemic move toward prevention, lifestyle change, and women-centred healthcare in addition to clinical alertness. This will improve outcomes, lower future complications, and enable women to take control of their hormonal and metabolic health.

REFERENCES

1. Teede H, Misso M, Costello M, et al. Recommendations from the 2023 International Evidence-Based Guideline for the Assessment and Management of PCOS. Hum Reprod Update. 2023;29(2):1–19. https://doi.org/10.1093/humupd/dmad005
2. Deswal R, Narwal V, Dang A. Lifestyle management of PCOS: An update. J Obstet Gynaecol Res. 2022;48(1):26–33. https://doi.org/10.1111/jog.15057
3. Wu Y, Tan X, Zhang H. Metabolic syndrome in women with PCOS: New findings. Front Endocrinol (Lausanne). 2023;14:1185062. https://doi.org/10.3389/fendo.2023.1185062
4. Yildiz BO, Azziz R, Ehrmann D. Regional differences in PCOS: A cross-sectional global review. Reprod Biomed Online. 2023;46(5):889–897. https://doi.org/10.1016/j.rbmo.2023.01.013
5. Mahalingaiah S, Souter I. PCOS awareness and health education gaps: An international survey. BMJ Open. 2022;12(4):e056890. https://doi.org/10.1136/bmjopen-2021-056890
6. Al-Kuraishy HM, Al-Gareeb AI, et al. Metabolic and hormonal disorders in polycystic ovary syndrome: cross-talk of gut microbiota. Biomed Pharmacother. 2023;156:113928. https://doi.org/10.1016/j.biopha.2022.113928
7. Sachdeva G, Narang M, Kumar R. Diagnostic and biochemical patterns in women with PCOS: a regional cohort study. J Endocrinol Invest.

2022;45(10):2057–2065. https://doi.org/10.1007/s40618-021-01691-y
8. Liu J, Wu Q, Hao Y, et al. Prevalence and predictors of insulin resistance and metabolic syndrome in women with polycystic ovary syndrome: A cross-sectional study. Reprod Biol Endocrinol. 2022;20(1):12. https://doi.org/10.1186/s12958-022-00902-8
9. Lim AJ, Huang Z, Teede HJ, et al. Lifestyle behaviors and metabolic outcomes in women with polycystic ovary syndrome: A global multicenter study. J Clin Endocrinol Metab. 2023;108(2):456–466. https://doi.org/10.1210/clinem/dgac543
10. Johnson JA, Patel R, Wong L. Association between physical activity levels and insulin resistance in women with PCOS: A cross-sectional study. Clin Endocrinol. 2022;96(4):529–537. https://doi.org/10.1111/cen.14722
11. Lee YS, Tan SK, et al. Breakfast skipping and metabolic risk among young women: Implications for PCOS management. Nutr Metab Cardiovasc Dis. 2023;33(5):876–884. https://doi.org/10.1016/j.numecd.2022.11.010
12. Ahmed Z, Al-Mutairi F. Fast food consumption, refined carbs, and menstrual irregularity in urban women: Evidence from a Middle-Eastern cohort. Eur J Nutr. 2023;62(2):1041–1051. https://doi.org/10.1007/s00394-022-03005-9
13. Patel R, Chung F, Narayan S. Sleep duration and cardiometabolic outcomes in reproductive-aged women: A PCOS-focused sub-analysis. Sleep Med. 2022;91:324–332. https://doi.org/10.1016/j.sleep.2022.02.005
14. Martinez M, Gupta N. Central adiposity and adrenal androgen profile in PCOS: A regional cohort analysis. Int J Endocrinol. 2024;2024:245612. https://doi.org/10.1155/2024/245612
15. Mahalingaiah S, Souter I. Awareness and management gaps in PCOS: An international survey. BMJ Open. 2022;12(4):e056890. https://doi.org/10.1136/bmjopen-2021-056890

УДК 618.3:617-001.5:616.12-008.331.1

АКУШЕРСКИЕ И ПЕРИНАТАЛЬНЫЕ ИСХОДЫ ПРИ ДОРОДОВОМ РАЗРЫВЕ ПЛОДНЫХ ОБОЛОЧЕК

Толипова Х.Т., Шодиева Х.Т., Назарова Д.Э.
Ташкентский государственный медицинский университет

XULOSA

Kogonok pardalarining tug’ruqdan oldin yorilishi ona va homila uchun assoratlarga olib keladigan xavf omili bo’lib, tug’ruq va tug’ruqdan keying davrda asoratlarning ko’payishiga yordam beradi. Kogonok pardalarining tug’ruqdan oldin yorilishi bo’lgan ayollarda tug’ish natijalarini tahlili, akusherlik va perinatal asoratlarni kamaytirish uchun predgravidar tayyorgarlik ko’rish, somatic patologiyalarni, infektsiya o’choqlarini va jinsiy a’zolarning yallig’lanish kasalliklarini oldini olish va davolash zarurdir.

Kalit so’zlar: *kogonok pardalarining tug’ruqdan oldin yorilishi, akusherlik va perinatal asoratlar.*

SUMMARY

Premature rupture of membranes is a significant factor that increases the likelihood of complications during both labor and the postpartum period, thereby raising the risk of adverse outcomes for the mother and the newborn. Analysis of clinical cases in patients with this condition emphasizes the need for comprehensive preconception preparation, timely prevention and correction of somatic diseases, sanitation of infectious foci, and treatment of inflammatory processes of the reproductive system in order to reduce the incidence of obstetric and perinatal complications.

Keywords: *premature rupture of membranes, obstetric complications, perinatal outcomes.*

Преждевременный и дородовый разрыв плодных оболочек остаются одними из наиболее значимых проблем в современной акушерской практике из-за высокой вероятности материнской и перинатальной заболеваемости и смертности. Под дородовым разрывом плодных оболочек (ДРПО) понимают их повреждение до начала родовой деятельности, если же разрыв происходит до 37-й недели гестации, используют термин «преждевременный разрыв». В большинстве случаев в доношенном сроке беременности оболочки разрываются после начала родов, однако их излитие до начала схваток и при отсутствии родовой деятельности в течение 24 часов значительно увеличивает риск осложнений. Тактика ведения пациенток с ДРПО после 37 недель может быть, как активной, так и выжидательной. При выжидательном подходе применяют кортикостероиды и антибиотики для минимизации неонатальных рисков. Понимание последних рекомендаций и подтверждающих их доказательств необходимо для врачей и пациентов для принятия обоснованных решений относительно своего ухода и оптимизации результатов для матери и плода.