



Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 4, April 2026



This article/work is licensed under CC by 4.0 Attribution

<https://eurekaoa.com/index.php/5>

DIETARY HABITS, PHYSICAL ACTIVITY, AND SOCIO-HYGIENIC FACTORS ASSOCIATED WITH METABOLIC SYNDROME IN WOMEN

Urazalieva I. R.

Abdullaeva S. S.

Tashkent State Medical University

Abstract:

In modern society, metabolic syndrome has emerged as a significant threat to women's health, increasing the risk of cardiovascular diseases, diabetes mellitus, and other chronic conditions. The development of this syndrome is strongly influenced by unhealthy dietary habits, insufficient physical activity, and various socio-hygienic factors related to living conditions. In particular, the growing prevalence of urbanization, sedentary lifestyles, and the increased consumption of high-calorie foods have contributed to the rising incidence of metabolic disorders among women. Therefore, a comprehensive investigation of the factors contributing to the development of metabolic syndrome in women, along with early detection and the implementation of effective preventive measures, is of considerable scientific and practical importance.

Keywords: Metabolic syndrome, women's health, dietary habits, physical activity, lifestyle factors, socioeconomic status, obesity, insulin resistance, cardiovascular risk, menopause, prevention, public health.

Introduction

The increased prevalence of metabolic syndrome (MetS) among menopausal women necessitates successful management strategies such as applying dietary restrictions and engaging in physical activity to improve their health and quality



Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 4, April 2026



This article/work is licensed under CC by 4.0 Attribution

<https://eurekaoa.com/index.php/5>

of life. We investigate factors associated with dietary control and physical activity in 564 menopausal Korean women classified as having MetS who partook in the 2016 and 2017 Korean National Health and Nutrition Examination Survey (KNHANES). To determine socio-demographic characteristics, lifestyle features, and MetS-related characteristics associated with dietary control and physical activity, multiple logistic regression analysis was performed. Of the women with MetS 36.1% applied diet control and 39.5% engaged in physical activity. Women who applied dietary control strategies to improve their health were more likely to be in the 40–49 age group (odds ratio (OR): 3.38; 95% confidence interval (CI): 1.25–9.18), to engage in physical activity (OR: 2.24; CI: 1.43–3.52), and to take hypertension medication (OR: 1.66; CI: 1.04–2.67) or diabetes mellitus medication (OR: 2.99; CI: 1.80–4.97). Physically active menopausal women with MetS were more likely to also engage in dieting (OR: 2.32; CI: 1.42–3.51). Accordingly, suggestions can be provided to healthcare workers in designing, not only individual approaches to lifestyle modification but also comprehensive interventions including dietary control and physical activity for menopausal MetS women. Health-care interventions like dietary control, which provide additional support to vulnerable MetS women, should target women aged 60 or above or those who do not take medicines for hypertension and diabetes mellitus[6].

Sedentary lifestyles and prolonged physical inactivity are often linked to poor mental and physical health as well as an increased risk of a number of chronic illnesses, including cancer, obesity, type 2 diabetes, and cardiovascular problems. Metabolic Syndrome (MetS), as the new disease, has emerged as the world's leading cause of illness. Despite having its roots in the West, this issue has now completely globalized due to the development of the Western way of life throughout the world. It currently affects almost one-fifth of the American and European populations, and its incidence has increased in Southeast Asian nations as well. Comparing patients with metabolic syndrome to the general population, it is estimated that they have a 5-fold greater risk of diabetes mellitus and a 2-fold

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 4, April 2026



This article/work is licensed under CC by 4.0 Attribution

<https://eurekaoa.com/index.php/5>

increased risk of atherosclerotic cardiovascular illnesses. MetS is a chronic or prevalent condition associated with various lifestyle conditions characterized by abdominal obesity, low HDL-c cholesterol, insulin resistance, high blood pressure, and dyslipidemia. It has been suggested that insulin resistance, chronic inflammation, and neurohormonal activation are the factors behind the development of metabolic syndrome. In lieu of an upsurge in the complications associated with MetS in modern society, many alternative approaches apart from medicine are being constantly explored. Effects of vivid dietary patterns and nutritional interventions have been thoroughly researched, although the most effective dietary approach remains undetermined. This review discussed different etiological aspects of MetS and brought forth the role of nutritional approaches, micro- and macronutrient intake, lifestyle changes, and herbal intervention in its management [9].

Hyperuricemia (HUA) has become a significant medical concern due to its complications and links to metabolic syndrome (MetS) and cardiovascular disease (CVD), which result in increased mortality. The pathogenic processes associated with unhealthy behaviors, MetS, and HUA can be cooperative and potentially synergistic in the activation of risk factors. Recent research has shown sex-based differences in the relationship between HUA and its associated risk factors. This study aimed to investigate these differences, particularly in the context of MetS and CVD risk factors and unhealthy lifestyles. We also aimed to evaluate the joint effects of these factors based on sex. We conducted a cross-sectional study using nationally representative survey data from the Korean National Health and Nutritional Examination Survey 2016–2018. We performed multivariable logistic regression analysis, calculating adjusted odds ratios (ORs) with their 95% confidence intervals (CIs). We also conducted subgroup analyses based on sex and the presence of MetS with or without unhealthy lifestyle factors (tobacco use, alcohol intake). We found sex-based differences in the relationships between HUA and MetS, CVD risk factors, and lifestyle behaviors. Our major

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 4, April 2026



This article/work is licensed under CC by 4.0 Attribution

<https://eurekaoa.com/index.php/5>

finding was a significant association between MetS and HUA in both men and women, regardless of alcohol consumption and smoking status, and this association was stronger in women. We also observed a synergistic effect of MetS and lifestyle factors on the risk of HUA, particularly in women, in whom the risk of HUA increased up to four times compared to the reference group. A sex-based clinical strategy for HUA is necessary to reduce related complications and their socio-economic burden [4]

Metabolic syndrome (MetS) is increasing markedly among postmenopausal women. Although studies suggest multiple risk factors for its development, few have investigated changes in socioeconomic status (SES), female reproductive health indicators (menarche age, experience of pregnancy, delivery, breastfeeding, and postmenopausal status), and lifestyle factors. This study investigated lifestyle factors affecting MetS prevalence among pre- and postmenopausal women after adjusting for SES and female reproductive health indicators. Data from the Korea National Health and Nutrition Examination Survey VII (2016–2018) on 2856 pre- and postmenopausal women aged 40–59 years were analyzed. Differences in SES (e.g., age, education, and household income), female reproductive health indicators (e.g., age of menarche and menopause), and lifestyle (e.g., total calorie intake, fats, and proteins, percentage of energy from carbohydrates, fats, and proteins, smoking, physical activity, and obesity) between MetS and non-MetS groups were calculated by performing χ^2 or t-tests. Consequently, current smoking, physical inactivity, overweight, and obesity were significantly associated with increased MetS after adjusting for SES and female reproductive health indicators using logistic regression analysis. Hence, health policies and programs focusing on modifiable MetS risk factors—encouraging healthy eating habits, smoking cessation, and regular exercise—must be formulated to prevent the development of MetS in pre- and postmenopausal women [3].



Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 4, April 2026



This article/work is licensed under CC by 4.0 Attribution

<https://eurekaoa.com/index.php/5>

This study aimed to identify the risk factors associated with metabolic syndrome among middle-aged women in their 50s to provide a strategy for managing the metabolic syndrome of those whose prevalence is rapidly increasing. Secondary data from the 2012 Korean National Health Insurance Service Medical check-up cohort database were analyzed. Participants included 36,582 middle-aged women in their 50s from the cohort who received a general medical check-up. The risk factors were estimated using logistic regression analysis. Metabolic syndrome was identified in 14.6% of the surveyed persons among middle-aged women in their 50s. Working women, low household income levels, country residents, high body mass index (BMI), total cholesterol of over 240 mg/dL, non-drinker, non-exerciser, history of diabetes or hypertension, and family history of diabetes were associated with increased risk of metabolic syndrome. It is necessary to prepare a strategy to increase access to health care services so that socioeconomic vulnerability does not lead to negative health behavior such as obesity and lack of physical activity. In particular, we recommend active interventions at workplaces for the working women who have a higher risk of metabolic syndrome [5]

Sedentary lifestyles and prolonged physical inactivity are often linked to poor mental and physical health as well as an increased risk of a number of chronic illnesses, including cancer, obesity, type 2 diabetes, and cardiovascular problems. Metabolic Syndrome (MetS), as the new disease, has emerged as the world's leading cause of illness. Despite having its roots in the West, this issue has now completely globalized due to the development of the Western way of life throughout the world. It currently affects almost one-fifth of the American and European populations, and its incidence has increased in Southeast Asian nations as well. Comparing patients with metabolic syndrome to the general population, it is estimated that they have a 5-fold greater risk of diabetes mellitus and a 2-fold increased risk of atherosclerotic cardiovascular illnesses. MetS is a chronic or prevalent condition associated with various lifestyle conditions characterized by

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 4, April 2026



This article/work is licensed under CC by 4.0 Attribution

<https://eurekaoa.com/index.php/5>

abdominal obesity, low HDL-c cholesterol, insulin resistance, high blood pressure, and dyslipidemia. It has been suggested that insulin resistance, chronic inflammation, and neurohormonal activation are the factors behind the development of metabolic syndrome. In lieu of an upsurge in the complications associated with MetS in modern society, many alternative approaches apart from medicine are being constantly explored. Effects of vivid dietary patterns and nutritional interventions have been thoroughly researched, although the most effective dietary approach remains undetermined. This review discussed different etiological aspects of MetS and brought forth the role of nutritional approaches, micro- and macronutrient intake, lifestyle changes, and herbal intervention in its management[10].

The metabolic syndrome is a cluster of risk factors that predisposes individuals to cardiovascular disease (CVD) and diabetes and is present in almost one fourth of adult Americans. Risk factors involved with the metabolic syndrome can be altered via modifiable lifestyle factors, such as diet, physical activity, and smoking and drinking habits. The objective of this study was to examine the extent to which these modifiable lifestyle behaviors are associated with the risk of having the metabolic syndrome. Data from the Third National Health and Nutrition Examination Survey (NHANES III), conducted between 1988 and 1994, were used to measure the risk of having the metabolic syndrome in healthy adult Americans who follow certain lifestyle behaviors, such as dietary practices, levels of physical activity, smoking and drinking habits. Low physical activity level, high carbohydrate (CHO) intake, and current smoking habits were all significantly associated with an increased risk of having the metabolic syndrome, even after adjusting for other related covariates. Relative to physically inactive subjects, being physically active was associated with lower odds ratio (OR) (0.36, confidence interval [CI] 0.21 to 0.68, $P < .01$) in overweight men and in normal weight (0.36, CI 0.18 to 0.70, $P < .01$) and overweight (0.61, CI 0.38 to 0.97, $P < .05$) women. Although the type of CHO could not be distinguished, relative to a

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 4, April 2026



This article/work is licensed under CC by 4.0 Attribution

<https://eurekaoa.com/index.php/5>

high CHO diet, men having a low or moderate CHO intake had a lower risk of having the metabolic syndrome with respective ORs of 0.41 (CI 0.24 to 0.67, $P < .01$) and 0.44 (CI 0.25 to 0.77, $P < .01$); no effect of dietary CHO was observed in women. Moderate alcohol consumption was not significantly related to the risk of having the metabolic syndrome in men, but was associated with a lower OR in women (0.76, CI 0.61 to 0.95, $P < .05$). Regression models indicate a reduced risk of having the metabolic syndrome when selected low-risk lifestyle factors are present in combination, particularly in subjects with body mass index (BMI) < 30 kg/m². According to our cross-sectional logistic models, the risk of having the metabolic syndrome is substantially lower in individuals who are physically active, nonsmoking, have a relatively low CHO intake and moderate alcohol consumption, and who maintain a BMI in the non-obese range. These observations have potentially important value for public health recommendations [11].

Poor diet and low physical activity play an important role in the etiopathogenesis of metabolic syndrome. The aim of this study was to analyze the association between nutrient intake, groups of food products and physical exercise undertaken and the components of metabolic syndrome (MS). The study included 330 patients with MS, and the control group comprised of 270 subjects without MS. The food intake was assessed using 24-h dietary recall, and a 13-item Food Frequency Questionnaire. To assess nutrition knowledge, a Beliefs and Eating Habits Questionnaire was used. The level of physical activity was assessed using the International Physical Activity Questionnaire. Three patterns of behavior were identified: Prudent-Active, Western-Sedentary, and NotPrudent-notWestern-lowActive. In the Prudent-Active group, as compared to the NotPrudent-notWestern-lowActive subjects, the risk of central obesity, hypertension, hypertriglyceridemia, low HDL cholesterol and hyperglycemia occurrence was lower. There was also a lower proportion of patients with MS. As compared to the NotPrudent-notWestern-lowActive subjects, in the Prudent-

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 4, April 2026



This article/work is licensed under CC by 4.0 Attribution

<https://eurekaoa.com/index.php/5>

Active group there was more than a two times higher chance of subjects with a high level of nutrition knowledge. Western diets have been proven to exert a detrimental effect on the components of MS. When designing intervention programs, education of patients with MS on dietary habits and physical activity should be considered [2]

Metabolic syndrome (MetSyn) is characterized by the clustering of commonly observed multiple metabolic abnormalities, such as abdominal obesity, hyperinsulinemia, dyslipidemia, high blood pressure (BP), impaired fasting glucose level, and occasionally a meager amount of high-density lipoprotein cholesterol (HDL-C). The present case-control pilot study was designed to examine and compare the different dietary habits of specific food groups (meat, dairy, fats, and carbohydrates) in 85 male and female participants (age: 20 to 80 years) between MetSyn patients (n=54), based on World Health Organization criteria and non-MetSyn patients (n=31) at King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia. Patients were studied based on a dietary questionnaire with clear validity that included personal and diet related habit queries, body mass index (BMI), HDL-C, low density lipoprotein cholesterol, total cholesterol, triglycerides, and BP. Results showed significantly increased values for BMI (kg/m²), systolic BP, diastolic BP, HDL-C, and blood calcium concentration among the MetSyn group compared to non-MetSyn group. Substantial differences were obtained for fasting glucose distribution between MetSyn and non-MetSyn groups (P<0.002). The study analysis revealed that consumption of dairy and fats was relatively higher in MetSyn patients. Also, the frequency of eating meat and derivatives showed no significant statistical difference. between the two groups. The study found that the MetSyn group consumed a significantly more proportion of dairy products, though there were no changes in dietary patterns between the MetSyn and non-MetSyn groups in terms of the intake of meats, dairy, fat, and carbohydrate [8].

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 4, April 2026



This article/work is licensed under CC by 4.0 Attribution

<https://eurekaoa.com/index.php/5>

We examine whether women's risks of having metabolic syndrome (MetS) at pre/early-menopausal baseline, and of developing MetS after baseline, are associated with childhood and adult socioeconomic statuses (SESs); and whether the associations are mediated by adult reproductive, economic, behavioral, and psychosocial factors. Using data on white and black women collected prospectively for 12 years in the Study of Women's Health Across the Nation, we estimated odds of MetS at pre/early-menopausal baseline with logistic regression, and incidence of MetS after baseline with Cox proportional hazards models. Women raised in "adverse" childhood SES had marginally greater odds of MetS at baseline than did women raised in "good" SES, and women with a high school credential or less had significantly greater odds than college-educated women, in mutually adjusted models. The elevated odds partly reflected SES-related differences in exercise and alcohol consumption. Incidence after baseline was associated with education, not childhood SES, and partly mediated by health behaviors. Differences in the probability of surviving without MetS between the most and least socioeconomically advantaged women nearly doubled between ages 50 and 60. Childhood and adult SES predict women's risks of MetS as they approach the menopause transition; adult SES is primarily important afterwards [7].

To investigate the association of metabolic syndrome (MetS) and its components with socioeconomic status (SES) among general and gender-specific adult population in Nanjing municipality, China. 13287 participants completed the survey. A participant: (1) must be a local registered resident, (2) aged 18+ years, (3) had no literal or physical/mental problems and (4) was not pregnant. MetS was the outcome variable, which was defined based on the diagnostic criteria released by the Chinese Diabetes Society. SES was the main explanatory measure, which was indicated with educational attainment and family average income (FAI), separately. The prevalence of MetS was 19.7% (95% CI=19.0% to 20.4%) among overall participants, and 24.6% (95% CI=23.5% to 25.6%) and

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 4, April 2026



This article/work is licensed under CC by 4.0 Attribution

<https://eurekaoa.com/index.php/5>

15.5% (95% CI=14.7% to 16.4%) for men and women, respectively. After controlling for potential confounders, participants with either college level (OR=0.51, 95% CI=0.43 to 0.60) or high school level education (OR=0.78, 95% CI=0.70 to 0.90) were at lower odds to experience MetS compared with those with primary education, while only those within upper FAI tertile were at significantly lower risk of MetS relative to their counterparts within lower FAI category (OR=0.85, 95% CI=0.76 to 0.97) among overall participants. Meanwhile, with respect to the five components of MetS, higher educational level predicted lower waist circumference (WC), triglycerides, systolic blood pressure (SBP) and diastolic blood pressure (DBP) and fasting glucose concentration among all participants. And higher FAI was associated with lower WC and SBP and DBP in women, and with lower SBP and DBP in men. Education and FAI each were inversely associated with MetS and its components at the present stage of economic development in Nanjing Municipality of China. It has important public health implications that the tailored prevention strategies for MetS should be put into consideration of the intervention of MetS components and subgroups of people with different SES [12].

The prevalence of metabolic syndrome (MetS) is increasing in Iran. We assessed the relationship between socioeconomic status (SES) and MetS components in the Iranian population. The sample for this study comprised a random cross-section of men and women from two province districts who participated in the Isfahan Healthy Heart Program (IHHP) in 2007. Each participant completed a questionnaire, underwent anthropometric testing and blood pressure measurements, and provided a blood sample. MetS was defined based on ATP III criteria. Several SES dimensions, such as education, occupation, and number of children, as well as home, car, and personal computer ownership, were assessed to determine the participant's SES. A higher-than-average income, car ownership, owning or renting a private home, and having a computer are increasing towards increment in SES. All MetS components were more prevalent in participants

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 4, April 2026



This article/work is licensed under CC by 4.0 Attribution

<https://eurekaoa.com/index.php/5>

defined as having a lower SES, while low HDL levels were more common in participants having an SES II ($P>0.001$). A multivariate analysis showed that having the lowest SES (I) increased the risk of MetS by 1.72 [1.44-2.07], whereas subjects having an SES III had a 1.23 [1.04-1.47] lower risk for MetS. The relationship between SES and Mets is due largely to behavioural factors, such as practicing unhealthy eating habits. Given the high prevalence of Mets in Iran, we propose that regular health check-ups may be useful in the early detection of the syndrome and, consequently, in the prevention of its effects. In addition, the early detection of MetS may result in the early diagnosis and prevention of cardiovascular diseases [1].

The metabolic syndrome is a complex condition influenced by many factors including lifestyle. Recently, more and more studies explored the relationships between combined lifestyle factors (often measured as lifestyle scores/indices) and metabolic syndrome due to the co-occurrence of these factors. These scores/indices considered potential interactions among lifestyle factors, offering a more comprehensive understanding of their relationship with metabolic syndrome. However, no review/meta-analysis has been conducted to summarize existing evidence. Thus, this study aimed to synthesize the associations between lifestyle scores/indices and metabolic syndrome in cross-sectional and cohort studies. A literature search was performed in Embase and Medline. Multivariable-adjusted estimates were synthesized using random-effects models. In research where higher scores indicated better health, we used original estimates directly. In studies where higher scores denoted poorer health, we first calculated the coefficients and standard errors based on original estimates. Afterward, we reversed coefficients' directions and recalculated new estimates. Thus, the pooled estimates compared the healthiest with the least-healthy lifestyles (the highest vs. lowest scores/indices). Subgroup analyses were conducted based on study design, region, baseline time, baseline age, sex, health status, metabolic syndrome diagnosis, and lifestyles' number. Sensitivity analyses were performed by

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 4, April 2026



This article/work is licensed under CC by 4.0 Attribution

<https://eurekaoa.com/index.php/5>

including only high-quality studies and employing leave-one-out analyses. Nineteen studies from 16 publications were included. Physical activity, diet, and smoking were the top three included lifestyle factors. Compared to participants with the least-healthy lifestyles, those with the healthiest lifestyles had a 43% lower metabolic syndrome risk (95% confidence interval = 0.41–0.73). In subgroup analyses, healthy lifestyle scores/indices were inversely associated with both metabolic syndrome prevalence in cross-sectional studies (Odds ratio = 0.62; 95% confidence interval = 0.51–0.73) and metabolic syndrome incidence in cohort studies (Odds ratio = 0.40; 95% confidence interval = 0.11–0.68). The inverse association was consistent in other subgroup and sensitivity analyses. Adherence to a healthy lifestyle pattern was beneficial to metabolic syndrome prevention [13].

Conclusion

Metabolic syndrome among women, particularly during the menopausal transition and postmenopausal period, constitutes a significant and growing public health challenge driven by the interaction of behavioral, biological, and socio-hygienic determinants. The reviewed evidence consistently demonstrates that unhealthy dietary patterns—characterized by high caloric intake, excessive consumption of fats and refined carbohydrates, and low nutritional quality—together with insufficient physical activity and sedentary lifestyles, are major modifiable risk factors contributing to the development and progression of metabolic syndrome. In addition, adverse socio-economic conditions, including low educational attainment, limited income, and reduced access to healthcare services, further exacerbate vulnerability by influencing health behaviors and limiting opportunities for preventive care. Moreover, lifestyle-related factors such as smoking, alcohol consumption patterns, and poor health awareness significantly interact with metabolic abnormalities, including obesity, insulin resistance, dyslipidemia, and hypertension, thereby amplifying the risk of

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 4, April 2026



This article/work is licensed under CC by 4.0 Attribution

<https://eurekaoa.com/index.php/5>

cardiovascular diseases and type 2 diabetes. Importantly, evidence suggests that these risk factors often act synergistically, meaning that their combined effect is greater than their individual contributions. Conversely, adherence to healthy lifestyle practices—such as maintaining a balanced and nutrient-rich diet, engaging in regular physical activity, avoiding harmful habits, and improving health literacy—has been shown to substantially reduce both the prevalence and incidence of metabolic syndrome.

REFERENCES

1. Gharipour M. и др. Socioeconomic determinants and metabolic syndrome: results from the Isfahan Healthy Heart Program., 2016. 291–298 с.
2. Godala M. и др. Relationship between Dietary Behaviors and Physical Activity and the Components of Metabolic Syndrome: A Case-Control Study // Int. J. Environ. Res. Public Health. 2022. T. 19. № 11.
3. Hong E., Kang Y. Lifestyle Factors Influencing Metabolic Syndrome after Adjusting for Socioeconomic Status and Female Reproductive Health Indicators: A National Representative Survey in Korean Pre- and Postmenopausal Women // Healthcare (Switzerland). 2024. T. 12. № 8.
4. Kang S. и др. Women with Metabolic Syndrome and Unhealthy Lifestyle Factors Are at a Higher Risk for Hyperuricemia // J. Clin. Med. 2023. T. 12. № 22.
5. Kim H. S., Cho Y. H. Factors associated with metabolic syndrome among middle-aged women in their 50s: Based on national health screening data // Int. J. Environ. Res. Public Health. 2020. T. 17. № 9.
6. Lee G., Choi H. Y. Factors associated with dietary control and physical activity in the management of metabolic syndrome in Korean menopausal women // Int. J. Environ. Res. Public Health. 2020. T. 17. № 18. C. 1–12.

Eureka Journal of Health Sciences & Medical Innovation (EJHSMI)

ISSN 2760-4942 (Online) Volume 2, Issue 4, April 2026



This article/work is licensed under CC by 4.0 Attribution

<https://eurekaoa.com/index.php/5>

7. Montez J. K. и др. Life-Course Socioeconomic Status and Metabolic Syndrome among Midlife Women // Journals of Gerontology - Series B Psychological Sciences and Social Sciences. 2016. Т. 71. № 6. С. 1097–1107.
8. Qahwaji D. M. Impact of Dietary Intake and Physical Activity on Metabolic Syndrome in Saudi Adults: An Exploratory Pilot Study. 2016.
9. Singh P. и др. Dietary and Nutritional Aspects of Metabolic Syndrome Management: An Overview // Endocr. Metab. Immune Disord. Drug Targets. 2025a. Т. 25. № 12. С. 941–952.
10. Singh P. и др. Dietary and Nutritional Aspects of Metabolic Syndrome Management: An Overview // Endocr. Metab. Immune Disord. Drug Targets. 2025b. Т. 25. № 12. С. 941–952.
11. Shankuan Zhu 1, Marie-Pierre St-Onge и др Lifestyle behaviors associated with lower risk of having the metabolic syndrome 2004 Nov;53(11):1503-11. doi: 10.1016/j.metabol.2004.04.017.
12. Ye Q. и др. Association of socioeconomic status with metabolic syndrome and its components among adult population: A community-based cross-sectional study in Nanjing Municipality of China // BMJ Open. 2023. Т. 13. № 10.
13. Yunyang Deng, Qingling Yang и др Combined lifestyle factors and metabolic syndrome risk: a systematic review and meta-analysis International Journal of Obesity volume 49, pages226–236 (2025)