Indonesian Journal of Global Health Research
Volume 8 Number 6, December 2026
e-ISSN 2715-1972; p-ISSN 2714-9749
http://jurnal.globalhealthsciencegroup.com/index.php/IJGHR

LITERATURE REVIEW: FACTORS ASSOCIATED WITH UTERINE FIBROIDS

Rosni Lubis*, Junengsih, Elly Dwi Wahyuni, Delmaifanis, Jehanara
Midwifery Program, Poltekkes Kemenkes Jakarta III, Jl. Melati 2 No. 15 (Jl. Arteri JORR Jatiwarna), Jatiwarna, Pondok Melati, Bekasi, Jawa Barat 17415, Indonesia
*rosnilubis@gmail.com

ABSTRACT
Uterine fibroids (leiomyomas) are benign neoplasms originating from the smooth muscle tissue of the myometrium and represent one of the most prevalent reproductive health conditions among women of childbearing age. Despite their benign nature, these tumors frequently induce clinical manifestations such as abnormal uterine bleeding, pelvic pain, infertility, and miscarriage, which significantly impair women's quality of life. The objective of this study is to systematically identify, analyze, and evaluate the multifactorial determinants associated with the incidence and pathogenesis of uterine fibroids. To achieve this objective, a structured literature review was conducted by retrieving peer-reviewed national and international articles published between 2017 and 2026 through the Google Scholar electronic database. Articles were obtained using targeted search keywords specifically "uterine fibroids," "leiomyoma," "risk factors," and "reproductive health", followed by title and abstract screening based on predefined inclusion and exclusion criteria, full-text eligibility assessment, and data extraction for descriptive narrative synthesis. The findings demonstrate that the development of uterine fibroids is driven by multiple interacting factors, including age, hormonal regulation, genetic predisposition, race and ethnicity, reproductive history, obesity, vitamin D deficiency, comorbidities (such as hypertension and diabetes mellitus), as well as environmental and lifestyle factors. Among these determinants, advancing age and hormonal dysregulation emerge as the most dominant contributors to fibroid pathogenesis. Consequently, uterine fibroids should be managed as a complex multifactorial condition requiring targeted preventive strategies, early detection, and integrated clinical care to minimize complications and improve women's quality of life.

Keywords: leiomyoma; literature review; reproductive health; risk factors; uterine fibroids

How to cite (in APA style)
Lubis, R., Junengsih, J., Wahyuni, E. D., Delmaifanis, D., & Jehanara, J. (2026). Literature Review: Factors Associated with Uterine Fibroids. Indonesian Journal of Global Health Research, 8(6), 1493–1502. https://doi.org/10.37287/ijghr.v8i6.3050.

INTRODUCTION

Uterine fibroids, or leiomyomas, are benign neoplasms that develop from the smooth muscle of the myometrium and are known as one of the most common gynecological disorders in women of childbearing age (Behairy et al., 2024). Epidemiologically, the incidence of uterine fibroids is reported to be quite high in various parts of the world with differences between populations, and shows an increase in prevalence with age, especially in the 30–50 age range (Li et al., 2023). This disorder is rarely found before menarche and tends to diminish after menopause, emphasizing the dominant role of hormonal factors in the development of uterine fibroids (Barjon, K., Kahn, J., & Singh, 2025).

Although classified as a non-malignant tumor, uterine fibroids often cause significant clinical manifestations, including abnormal uterine bleeding, pelvic pain, dysmenorrhea, fertility problems, and recurrent miscarriages (Vodouhe et al., 2024; Wang et al., 2024). These consequences not only affect women's physical health, but also influence their psychological well-being, social life, and economic conditions, so that uterine fibroids are considered a reproductive health problem that requires serious attention.

A number of studies show that the occurrence of uterine fibroids cannot be explained by a single determinant, but is the result of a complex interaction between biological, hormonal, genetic, reproductive characteristics, environmental, and lifestyle factors (Chan et al., 2024; Keizer et al., 2024). Age and long-term exposure to estrogen and progesterone hormones are known to play a central role in the growth of fibroids. In addition, genetic predisposition and a family history of uterine fibroids have been reported to increase the likelihood of developing this condition (Aminah et al., 2025; Va¨lima¨ki et al., 2018).

Reproductive factors, such as age at menarche, number of births, and pregnancy status, also influence the risk of developing uterine fibroids. Earlier menarche and nulliparity are associated with an increased risk, while higher parity and pregnancy experience are considered to have a protective effect against the development of fibroids (Barjon, K., Kahn, J., & Singh, 2025). In addition, obesity and suboptimal nutritional status have also been reported to contribute to an increased incidence of uterine fibroids through a mechanism of increased estrogen production from adipose tissue (Wang et al., 2024)

In addition to biological and reproductive factors, racial and ethnic differences have been reported to contribute to variations in the prevalence of uterine fibroids. Several studies have shown that certain racial groups have a higher risk, which is thought to be influenced by a combination of genetic factors, environmental exposure, and social determinants of health (Katon et al., 2024). In addition, the presence of comorbidities such as hypertension and diabetes mellitus, along with environmental factors and lifestyle, are also associated with an increased incidence of uterine fibroids (Chan et al., 2024; Yang et al., 2022).

This study aims to systematically identify and evaluate the multifactorial determinants associated with the incidence and development of uterine fibroids. Given the many interacting determinants in the occurrence of uterine fibroids, a comprehensive literature review is needed to summarize and examine the factors associated with this condition. Therefore, this literature review was compiled to identify and discuss various factors related to uterine fibroids based on national and international research findings, so that the results can serve as a basis for strengthening efforts to prevent, detect early, and manage uterine fibroids more optimally. The primary objective of this study is to systematically identify, analyze, and evaluate the multifactorial determinants associated with the incidence and pathogenesis of uterine fibroids. As further elaborated in the *Introduction*, the study also aims to summarize and discuss these various factors based on national and international research findings so that the results can serve as a scientific basis for strengthening prevention, early detection, and optimal management of uterine fibroids.

METHOD

This article was compiled using a literature review method with a narrative approach (narrative review) that aims to explore, assess, and summarize the results of studies related to factors that influence the occurrence of uterine fibroids. This approach was chosen because it allows for a broad and integrated overview of the various risk factors for uterine fibroids that have been reported in previous studies, from clinical, epidemiological, and public health perspectives.

Literature Search Strategy

A literature search was conducted in a planned and systematic manner of various national and international scientific sources relevant to the topic of uterine fibroids. The literature sources used were determined at the outset, including scientific journal articles, research reports, systematic reviews, and review articles discussing risk factors for uterine fibroids, such as age, hormonal influences, genetic factors, reproductive aspects, obesity, comorbidities, lifestyle, and environmental factors.

Inclusion and Exclusion Criteria
In this literature review, the articles included met several inclusion criteria, namely discussing uterine fibroids or uterine leiomyomas as the main focus, examining factors related to the occurrence of uterine fibroids, and using observational, cohort, cross-sectional, systematic review, or literature review research designs. In addition, articles must be published in reputable national and international journals and be available in full text. Conversely, exclusion criteria were applied to articles that focused solely on therapeutic aspects or clinical management without linking them to uterine fibroid risk factors. Non-scientific publications that did not undergo peer review were also excluded from this study.

Literature Selection Process
All articles that met the inclusion criteria were collected and then selected based on the suitability of the title, abstract, and content of the article with the purpose of writing. Articles that passed the selection stage were then reviewed thoroughly to identify factors reported to be associated with the occurrence of uterine fibroids.

Data Analysis and Synthesis Techniques
Data from selected articles were analyzed descriptively by extracting important information, such as research characteristics, variables studied, and key findings related to uterine myoma risk factors. This information was then grouped into several categories, including demographic, hormonal, genetic, reproductive, nutritional status, comorbidities, and lifestyle and environmental factors. The results of the analysis were then compiled through narrative synthesis to provide a comprehensive understanding of the various factors associated with uterine fibroids based on available scientific evidence. This approach is expected to describe the interrelationships between factors in their entirety and support a deeper understanding of the complexity of uterine fibroids.

This article was compiled using a literature review method with a narrative approach (*narrative review*). The primary objective of this study is to systematically identify, analyze, and evaluate the multifactorial determinants associated with the incidence and pathogenesis of uterine fibroids. This approach was chosen because it allows for a broad and integrated overview of the various risk factors for uterine fibroids reported in previous studies, encompassing clinical, epidemiological, and public health perspectives.

A structured and systematic literature search was conducted to retrieve relevant peer-reviewed national and international scientific articles published between 2017 and 2026. Articles were obtained electronically through the Google Scholar database using targeted search keywords, specifically *"uterine fibroids," "leiomyoma," "risk factors,"* and *"reproductive health."* The literature sources determined at the outset included original scientific journal articles, research reports, systematic reviews, and narrative review articles examining multifactorial determinants of uterne fibroids, such as age, hormonal influences, genetic predisposition, racial and ethnic background, reproductive history, obesity, vitamin D status, comorbidities, as well as lifestyle and environmental factors.

In this literature review, included articles had to meet several predefined inclusion criteria: (1) discussing uterine fibroids or uterine leiomyomas as the primary focus; (2) examining determinants or risk factors associated with the occurrence and pathogenesis of uterine fibroids; (3) employing observational, case-control, cohort, cross-sectional, systematic review, or literature review study designs; (4) published in reputable peer-reviewed national or international journals between 2017 and 2026; and (5) available in accessible full-text format. Conversely, exclusion criteria were applied to articles that focused solely on therapeutic aspects, surgical interventions, or clinical management without linking them to uterine fibroid risk factors. Non-scientific publications, opinion pieces, and articles that did not undergo peer review were also excluded from this study.

All articles retrieved from the initial database search were collected and subjected to a multi-stage selection process. First, titles and abstracts were screened to evaluate their relevance to the study objective based on the predefined inclusion and exclusion criteria. Second, articles that passed the initial screening underwent a full-text eligibility assessment to ensure methodological relevance and substantive discussion of uterine fibroid determinants. Articles that met all eligibility requirements were then reviewed thoroughly for data extraction.

Data from the selected articles were analyzed descriptively by extracting important information, such as study characteristics, variables investigated, and key findings related to uterine fibroid risk factors. This information was then grouped into several thematic categories, including demographic, hormonal, genetic and racial/ethnic, reproductive, nutritional status, comorbidities, as well as lifestyle and environmental factors. The results of the analysis were then compiled through a descriptive narrative synthesis to provide a comprehensive understanding of the various factors associated with uterine fibroids based on available scientific evidence. This approach is expected to describe the interrelationships between factors in their entirety and support a deeper understanding of the complexity of uterine fibroids.

RESULT

Based on a review of various relevant national and international scientific articles, it is known that the incidence of uterine fibroids is influenced by various interrelated determinants. These factors include demographic, hormonal, genetic, reproductive, nutritional status, comorbidities, lifestyle, and environmental aspects. The following discussion is organized thematically, highlighting the factors most frequently reported in the literature.

Age Factor

Age is one of the most consistent determinants associated with the occurrence of uterine fibroids. Various studies show that uterine fibroids are rarely found before menarche, while their incidence increases significantly with age, especially in the late reproductive years. Global epidemiological data show that the highest prevalence of uterine fibroids is in the 40–49 age group (Wu et al., 2025), Although several other studies report a peak incidence in the 31–40 age range, particularly in women with long-term exposure to reproductive hormones (Ngorili et al., 2022). The increased risk of uterine fibroids in adulthood is closely related to the length of exposure of the myometrial tissue to estrogen and progesterone. These two hormones play a role in stimulating the proliferation of uterine smooth muscle cells, so that the longer a woman's reproductive period, the greater the chance of developing uterine fibroids. (Behairy et al., 2024). This finding is reinforced by national research reporting that the majority of uterine fibroid cases are found in women over the age of 35 (Nadila & Zulala, 2024).

Hormonal Factors

Hormonal aspects are known to play a key role in the pathogenesis of uterine fibroids. Estrogen and progesterone are the main hormones that contribute to fibroid growth, with fibroid tissue showing higher expression of both hormone receptors compared to normal myometrium. This condition causes fibroid tissue to be highly sensitive to fluctuations in reproductive hormone levels (Keizer et al., 2024). A number of studies have revealed that increased levels of endogenous estrogen, whether due to physiological processes or pathological conditions, can accelerate the growth of uterine fibroids. In addition, the use of certain types of hormonal contraception has also been reported to be associated with the occurrence of uterine fibroids, although the results vary depending on the type and duration of use (Umar & Marselina, Dilla Srikandi Syahadat1, 2023). This phenomenon explains the tendency of uterine fibroids to grow during the reproductive years and regress after menopause, along with a significant decrease in estrogen levels.

Genetic, Racial, and Ethnic Factors

Genetic factors are reported to be one of the important determinants in the occurrence of uterine fibroids. Women with a family history of uterine fibroids are known to have a higher risk than those without a similar history (Aminah et al., 2025). Genetic studies have also identified certain gene variations that play a role in regulating the growth of uterine smooth muscle cells and increase susceptibility to the formation of fibroids (Va¨lima¨ki et al., 2018). In addition to genetic predisposition, racial and ethnic differences also contribute to variations in the incidence of uterine fibroids. A number of studies have reported that women from certain racial groups have a higher risk, which is thought to be related to a combination of genetic factors, environmental exposure, and social determinants of health (Katon et al., 2024). The national study also revealed differences in the clinical manifestations of uterine fibroids based on ethnic background and characteristics of the population studied (Farma & Kurniati, 2024).

Reproduction Factors

Reproductive factors, including age at menarche, number of births, and pregnancy history, are known to be significantly associated with the occurrence of uterine fibroids. Early menarche is reported to increase the risk of uterine fibroids because it prolongs the duration of estrogen exposure from the early stages of reproductive life (Ahmed et al., 2025) (Laning et al., 2019). Conversely, higher parity and a history of pregnancy are considered to have a protective effect against the development of uterine fibroids. A number of studies show that nulliparous women are more likely to develop uterine fibroids than multiparous women. Pregnancy triggers hormonal changes and remodeling processes in the uterus that can potentially inhibit the growth of fibroids (Ulfah, 2017). In addition, several studies have also reported a link between a history of miscarriage and the occurrence of uterine fibroids, although the underlying biological mechanisms still require further study (Vodouhe et al., 2024).

Obesity and Nutritional Status

Obesity is the most frequently reported risk factor in various studies on uterine fibroids. A high body mass index (BMI) is known to correlate with an increased incidence of uterine fibroids, as adipose tissue plays a role in converting androgens to estrogens through the activity of the aromatase enzyme (Prasetyo et al., 2025). In addition to obesity, vitamin D status has also been reported to affect the risk of uterine fibroids. Vitamin D is thought to play a role in suppressing myometrial cell proliferation and inhibiting fibroid growth. Several studies have shown that women with low vitamin D levels have a higher risk of uterine fibroids than those with normal vitamin D levels (Guzik et al., 2022).

Comorbidities

The presence of comorbidities such as hypertension and diabetes mellitus has also been reported to be associated with the occurrence of uterine fibroids. A number of studies have suggested that hypertension may increase the risk of fibroids through vascular dysfunction and increased growth factor activity affecting uterine tissue (Aminah et al., 2025) (Vodouhe et al., 2024). Diabetes mellitus is also thought to contribute through chronic inflammatory processes and metabolic disorders that affect the growth of myometrial tissue.

Lifestyle and Environmental Factors

Lifestyle patterns have also been reported to play a role in increasing the risk of uterine fibroids, including low consumption of fruits and vegetables, lack of physical activity, and exposure to certain environmental factors (Muawad et al., 2022; Chan et al., 2024). Environmental factors, such as exposure to endocrine-disrupting chemicals, are thought to alter the body's hormonal balance and trigger the growth of uterine fibroids. A review of the literature shows that uterine fibroid risk factors do not act independently, but rather interact and reinforce each other's effects. For example, age, hormonal factors, and obesity are closely linked to an increased risk of uterine fibroids (Umar & Marselina, Dilla Srikandi Syahadat1, 2023). With age, long-term exposure to estrogen may be

amplified by increased aromatase activity in adipose tissue, particularly in obese women, creating a hormonal environment that promotes fibroid growth (Keizer et al., 2024).

The interaction between genetic predisposition and hormonal factors also plays an important role in the development of uterine fibroids. Individuals with certain genetic susceptibilities become more sensitive to the stimulatory effects of estrogen and progesterone on myometrial tissue (Prasetyo et al., 2025). Genetic research shows that variations in genes that regulate cell proliferation and hormonal responses can accelerate the growth of fibroids in individuals exposed to certain hormonal factors, explaining the differences in age of onset and rate of development of uterine fibroids between individuals (Va¨lima¨ki et al., 2018).

A number of studies highlight the contribution of sociodemographic factors to the incidence of uterine fibroids. Variables such as education level, socioeconomic status, and access to health services can influence the detection and reporting of uterine fibroids (Evans, 2024). Epidemiological findings indicate that differences in the prevalence of uterine fibroids between racial and ethnic groups are not solely due to biological factors, but are also influenced by social determinants of health, including dietary patterns, levels of physical activity, and exposure to chronic stress (Katon et al., 2024). Women with limited access to health facilities tend to receive diagnoses at a later stage, with larger fibroids and more severe clinical symptoms. This condition underscores the importance of a public health approach that considers social and environmental aspects in efforts to comprehensively prevent and manage uterine fibroids (Li et al., 2023).

Uterine fibroids are known to have a significant impact on women's reproductive health. Several studies report that the presence of fibroids can interfere with embryo implantation, increase the likelihood of miscarriage, and contribute to infertility, which is greatly influenced by the size, number, and location of fibroids in the uterus (Vodouhe et al., 2024) (Wang et al., 2024). Reproductive factors associated with uterine fibroids show a two-way relationship. On the one hand, conditions such as nulliparity increase the risk of developing uterine fibroids, while on the other hand, existing fibroids can affect a woman's reproductive capacity. The complexity of this relationship underscores the importance of early detection and management of uterine fibroids in women of childbearing age in order to prevent long-term effects on fertility (Laily et al., 2024).

A comprehensive understanding of the factors associated with uterine fibroids is of strategic importance in clinical practice and public health policy. Identifying high-risk groups of women, such as those in late reproductive age, who are obese, have a family history of fibroids, or suffer from comorbidities, enables more targeted and intensive screening and monitoring (Behairy et al., 2024). From a public health perspective, the implementation of promotional and preventive interventions that focus on lifestyle changes, such as weight control, increased physical activity, and improved diet, has the potential to reduce the risk of uterine fibroids. In addition, increased reproductive health education and awareness of the importance of regular gynecological examinations can support early detection and reduce the risk of complications from uterine fibroids (Ahmed et al., 2025).

Although various studies have identified a number of factors associated with uterine fibroids, limitations are still found in the existing literature. The majority of studies use observational designs, so the causal relationship between risk factors and the occurrence of uterine fibroids cannot be determined with certainty. In addition, differences in research methods and the characteristics of the populations studied contribute to variations in findings between studies (Lubis, 2020). Therefore, further research with a prospective cohort design and a multidisciplinary approach is urgently needed to deepen our understanding of the biological and environmental mechanisms underlying the development of uterine fibroids. Studies that simultaneously consider genetic, hormonal, and social determinants of health are expected to provide a more comprehensive picture

and strengthen the scientific basis for the prevention and management of uterine fibroids (Chan et al., 2024; Va¨lima¨ki et al., 2018).

DISCUSSION

This review demonstrates that uterine fibroid pathogenesis is driven by synergistic interactions among biological, hormonal, genetic, and environmental determinants rather than isolated risk factors (Keizer et al., 2024). Prolonged exposure to endogenous estrogen and progesterone during reproductive years serves as the primary catalyst for myometrial smooth muscle proliferation, an effect significantly amplified by obesity through increased peripheral aromatase activity in adipose tissue (Umar & Marselina, 2023; Prasetyo et al., 2025). Furthermore, underlying genetic susceptibilities heighten myometrial sensitivity to hormonal stimulation, explaining variations in tumor onset and growth rates across individuals (Välimäki et al., 2018). Additionally, cardiometabolic comorbidities like hypertension and diabetes, alongside endocrine-disrupting exposures, promote fibroid development through vascular dysfunction and chronic inflammation (Aminah et al., 2025; Chan et al., 2024).

Beyond biological mechanisms, sociodemographic factors and racial disparities critically shape disease burden and clinical outcomes (Katon et al., 2024). Limited healthcare access, lower socioeconomic status, and chronic stress frequently delay diagnosis, resulting in larger tumors and severe clinical complications among underserved populations (Evans, 2024; Li et al., 2023). Clinically, uterine fibroids exhibit a bidirectional relationship with reproductive health: while early menarche and nulliparity elevate fibroid susceptibility, established tumors impair embryo implantation, causing infertility and recurrent miscarriage (Vodouhe et al., 2024; Wang et al., 2024). From a public health perspective, recognizing high-risk profiles particularly women of late reproductive age with obesity, family history, or vitamin D deficiency enables targeted screening and early intervention (Behairy et al., 2024; Guzik et al., 2022). Preventive strategies emphasizing weight management, balanced nutrition, and regular gynecological monitoring are essential to mitigate morbidity (Ahmed et al., 2025). Nevertheless, current evidence remains constrained by a predominance of observational studies, which limits definitive causal inference (Lubis, 2020). Future multidisciplinary prospective cohort studies integrating genetic, hormonal, and social determinants are warranted to clarify pathogenesis and optimize management (Chan et al., 2024).

CONCLUSION

Based on the results of research and synthesis of various national and international studies, it can be concluded that uterine fibroids are a condition with multifactorial etiology that is formed through complex interactions between biological, hormonal, genetic, reproductive, behavioral, and environmental factors. Age and long-term exposure to estrogen and progesterone hormones play a major role, as reflected in the increasing incidence in women of advanced reproductive age and the tendency for cases to decline after menopause.

In addition to hormonal factors, genetic predisposition, family history, and racial and ethnic differences also contribute to an increased risk of uterine fibroids, indicating individual susceptibility to this condition. Reproductive factors also play an important role, with early menarche, low parity, and nulliparity associated with higher risk, while pregnancy and a higher number of births tend to have a protective effect. In addition, obesity, vitamin D deficiency, and the presence of comorbidities such as hypertension and diabetes mellitus have been shown to have a significant association with the occurrence of uterine fibroids.

Lifestyle and environmental factors, including dietary patterns, physical activity levels, and exposure to certain environments, further reinforce the understanding that uterine fibroids are not only influenced by biological factors, but also by social and behavioral determinants. Therefore, strategies for the prevention and management of uterine fibroids need to be designed

comprehensively through a promotive, preventive, and clinical approach, taking into account the risk profile of each individual.

The results of this literature review are expected to serve as a scientific basis for the development of more effective strategies for the prevention, early detection, and management of uterine fibroids, particularly in women of reproductive age. However, further research with a more robust methodological design and a multidisciplinary approach is still needed to clarify the causal relationships and biological and environmental mechanisms underlying the development of uterine fibroids.

REFERENCES

Ahmed, W. M., Maatoug, J., Al-dahshan, A., Sweilim, A., & Bougmiza, I. (2025). Uterine fibroids in women of childbearing age : a cross-sectional study at the primary health care corporation in Qatar. *BMC Women's Health*, *25*(453).

Aminah, N., Sutiningsih, D., & Setiani, O. (2025). Risk Factors Determining to Uterine Myoma among Women in Semarang : A Case- Control Study Journal of Chemical Health Risks. *Journal of Chemical Health Risks*, *15*(5), 746–751.

Barjon, K., Kahn, J., & Singh, M. (2025). *Uterine Leiomyomata*. StatPearls Publishing.

Behairy, M. S., Goldsmith, D., Schultz, C., Morrison, J. J., & Jahangiri, Y. (2024). Uterine fibroids : a narrative review of epidemiology and management , with a focus on uterine artery embolization. *Gynecol Pelvic Med*, *7*(23), 1–17. https://doi.org/10.21037/gpm-23-57

Chan, L. E., Casiraghi, E., Reese, J., Harmon, Q. E., Schaper, K., Hegde, H., Valentini, G., Schmitt, C., Motsinger-reif, A., Hall, J. E., Mungall, C. J., Robinson, P. N., & Haendel, M. A. (2024). Predicting nutrition and environmental factors associated with female reproductive disorders using a knowledge graph and random forests. *Int J Med Inform*, *187*(105461), 1–26. https://doi.org/10.1016/j.ijmedinf.2024.105461.Predicting

Evans, J. (2024). The role of socioeconomic status in uterine fibroid awareness and treatment : a narrative review. *TherapeuTic Advances in Reproductive Health*, *18*, 1–8. https://doi.org/10.1177/26334941241297634

Farma, A. F. F., & Kurniati, Y. P. (2024). Analysis of The Incidence of Uterine Leiomyoma Based on Body Mass Index and Neutrophil-Lymphocyte Ratio. *Journal La Medihealtico*, *05*(05), 998–1007. https://doi.org/10.37899/journallamedihealtico.v5i5.1609

Guzik, P., Harpula, M., Wojtowicz, K., Góra, T., Wojtowicz, K., Góra, T., Guzik, P., Harpula, M., Chechliński, P., Wolak, E., & Stryjkowska-góra, A. (2022). Uterine myomas and sarcomas – clinical and ultrasound characteristics and differential diagnosis using pulsed and color Doppler techniques. *J Ultrason*, *22*(6), 100–108. https://doi.org/10.15557/JoU.2022.0017

Katon, J. G., Plowden, T. C., & Marsh, E. E. (2024). Racial Disparities in Uterine Fibroids and Endometriosis: A Systematic Review and Application of social, structural, and political context. *Fertil Steril*, *119*(3), 355–363. https://doi.org/10.1016/j.fertnstert.2023.01.022.Racial

Keizer, A. L., Semmler, A., Kok, H. S., Kesteren, P. J. M. Van, Keizer, A. L., Semmler, A., Kok, H. S., & Kesteren, P. J. M. Van. (2024). Modifiable prognostic factors in uterine fibroid development : a systematic review of literature. *Journal of Obstetrics and Gynaecology*, *44*(1). https://doi.org/10.1080/01443615.2023.2288225

Laily, A., Nair, I., Shank, S. E., Wettschurack, C., Khamis, G., Dykstra, C., Demaria, A. L., & Kasting, M. L. (2024). Enhancing Uterine Fibroid Care : Clinician Perspectives on Diagnosis , Disparities , and Strategies for Improving Health Care. *Women's Health Reports*, *5*(1), 293–304. https://doi.org/10.1089/whr.2023.0113

Laning, I., Manurung, I., & Sir, A. (2019). Faktor Risiko yang Berhubungan dengan Kejadian Penyakit Mioma Uteri Fakultas Kesehatan Masyarakat - Universitas Nusa Cendana Fakultas Kesehatan Masyarakat - Universitas Nusa Cendana. *Lontar: Journal of Community Health*, *01*(03), 95–102.

Li, B., Wang, F., Chen, L., & Tong, H. (2023). Global epidemiological characteristics of uterine fibroids. *Obstetrics and Gynecology*, *19*(6), 1802–1810.

https://doi.org/https://doi.org/10.5114/aoms/171786

Lubis, P. N. (2020). Diagnosis dan Tatalaksana Mioma Uteri. *CDK*, *47*(3), 196–200.

Muawad, R., Dabbagh, R., & Sabr, Y. (2022). Association of health and lifestyle factors with uterine fibroids among Saudi women : A case e control study. *Journal of Taibah University Medical Sciences*, *17*(6), 1039–1046. https://doi.org/10.1016/j.jtumed.2022.06.005

Nadila, N., & Zulala, N. N. (2024). Faktor-faktor yang berhubungan dengan kejadian mioma uteri di RS PKU Muhammadiyah Gamping , Sleman Yogyakarta Factors related to the incident of uterine myoma at PKU Muhammadiyah Gamping Hospital , Sleman Yogyakarta. *Prosiding Seminar Nasional Penelitian Dan Pengabdian Kepada Masyarakat*, *2*(28), 1220–1228.

Ngorili, G. S., Yadav, B. B., & Takalkar, A. A. (2022). Epidemiological study of uterine fibroids : our experience from urban Maharashtra. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, *11*(8), 2101–2105. https://doi.org/https://dx.doi.org/10.18203/2320-1770.ijrcog20221918

Prasetyo, A., Nuraini, N., Rachmawati, E., & Vestine, V. (2025). Faktor Risiko Leiomyoma Uterus di Rumah Sakit Umum Pusat Dr . Kariadi Semarang. *Jurnal Rekam Medik Dan Informasi Kesehatan*, *6*(4), 265–275. https://doi.org/10.25047/j-remi.v6i4.6009

Ulfah, M. (2017). HUBUNGAN PARITS DENGAN KEJADIAN MIOMA UTERI DI RSUD Dr. GOETENG TARUNADIBRATA PURBALINGGA. *Viva Medika*, *10*(01). https://doi.org/10.35960/vm.v10i2.352

Umar, M., & Marselina, Dilla Srikandi Syahadat1, U. A. (2023). Faktor Risiko Kejadian Mioma Uteri Pada Pasien Rawat Jalan di RSUD Undata Provinsi Sulawesi Tengah. *Ghidza : Jurnal Gizi Dan Kesehatan*, *7*(2), 245–259. https://doi.org/https://doi.org/10.22487/ghidza.v7i2.872

Va¨lima¨ki, N., Kuisma, H., Annukka Pasanen, O. H., Jari Sjo¨berg, Ralf Bu¨tzow, Nanna Sarvilinna, H.-R. H., Tolvanen, J., Simona Bramante, Tomas Tanskanen, J. A., & Outi Uimari, Amjad Alkodsi, Rainer Lehtonen, Eevi Kaasinen, Kimmo Palin1, 2, L. A. A. (2018). Genetic predisposition to uterine leiomyoma is determined by loci for genitourinary development and genome stability. *ELife*, *7*(e37110), 1–50. https://doi.org/https://doi.org/10.7554/eLife.37110

Vodouhe, M. V., Atade, S. R., Ahouingnan, Y. A., Agossou, B., Akouodé, B., Hounto, T., Bodedjo, G. O., Fanny, N., Hounkponou, M., & Salifou, K. (2024). Associated Factors and Consequences of Uterine Fibroids in Hospitals in the Borgou Department of Benin in 2022. *Advances in Reproductive Sciences*, *12*, 60–74. https://doi.org/10.4236/arsci.2024.121006

Wang, Y., Farland, L. V, Gaskins, A. J., Wang, S., Terry, K. L., Rexrode, K. M., Rich-edwards, J. W., Tamimi, R., Chavarro, J. E., & Missmer, S. A. (2024). Endometriosis and uterine fibroids and risk of premature mortality : prospective cohort study. *BMJ*, *387*, e078797. https://doi.org/10.1136/bmj-2023-078797

Wu, C., Zhou, L., Chen, R., Li, H., Li, J., Guo, F., Li, R., Zhou, H., & Huang, J. (2025). The epidemiology of uterine fibroids : global disease burden from 1990 to 2021 and future trend predictions. *Frontiers in Reproductive Health*, *7*(1629834), 1–15. https://doi.org/10.3389/frph.2025.1629834

Yang, Q., Ciebiera, M., Bariani, M. V., Ali, M., Elkafas, H., Boyer, T. G., & Al-Hendy, A. (2022). Comprehensive Review of Uterine Fibroids: Developmental Origin, Pathogenesis, and Treatment. *Endocrine Reviews*, *43*(4), 678–719. https://doi.org/10.1210/endrev/bnab039