

A Study to Assess the Epidemiological Pattern and Risk Profile of Endometrial Cancer in Women

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Abstract

Endometrial cancer is one of the most common gynecological malignancies affecting women worldwide, with its incidence showing a rising trend due to lifestyle changes, increasing obesity rates, and longer life expectancy. Understanding its epidemiological pattern and associated risk factors is essential for early identification and prevention. The present study was conducted to assess the epidemiological distribution and risk profile of endometrial cancer among women. A descriptive research design was adopted to analyze available data from relevant studies, hospital records, and published literature. The study focused on identifying the age-wise distribution, reproductive history, hormonal influences, metabolic conditions, and lifestyle-related factors associated with endometrial cancer. Special attention was given to well-established risk determinants such as obesity, diabetes mellitus, nulliparity, late menopause, and prolonged exposure to unopposed estrogen. Findings from the reviewed data indicated that endometrial cancer is more commonly observed in postmenopausal women, particularly those aged above 50 years. A significant association was found between increased body mass index and a higher risk of developing the disease. Women with a history of infertility, irregular menstrual cycles, and hormone therapy without progesterone also showed elevated susceptibility. Additionally, a sedentary lifestyle and unhealthy dietary habits were identified as contributing factors. The study highlights the importance of awareness regarding modifiable risk factors and emphasizes the need for regular screening in high-risk groups. Early recognition of symptoms and risk profiles can play a crucial role in improving outcomes and reducing disease burden. Strengthening educational programs and preventive strategies may help in the timely detection and management of endometrial cancer among women.

Keywords: Endometrial cancer, epidemiology, risk factors, women's health, hormonal imbalance

INTRODUCTION

Endometrial cancer is a malignant condition that originates from the lining of the uterus and is considered one of the most frequently diagnosed cancers of the female reproductive system. In recent years, there has been a noticeable increase in its occurrence, particularly in developed and developing countries. This increase is largely linked to changing reproductive patterns, increasing obesity rates, sedentary lifestyles, and greater life expectancy among women. Despite advances in diagnostic techniques and treatment options, endometrial cancer continues to contribute significantly to morbidity in postmenopausal women [1].

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The disease is often associated with a range of risk factors, both modifiable and non-modifiable. Age, early menarche, late menopause, nulliparity, and genetic predisposition are non-modifiable factors, whereas obesity, diabetes mellitus,

hormonal imbalance, and prolonged exposure to unopposed estrogen are important modifiable risk factors. Among these, obesity has emerged as one of the strongest contributing factors owing to its influence on estrogen metabolism. Many of these risk factors are preventable or manageable, highlighting the importance of awareness and early interventions [2].

One of the major concerns with endometrial cancer is that its early symptoms, such as abnormal uterine bleeding, are often overlooked or ignored, especially in postmenopausal women. This delay in seeking medical attention frequently leads to late diagnosis and reduced treatment success rates. Therefore, understanding epidemiological patterns and identifying high-risk populations are crucial for developing effective prevention and control strategies. In this context, the present study aimed to explore the epidemiological distribution and risk profile of endometrial cancer in women. The findings are expected to contribute to better awareness, early detection practices, and improved preventive healthcare measures targeting at-risk populations [3].

Need for Study

Endometrial cancer is steadily emerging as a major public health concern among women, particularly among middle-aged and postmenopausal women. Although it is often diagnosed earlier than other gynecological cancers, the increasing number of cases in recent years highlights the need for a deeper understanding of its distribution and associated risk factors. Many women remain unaware of the early warning signs and modifiable risks, which delay diagnosis and affect treatment outcomes negatively.

There is also a growing shift in lifestyle patterns, including increased obesity, reduced physical activity, and changes in reproductive behavior, all of which contribute to a higher risk of developing this disease. In such scenarios, identifying epidemiological patterns and risk profiles is essential to support early detection and prevention strategies. The findings of such studies can help healthcare professionals plan targeted awareness programs and improve screening practices in high-risk populations.

Background of Study

Endometrial cancer originates from the inner lining of the uterus and is one of the most common cancers affecting the female reproductive system in the United States. Globally, its incidence has shown a gradual increase, especially in developed regions; however, developing countries are also witnessing a rising trend due to urbanization and lifestyle changes.

Research evidence suggests that hormonal imbalance, particularly prolonged exposure to estrogen without progesterone balance, plays a significant role in its development. Conditions such as obesity, diabetes mellitus, hypertension, and polycystic ovarian syndrome further increase this risk. In addition, reproductive factors such as nulliparity, late menopause, and early menarche are strongly associated with the disease. Despite advancements in medical care, awareness of endometrial cancer remains limited among the general population. Many women tend to ignore early symptoms, such as abnormal uterine bleeding, which often leads to a delayed diagnosis. Therefore, studying its epidemiological pattern and risk profile is important to improve awareness, encourage early reporting of symptoms, and support preventive healthcare initiatives aimed at reducing the disease burden.

REVIEW OF LITERATURE

A review of the existing literature provides valuable insights into the epidemiological patterns, risk factors, and clinical profiles of endometrial cancer among women. Several studies conducted across different populations have consistently highlighted that endometrial cancer is more common in postmenopausal women, particularly those aged >50 years. Age has been identified as one of the strongest non-modifiable risk factors, with incidence increasing steadily after menopause [4–7].

Studies have emphasized the role of hormonal imbalance in the development of endometrial cancer. Prolonged exposure to estrogen without the balancing effect of progesterone is strongly associated with

abnormal endometrial proliferation. Women who use estrogen-only hormone replacement therapy for extended periods have a higher risk of developing the disease. In addition, reproductive factors such as early menarche, late menopause, and nulliparity have been repeatedly reported in the literature as contributing risk determinants [8–10].

Obesity has emerged as one of the most significant modifiable risk factors in many epidemiological studies. Excess adipose tissue increases the peripheral conversion of androgens to estrogens, thereby elevating circulating estrogen levels. Studies have shown that overweight and obese women are at a considerably higher risk compared to those with normal body weight. Similarly, conditions such as type 2 diabetes mellitus and hypertension have also been linked to an increased incidence of endometrial cancer. The literature further indicates that lifestyle factors such as physical inactivity, high-fat diet, and sedentary behavior contribute indirectly to disease development. Several researchers have also reported that awareness of early symptoms, especially abnormal uterine bleeding, remains low among women, leading to delayed diagnosis in many cases. Overall, the reviewed studies suggest that endometrial cancer is influenced by a combination of hormonal, metabolic, reproductive, and lifestyle-related factors. This highlights the importance of early identification of risk profiles and strengthening awareness programs for better prevention and control of the disease [11–13].

DISCUSSION

The present study was undertaken to understand the epidemiological patterns and risk profiles of endometrial cancer among women. The findings from the reviewed evidence suggest that the disease is more frequently observed in postmenopausal women, particularly in those aged > 50 years. This aligns with earlier research, which has consistently shown age to be an important non-modifiable risk factor. Hormonal imbalance, particularly prolonged exposure to unopposed estrogen, appears to play a central role in disease development [14].

Another important observation is the strong association between endometrial cancer and metabolic conditions, such as obesity and diabetes mellitus. Many studies have highlighted that increased body fat contributes to higher estrogen levels, which may stimulate abnormal growth of the endometrial lining of the uterus. Similarly, reproductive factors such as nulliparity, late menopause, and early menarche have also been found to increase the risk. These findings indicate that both biological and lifestyle-related factors contribute significantly to the occurrence of the disease [15].

The study also reflects that awareness of risk factors and early symptoms remains limited among women. This lack of awareness often leads to delayed medical consultation, which can affect the prognosis and treatment outcomes.

Limitations of the Study

- This study is based on secondary data and published literature, which may have variations in methodology and reporting.
- The limited availability of region-specific data restricted a more detailed population-based analysis.
- Time constraints may have limited the inclusion of recent studies and emerging evidence.
- Individual patient-level clinical verification was not possible because of the review-based nature of the study.

Recommendations

- Regular awareness programs should be conducted to educate women about the risk factors and early symptoms of endometrial cancer.
- High-risk groups, especially obese and diabetic women, should be encouraged to undergo periodic screenings.
- Lifestyle modifications, including weight management and physical activity, should be promoted at the community level.

- Healthcare providers should focus on the early identification of abnormal uterine bleeding and ensure timely referral.
- Further large-scale community-based studies should be conducted to better understand regional risk patterns.

Implications of the Study

The findings of this study have important implications for nursing practice, public health, and health education in the following ways. Nurses play a key role in educating women about reproductive health and in identifying early warning signs. This study highlights the need to strengthen preventive counselling in clinical and community settings. This also supports the development of targeted health education programs focusing on modifiable risk factors, such as obesity and lifestyle habits. At the policy level, incorporating cancer awareness into women's health programs can help with early detection and improved outcomes.

CONCLUSION

Endometrial cancer is an important gynecological malignancy with a rising incidence influenced by several risk factors. The study highlighted that age, hormonal imbalance, obesity, and reproductive history play significant roles in disease development. Despite being a potentially preventable and early detectable condition, a lack of awareness continues to be a major challenge. Strengthening education, promoting healthy lifestyle practices, and encouraging early symptom reporting can significantly reduce the burden of endometrial cancer among women.

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