

INPLASY

Prognostic Factors of Poor Outcome and Targeted Nursing Interventions for Endometrial Cancer Patients: A Systematic Review and Meta-Analysis

INPLASY2024110012

doi: 10.37766/inplasy2024.11.0012

Received: 4 November 2024

Published: 4 November 2024

Xu, YH; Qi, XL; Gao, TW; Wang, JY; Chai, LL.

Corresponding author:

Lili Chai

cailil241031@163.com

Author Affiliation:

Hangzhou Cancer Hospital.

ADMINISTRATIVE INFORMATION

Support - No.

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY2024110012

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 4 November 2024 and was last updated on 4 November 2024.

INTRODUCTION

R **Review question / Objective** P (Population): The population of interest in this study is patients diagnosed with endometrial carcinoma (EC).

I (Intervention):

The intervention, in this context, is not a traditional treatment but rather the identification and management of poor prognosis factors through targeted nursing interventions. These interventions may include comprehensive assessments, psychological care, pain management, nutritional support, and coordination with adjuvant therapies like radiation and chemotherapy.

C (Comparison):

Since this study focuses on the impact of poor prognosis factors on EC patients and the effectiveness of targeted nursing interventions, there is no direct comparison between different interventions. Instead, the comparison is implicit,

as we are assessing the natural impact of these factors on patient prognosis and the potential benefits of managing them through targeted nursing.

O (Outcome):

The primary outcomes of interest are overall survival (OS) and quality of life (QOL) among EC patients. These outcomes provide comprehensive measures of the long-term impact of poor prognosis factors and the effectiveness of targeted nursing interventions in improving patient outcomes.

S (Study Design):

The study design for this research is a systematic review and meta-analysis. This design allows for the integration of data from multiple studies to provide a more reliable estimate of the impact of poor prognosis factors on EC patient prognosis and to propose targeted nursing interventions based on this evidence.

Condition being studied This study focuses on the poor prognostic factors and targeted nursing interventions for patients with endometrial carcinoma (EC). Endometrial carcinoma, one of the most common malignancies of the female reproductive tract, has seen a continuous rise in incidence globally in recent years, particularly in European and American countries where it has become the leading gynecological malignancy. This disease primarily affects the endometrial layer of women. With the extension of women's average lifespan, changes in fertility concepts, and the widespread use of exogenous estrogens, its incidence continues to climb, and the age of onset tends to be younger.

Despite advancements in medical technology that enable early detection and diagnosis of endometrial carcinoma, poor prognostic factors still exist, posing a serious threat to patients' quality of life and survival. These poor prognostic factors include, but are not limited to, patient age, body mass index (BMI), preoperative anemia status, diabetes history, metformin usage, and nutritional scores. The prognosis for early-stage endometrial carcinoma is relatively favorable, especially for stage I patients, who can achieve a 5-year survival rate of over 95% with standardized treatment. However, as the disease stage increases, the prognosis gradually worsens, and patients with advanced stages may even develop metastases to other sites, resulting in a poor prognosis.

Targeted nursing interventions are crucial in addressing the poor prognostic factors of endometrial carcinoma patients. These interventions encompass comprehensive assessments of the patient's condition, psychological care, pain management, nutritional support, as well as coordination and care for adjuvant therapies such as radiotherapy and chemotherapy. Systematic nursing care can help alleviate patients' pain, improve their quality of life, and potentially extend their survival.

This study employed a systematic review and meta-analysis approach to comprehensively evaluate the effects of poor prognostic factors and targeted nursing interventions for endometrial carcinoma patients. We searched authoritative databases such as PubMed, Elsevier, and Web of Science to obtain the latest research findings related to poor prognostic factors in endometrial carcinoma patients. Rigorous inclusion and exclusion criteria were adopted to ensure the timeliness and reliability of the studies. Through meta-analysis, we combined the results of multiple

studies to draw clear conclusions about the impact of poor prognostic factors such as age, BMI, and preoperative anemia on the overall survival of endometrial carcinoma patients. Based on these findings, we proposed targeted nursing intervention recommendations aimed at providing a scientific basis for the clinical treatment and care of endometrial carcinoma, thereby further improving patients' treatment outcomes and quality of life.

METHODS

Participant or population EC patients.

Intervention High-quality clinical studies on poor prognostic factors for EC patients should be included.

Comparator The comparator involves the comparison between different levels of poor prognostic factors, such as different age groups, different BMI levels, presence or absence of preoperative anemia, etc.

Study designs to be included Randomized controlled trial; cohort study; case-control trial.

Eligibility criteria Inclusion Criteria:a. Study Type: High-quality clinical studies on poor prognostic factors for EC patients should be included. The studies should provide clear survival prognosis data to support the analysis and discussion in this paper.b. Study Subjects: Must include EC patients with specific data.c. Data Integrity: The included studies should provide complete data, including baseline characteristics of patients and specific manifestations of poor prognostic factors.d. Study Quality: The included studies should be of high quality, with reasonable research methods, rigorous data collection and analysis processes, and reliable conclusions.

Exclusion Criteria:a. If multiple articles report the same or similar research results, only the most recent one will be included to avoid duplicate calculations and analyses.b. Low-quality studies will be excluded.c. Studies unrelated to poor prognostic factors for EC patients will be excluded.d. Studies with incomplete data or unobtainable outcome indicator data will be excluded.

Information sources PubMed, Elsevier, and Web of Science.

Main outcome(s) A total of 16 studies involving 5724 patients were included. The meta-analysis results showed that age [HR=1.43, 95%CI

(1.11-1.84), $P < 0.001$], BMI [OR=1.23, 95%CI (0.38-3.95), $P = 0.004$], and preoperative anemia [OR=0.77, 95%CI (0.14-4.29), $P = 0.001$] had significant effects on the prognosis of EC patients. In contrast, history of diabetes, use of metformin, and nutritional status had no significant impact on the prognosis of EC patients. Age, BMI, and preoperative anemia are independent predictors of poor prognosis in EC patients. Targeted nursing interventions for EC patients should be optimized based on these three aspects to improve patient survival and quality of life. PubMed, Elsevier, and Web of Science.

Quality assessment / Risk of bias analysis The included literature was evaluated using the Newcastle-Ottawa Scale (NOS). The NOS mainly includes the following three modules and eight items. The NOS adopts a semi-quantitative principle of a star rating system, with a maximum of 1 star for all items except comparability (which can be rated up to 2 stars), and a total score of 9 stars. A higher score indicates higher study quality, and studies with a score of 6 or above are considered high-quality studies.

Strategy of data synthesis STATA 12 was used to combine the results of the literature. To assess the correlation between prognostic risk factors for EC and overall survival (OS), combined hazard ratios (HRs) or odds ratios (ORs) and their 95% confidence intervals (CIs) were used, depending on the literature. Specifically, when the HR or OR value is greater than 1 and its 95% CI does not include 1, it indicates that overexpression of the risk factor may be associated with shorter survival.

Subgroup analysis Subgroup analysis according to outcome indicators.

Sensitivity analysis To quantify the statistical heterogeneity of the included studies, the Cochran Q test and Higgins I-squared (I^2) statistic were used. If the I^2 value exceeds 50% and the P-value of the Q test is less than 0.10, it indicates significant heterogeneity, and a random-effects model (REM) will be used to combine HRs and their 95% CIs. Otherwise, a fixed-effects model (FEM) will be selected for data processing.

Country(ies) involved China.

Keywords endometrial cancer; prognosis prediction; risk factors; meta-analysis; targeted nursing.

Contributions of each author

Author 1 - Yuhong Xu.

Author 2 - Xueling Qi.

Author 3 - Tianwei Gao.

Author 4 - Jianying Wang.

Author 5 - Lili Chai.