INPLASY

Meta-Analysis of factors influencing depression in cervical cancer patients

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ADMINISTRATIVE INFORMATION

INTRODUCTION

Review question / Objective BACKGROUND: Depression in cervical cancer patients concurrently compromises disease management and quality of life. However, significant discrepancies persist among existing studies regarding the determinants of depression in this population worldwide. To address this gap, this study employs meta-analysis to systematically identify and synthesize the contributing factors to depression among cervical cancer patients.
AIM: To provide evidence-based references for mitigating depression risk among cervical cancer patients.

Condition being studied This study identifies key risk factors for depression in cervical cancer patients through a meta-analysis, including low educational attainment, age ≥ 45 years, low social support, and undergoing hysterectomy. The findings highlight the importance of early identification and targeted interventions to manage depression, with implications for both clinical practice and patient well-being. Addressing these factors can significantly improve psychological outcomes and enhance patients' quality of life.

METHODS

Participant or population Cervical cancer patients with depression.

Intervention No intervention was done, only data analysis.

Comparator Patients with cervical cancer but not depression.

Study designs to be included Methods: Literature was searched in databases including CNKI, Wanfang, VIP, CBM, Web of Science, PubMed, and EMBASE from their inception until March 2025. The literature was screened, selected, quality assessed, and data extracted and analyzed. Meta-analysis was conducted using Revman 5.4 and Stata 18 software, with odds ratios (OR) and their 95% confidence intervals (CI) as the observed indicators.

Eligibility criteria
Inclusion Criteria
①Study Types: Cohort studies, case-control studies, or cross-sectional studies. ②Study Subjects: Diagnosed cervical cancer patients. ③Study Content: Analysis of factors influencing depression in cervical cancer patients. ④Depression Screening: Utilization of the Self-Rating Depression Scale (SDS), Hospital Anxiety and Depression Scale (HADS), Beck Depression Inventory (BDI), or Hamilton Depression Rating Scale (HAMD). ⑤Completeness of Data: Literature must provide complete data, appropriate statistical methods, and directly provide odds ratios (OR) with corresponding 95% confidence intervals (95% CI), or sufficient data to calculate these.
Exclusion Criteria
①Study Types: Not cohort studies, case-control studies, or cross-sectional studies. ②Inability to Extract Valid Outcome Data: Studies that do not provide valid outcome data. ③Literature Types: Animal experiments, non-clinical literature, reviews, systematic evaluations, and meta-analyses. ④Duplicate Literature.

Information sources Literature published in databases from their inception to March 2025 was searched in CNKI, Wanfang, VIP, CBM, Web of Science, PubMed, and EMBASE to identify all potentially eligible studies.

Main outcome(s) 1.Low education attainment；2.Age≥45 years；3.Inter-household monthly income disparity；4.Tumor stage (advanced stage)；5.Low social support；6.Moderate-to-severe pain；7.Limited diseaseawareness；8.Hysterectomy..

Quality assessment / Risk of bias analysis
Quality Assessment
Different scoring standards were applied based on the type of literature. For case-control studies, we utilized the Newcastle-Ottawa Scale (NOS) [24,25]recommended by the Cochrane Collaboration. This scale includes eight evaluation items, with a total score of 9, specifically divided into: selection of study population (4 items, 4 points), comparability between groups (1 item, 2 points), and outcome measurement (3 items, 3 points).

Strategy of data synthesis
Data Analysis
Data analysis was conducted by using Review Manager 5.4 and Stata 18. The odds ratio (OR) and its 95% confidence interval (CI) were utilized as the outcome measures. Heterogeneity among studies was evaluated by using the Q statistic and I^2 statistic; when P>0.1 and I2<50%, it indicated that the heterogeneity between studies was not significant, and a fixed-effect model was employed. Conversely, a random-effects model was used if the heterogeneity was significant. Publication bias was assessed by using Begg's test. Sensitivity analysis was performed by examining the magnitude of differences between the fixed-effect and random-effects model data. P<0.05 was considered statistically significant.

Subgroup analysis No subgroup analyses were involved in this study.

Sensitivity analysis The reliability of the results was assessed by observing the magnitude of differences between the fixed-effect model and the random-effect model data. The analysis revealed no essential differences between the two models for each influencing factor, suggesting that the results are stable and reliable, as shown in Table 4.

Country(ies) involved China.

Keywords Cervical cancer; Depression; Influencing factors; Meta-analysis; Case-control study.

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