

# Correlation of vitamin D level in cervical cancer: Systematic literature review

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### ABSTRACT

**Introduction:** Vitamin D and its receptor (VDR) are essential in the progression of gynaecological cancers. The change in perspective regarding vitamin D as a potential anti-cancer treatment has led to new opportunities for investigating how intracellular signal transduction initiates various cellular activities. The active hormonal form of vitamin D is vitamin D 1.25 (OH). Vitamin D is thought to influence carcinogenesis through mechanisms such as inflammation, apoptosis, cell growth and differentiation, angiogenesis, cancer invasiveness, and metastasis. It promotes apoptosis, decreases cell proliferation, and stimulates the production of molecules that inhibit growth. **Materials and Methods:** Using suitable search terms. A systematic review was carried out utilising the PubMed, Research Gate and Google Scholar databases. The review included English-language publications from 2020 to 2025 that addressed the keyword "Vitamin D and cervical cancer". **Results:** The Articles found 100 articles from ResearchGate, 6 articles from the Google Scholar database, and 35 articles from the PubMed database. Articles were filtered, but 3 articles met the criteria. Those that were filtered satisfied the requirements. 341 women as participants, 104 women with cervical cancer and 237 women without cervical cancer. In this study, the same threshold was not used in determining the vitamin D value, but in all studies, it was found that women with cervical cancer had vitamin D values below normal, and the comparison of vitamin D levels in women with cervical cancer at  $P < 0.05$ . Recent studies have explored the association between vitamin D deficiency and cervical cancer. Multiple cross-sectional studies found significantly lower vitamin D levels in women with cervical cancer compared to those without. A higher prevalence of vitamin D deficiency (25-OH-vitamin D  $< 50$  nmol/l) was observed in cervical cancer. **Conclusion:** These findings suggest that vitamin D deficiency might be an important systemic factor associated with cervical cancer. Researchers recommend determining vitamin D levels and addressing deficiencies as a potential preventive measure for cervical cancer.