

Abstrak

Latar belakang Kanker kulit merupakan salah satu kanker dengan insidensi tertinggi di dunia. Menurut WHO, sekitar 2 sampai 3 juta kanker kulit non-melanoma dan 132.000 kanker kulit melanoma terjadi secara global setiap tahunnya, dan merupakan satu dari setiap tiga kanker yang terdiagnosis. Di Indonesia, kanker kulit tercatat sebagai kanker dengan angka kejadian ketiga tertinggi setelah kanker serviks uterus dan ovarium, serta kanker payudara. Kanker kulit terjadi akibat perubahan sel-sel penyusun kulit yang normal menjadi sel tumor. Beberapa faktornya antara lain paparan sinar UV, infeksi virus, genetik (ras kulit putih), dan riwayat keluarga. Vitamin D diketahui memiliki beberapa peran protektif terhadap beberapa jenis kanker, termasuk kanker kulit. Peran tersebut antara lain regulasi proliferasi, induksi apoptosis, inhibisi angiogenesis, dan menekan inflamasi.

Tujuan Penelitian ini bertujuan untuk menelaah secara sistematis pengaruh kadar vitamin D serum dan suplementasi vitamin D terhadap prognosis kanker kulit pada pasien yang menjalani terapi.

Metode Telaah sistematis dilakukan dengan melakukan kajian terhadap publikasi mengenai vitamin D dan kanker kulit menggunakan metode *Preferred Reporting Items for Systematic Reviews and Meta-Analysis* (PRISMA). Pencarian dilakukan melalui *Google Scholar*, *Pubmed Central*, *Cochrane Library*, *EBSCOHost* dan *ScienceDirect* dengan kata kunci: (vit* D [Judul] ATAU cholecalciferol [Judul] ATAU 25-hydroxycholecalciferol [Judul] ATAU 1,25-dihydroxycholecalciferol [Judul]) DAN (supplement* [Judul/Abstrak] ATAU intake [Judul/Abstrak] ATAU diet* [Judul/Abstrak] ATAU level [Judul/Abstrak] ATAU concentration [Judul/Abstrak]) DAN (melanoma [Judul] ATAU skin cancer [Judul] ATAU carcinoma of the skin [Judul] ATAU NMSC [Judul] ATAU BCC [Judul] ATAU Basal Cell Carcinoma [Judul] ATAU SCC [Judul] ATAU Squamous cell carcinoma [Judul]) DAN (prognosis [Judul/Abstrak] ATAU outcome [Judul/Abstrak] ATAU recovery [Judul/Abstrak] ATAU survival [Judul/Abstrak]). Sampel disaring berdasarkan kriteria inklusi dan eksklusi, lalu dilakukan *critical appraisal* menggunakan JBI *critical appraisal tools*. Sintesis dilakukan dengan metode *textual narrative*.

Hasil dan Kesimpulan Telaah ini menyertakan empat artikel penelitian mengenai pengaruh kadar vitamin D serum terhadap prognosis kanker kulit dan satu artikel pengaruh suplementasi vitamin D terhadap prognosis kanker kulit, semuanya kepada populasi pasien melanoma. Kurangnya artikel tentang prognosis kanker kulit non-melanoma (NMSC) diduga karena prognosis yang sangat baik dan tingkat kesembuhan yang tinggi dari kanker ini menyebabkan sistem kesehatan lebih memprioritaskan evaluasi risiko dan insidensi dibanding pengembangan pengobatan melalui studi prognosis. Ditemukan terdapat hubungan terbalik yang signifikan antara

kadar vitamin D serum terhadap stadium berdasar sistem *American Joint Committee on Cancer* (AJCC) dan *overall survival*. Masih terdapat keberagaman dalam hasil terhadap beberapa faktor prognostik lainnya. Penelitian mengenai pengaruh suplementasi vitamin D belum dapat memberi kesimpulan karena jumlah artikel yang tidak adekuat.

Kata kunci: kanker kulit, karsinoma sel basal, karsinoma sel skuamosa, melanoma, kanker keratinosit, vitamin D

Abstract

Background Skin cancer is one of the cancers with the highest incidence globally. According to WHO, approximately 2 to 3 million non-melanoma skin cancers and 132,000 melanoma skin cancers occur globally each year, constituting one in every three cancers diagnosed. In Indonesia, skin cancer is listed as a cancer with the third highest incidence rate after cervical, uterine, ovarian, and breast cancer. Skin cancer occurs due to changes in the cells that make up the normal skin into tumor cells. Some of the factors include exposure to UV rays, viral infections, genetics (white race), and family history. Vitamin D is known to have several protective roles against several types of cancer, including skin cancer. These roles include regulation of proliferation, induction of apoptosis, inhibition of angiogenesis, and suppression of inflammation.

Objective This study aims to systematically review the effect of serum vitamin D levels and vitamin D intake on the prognosis of skin cancer in diagnosed patients undergoing therapy.

Methods This systematic review was conducted by reviewing publications regarding vitamin D and skin cancer using the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) method. Searches were conducted via Google Scholar, Pubmed Central, Cochrane Library, EBSCOHost and ScienceDirect with the keywords: (vit* D [Title] OR cholecalciferol [Title] OR 25-hydroxycholecalciferol [Title] OR 1,25-dihydroxycholecalciferol [Title]) AND (supplement* [Title/Abstract] OR intake [Title/Abstract] OR diet* [Title/Abstract] OR level [Title/Abstract] OR concentration [Title/Abstract]) AND (melanoma [Title] OR skin cancer [Title] OR carcinoma of the skin [Title] OR NMSC [Title] OR BCC [Title] OR Basal Cell Carcinoma [Title] OR SCC [Title] OR Squamous cell carcinoma [Title]) AND (prognosis [Title/Abstract] OR outcome [Title/Abstract] OR recovery [Title/Abstract] OR survival [Title/Abstract]). Samples were screened based on inclusion and exclusion criteria, then a critical appraisal was carried out using the JBI critical appraisal tools. The synthesis was carried out using a textual narrative method.

Results and Conclusions This review included four research articles on the effect of serum vitamin D levels on skin cancer prognosis and one article on the effect of vitamin D supplemental intake on skin cancer prognosis, all in populations of melanoma patients. The short of articles on non-melanoma skin cancer (NMSC) prognosis is allegedly due to the excellent prognosis and high cure rate of this cancer causing the health system to prioritize assessing risk and incidence rather than developing treatments through prognosis study. It was found that there was a significant inverse relationship between serum vitamin D levels on American Joint Committee on Cancer (AJCC) staging system and overall survival. There are still

variations in the results for some other prognostic factors. Research on the effect of vitamin D supplemental intake has yet to be able to provide conclusions because of the inadequate number of articles.

Keywords: skin cancer, basal cell carcinoma, squamous cell carcinoma, melanoma, keratinocyte cancer, vitamin D