



ROLE OF VITAMIN-D IN VITILIGO PATIENTS: RECENT ADVANCES

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*Corresponding Author**ABSTRACT**

Background: Currently, Vitamin D in vitiligo, skeletal and cardiovascular disorders (CVDs), cancers, central nervous system (CNS) diseases, reproductive diseases (RDs), infections, and autoimmune and dermatological disorders (AIDDs) are two main sources of vitamin D are sun exposure (SE) and oral intake (OI), including with the vitamin D supplementation and dietary intake are responsible according to different clinical conditions.

Material and methods: We are find out through literature and compare that several factors are linked to vitamin D status, different skin type, age, sex, body mass index (BMI), physical activity (PA), alcohol intake (AI), including with the vitamin D receptor polymorphisms (VDRPs).

Results: 90% photosensitive disorders (PSD) portends to avoid sun exposure, and practice, 70% photoprotection, Patients with at risk for vitamin D deficiency (VDD-60-80%). Vitamin D serum concentration (VDSC) within normal levels are leading to atopic dermatitis (ADs), psoriasis, vitiligo, polymorphous light eruption (PLE), mycosis fungoides, alopecia areata, systemic lupus erythematosus (SLE), and 90% report shown in melanoma patients.

Conclusion: Vitamin D status (VDS) had the potential benefits of skin diseases with vitiligo.

KEYWORDS : Vitamin D, vitiligo, polymorphous light eruption, melanoma**Introduction:**

Vitamin D play a vital role in autoimmune diseases, epidemiologic evidence demonstrated that vitamin D deficiency excited within adult patients with vitiligo. Serum vitamin D level associated with the vitiligo children had sunshine and vitamin D fortified foods developed the rates of children vitiligo with the family history has decreased in China^[1] The Narrow-band ultraviolet B (NB-UVB) is the gold standard in the treatment of vitiligo with 25-hydroxyvitamin D (25-OH-vitamin D) a physiological role in photo-induced melanogenesis in human skin so the association between vitamin D levels and vitiligo still needs to be investigated as the baseline level of 25-hydroxyvitamin D, (at 0 week), was significantly lower in patients than the control group. Levels of such 25(OH) vitamin D at 12 and 24 weeks showed a significant improvement in patients reduction in VASI score after 24 weeks of therapy^[2] NB-UVB phototherapy is associated with an improved cutaneous VDR expression (CVDRE), and vitamin D synthesis, repigmentation response to NB-UVB related to higher baseline VDR expression and its upregulation after phototherapy^[3]. Vitamin D serum concentration within normal levels is warranted in atopic dermatitis, psoriasis, vitiligo, polymorphous light eruption, mycosis fungoides, alopecia areata, systemic lupus erythematosus, and melanoma patients respectfully. Potential determinants of vitamin D status, as well as the benefits and risks of vitamin D with a special focus on the skin^[4]. As multiple hormones (corticotropin-releasing hormone, adrenocorticotropic hormone, α -melanocyte-stimulating hormone, melatonin, calcitriol, testosterone, estrogen), genes, Human leukocyte antigen (HLA), Cytotoxic T lymphocyte-associated antigen 4 (CTLA-4), Forkhead box D3 (FOX D3), Cluster of differentiation 117 (CD117), Estrogen receptor (ESR) 1, Cyclooxygenase-2 (COX2), Vitiligo-associated protein 1 (VIT1)), and lifestyle choices stress, diet, cosmetic products, and medications have been suspecting as drivers of this disorder as we noticed earlier^[5].

Material and methods:

We are find out through the medical literature and compare that several factors are linked to vitamin D status, different skin type, age, sex, body mass index (BMI), physical activity (PA), alcohol intake (AI), with the vitamin D receptor polymorphisms (VDRPs). We have keenly observed with an original submission study through reviewed process carefully.

Results:

70-85% Oral supplements, including with vitamins, minerals, and botanicals, is increasingly being investigated as an adjuncts to conventional medical treatment (CMT) due to their antioxidant and immunomodulatory activity (AOIMA). Earlier Studies suggested that

many of these agents may have some efficacy as monotherapy, but more often as adjuncts to topical agents and phototherapy [6]. The use of phototherapy to enhances the vitamin D levels, the use of vitamin D analogues with phototherapy, efficacy of combination therapies, and controversies regarding some of the potential outcomes^[7]. Vitamin D deficiency causes vitiligo controlled studies are still required to prove whether lower circulating vitamin D is a causative factor in vitiligo^[8]. The skin physiology is inseparably connected with vitamin D production and UVB activity is required for the vitamin D production. The vitamin D and its analogues in the their maintenance of epidermal barrier (MOEB) had potential use in the treatment of common skin diseases^[9]. In humans, the skin is the natural source of vitamin D, from 7-dehydrocholesterol in photoreaction induced by ultraviolet B (UVB) radiation from the sun and the process of proliferation and differentiation of keratinocytes is tightly regulated by calcium and the active form of vitamin D (1,25(OH)2D3)^[10].

Lower levels of vitamin D are associated with many autoimmune diseases, including with systemic lupus, diabetes mellitus, rheumatoid arthritis, multiple sclerosis and alopecia areata reports have evaluated by the serum vitamin D levels in vitiligo patients, and their results are conflicting^[11]. There is a universal lack of 25(OH)D in the Turkish population in screening for vitamin D tool for the presence of comorbid autoimmune diseases (CAIDs). Further studies are needed to understand the role of vitamin D metabolism in the pathogenesis of vitiligo^[12]. Vitamin D deficiency influences the extent of vitiligo and could contribute factor for the pathogenesis of vitiligo through its immunomodulatory role and its role in melanogenesis^[13].

Topical vitamin D analogues have an important role in the off-label treatment (OLT) spectrum of dermatologic disease (Dds), higher quality studies are still required for application of vitamin D might help in preventing destruction of melanocytes thus causing vitiligo and other autoimmune disorders (OAIDs)^[14].

Rosacea is a common chronic skin condition (CCSC), which is affecting by the face. In recent years, significant evidence focused on vitamin D plays an important role in modulating the immune system. Vitamin D and its analogues via these mechanisms are playing an increasing role in the management of atopic dermatitis, psoriasis, vitiligo, acne and rosacea and skin related diseases^[15]. Vitamin D constitutes an inexpensive prophylactic option (IPO), and possibly therapeutic product either as a synergistic agent to traditional antimicrobial agents. This specific antimicrobial properties of vitamin D in combating with wider range of organisms discuss the possible mechanisms through the vitamin D may have a therapeutic role in managing a variety of infections^[16].

Conclusion:

Vitamin D status (VDS) had the potential benefits of skin diseases with vitiligo. Vitamin D role in treating psoriasis, even though the exact role of vitamin D in the pathogenesis and severity of psoriasis, vitiligo, atopic dermatitis, polymorphic light eruption (PLE), and mycosis fungoides (MFs) need further research to know the better etiology and pathophysiology. Vitamin D is responsible for skin pigmentation, increases tyrosinase activity and melanogenesis, and exhibits immunoregulatory functions (IRFs).

Limitation:

The association between the lower vitamin D levels and the occurrence of vitiligo and other forms of autoimmunity disorders need to further larger scale of evaluation.

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Conflict of Interest: Nil

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