VITAMIN D

UpDates Vol. 4 - N. 4 - 2021

Sito Web www.vitamind-journal.it

www.pacinimedicina.it

VITAMIN D
UpDates

Direttore Scientifico
Maurizio Rossini

Comitato Scientifico
Francesco Bertoldo
Rachele Ciccocioppo
Andrea Fagiolini
Andrea Giusti
Davide Gatti
Sandro Giannini
Paolo Gisondi
Giovanni Iolascon
Stefano Lello
Diego Peroni
Gianenrico Senna
Pasquale Strazzullo
Giovanni Targher
Leonardo Triggiani

Assistente Editoriale
Sara Rossini

Copyright by
Pacini Editore srl

Direttore Responsabile
Patrizia Pacini

Edizione
Pacini Editore Srl
Via Gherardesca 1 • 56121 Pisa
Tel. 050 313011 • Fax 050 3130300
Info@pacinieditore.it - www.pacinieditore.it

Divisione Pacini Editore Medicina
Fabio Poponcini • Sales Manager
050 31 30 218 • fpoponcini@pacinieditore.it
Manuela Amato • Business Development Manager
050 31 30 255 • mamato@pacinieditore.it
Alessandra Crosato • Sales Manager
050 31 30 239 • acrosato@pacinieditore.it
Manuela Mori • Advertising and New Media Manager
050 31 30 217 • mmori@pacinieditore.it

Redazione
Lucia Castelli
Tel. 050 3130224 • lcastelli@pacinieditore.it

Grafica e impaginazione
Massimo Arcidiacono
Tel. 050 3130231• marcidiacono@pacinieditore.it

Stampa
Industrie Grafiche Pacini • Pisa

ISSN: 2611-2876 (online)

Registrazione presso il Tribunale di Pisa n. 2/18 del 23-2-2018
L'editore resta a disposizione degli aventi diritto con i quali non è stato possibile comunicare e per le eventuali omissioni. Le fotocopie per uso personale del lettore (per propri scopi di lettura, studio, consultazione) possono essere effettuate nei limiti del 15% di ciascun volume/fascicolo di periodico, escluse le pagine pubblicitarie, dietro pagamento alla SIAE del compenso previsto dalla Legge n. 633 del 1941 e a seguito di specifica autorizzazione rilasciata da CLEARedi: https://www.clearedi.org/topmenu/HOME.aspx. Edizione digitale - Dicembre 2021.

EDITORIALE

Maurizio Rossini

Dipartimento di Medicina,
Sezione di Reumatologia, Università di Verona

VITAMIN D
UpDates
2021;4(4):130-131

In questo numero spaziamo dalla demenza all'inquinamento. Lo possiamo fare in tema di vitamina D perché vi sono recenti evidenze anche qui di un possibile ruolo.
Gli esperti Autori a cui abbiamo affidato l'approfondimento sul possibile rapporto tra carenza di vitamina D e demenza ci fanno notare come da studi in ambito di fisiopatologia neurologica vi siano indicazioni che la vitamina D possa esercitare numerose azioni a livello del sistema nervoso centrale e periferico, sintetizzabili in quattro effetti principali: supporto neurotrofico, neurotrasmissione, neuroprotezione, e neuroplasticità. Inoltre i dati epidemiologici disponibili sulla relazione tra stato vitaminico D e malattie neurologiche degenerative, come la demenza, sembrano supportare le evidenze descritte nei modelli animali perché generalmente descrivono una relazione inversa, tra l'altro di tipo "dose-risposta", tra i livelli sierici di 25(OH)D e il rischio di demenza. Tuttavia gli Autori ammettono che attualmente non esistono evidenze solide a supporto di un effetto preventivo o comunque positivo della supplementazione con vitamina D in questo campo, anche se non si può escludere considerate le importanti e svariate limitazioni degli studi sino a ora condotti. Concludono tuttavia saggiamente che trattandosi di soggetti generalmente anziani, dovrebbero trovare comunque giustificazione alla supplementazione considerati i riconosciuti benefici scheletrici, decisamente superiori ai costi e ai rischi di effetti indesiderati, ed, aggiungo io, la nota incapacità di produrre in età senile la fisiologica dose giornaliera di vitamina D.
Gli Autori del secondo articolo ci forniscono invece un originale contributo, anche sulla base di loro recenti studi, sulla possibile correlazione tra inquinamento e alterazioni del metabolismo della vitamina D. Hanno infatti osservato in particolare che le sostanze perfluoroalchiliche (PFAS), utilizzate principalmente per rendere resistenti ai grassi e all'acqua diversi tipi di materiali come tessuti, tappeti, rivestimenti, ecc. e causa di un diffuso e preoccupante inquinamento alimentare, specie in alcune aree del Veneto, possano interferire, per la loro similarità con gli ormoni steroidei, con i recettori per la vitamina D. Ne deriverebbe una ridotta risposta delle cellule scheletriche alla vitamina D, che si manifesterebbe con minor mineralizzazione ossea e con una risposta alterata dei geni sensibili alla vitamina D. Clinicamente lo testimonierebbe la maggior prevalenza di osteoporosi nelle popolazioni esposte a PFAS e il riscontro di livelli sierici mediamente superiori di paratormone, espressione di ipovitaminosi D funzionale. Capite anche perché, al contrario, una carenza subclinica e diffusa di vitamina D, che caratterizza la nostra popolazione, potrebbe rappresentare un fattore di suscettibilità agli effetti negativi sulla salute dell'esposizione a PFAS. Questi temi sono stati oggetto di una recente Commissione del Consiglio Superiore di Sanità, cui ho avuto il piacere di partecipare, che ha prodotto un documento di specifiche raccomandazioni che dovrebbe essere tra poco pubblicato nel sito del Ministero della Salute. Tra queste il consiglio di promuovere nelle popolazioni esposte all'inquinamento da PFAS il dosaggio dei livelli circolanti di 25(OH)D, dei suoi principali metaboliti

Corrispondenza
Maurizio Rossini
maurizio.rossini@univr.it

How to cite this article: Rossini M. Editoriale. Vitamin D - UpDates 2021;4(4):130-131.

© Copyright by Pacini Editore srl

OPEN ACCESS

L'articolo è open access e divulgato sulla base della licenza CC-BY-NC-ND (Creative Commons Attribuzione – Non commerciale – Non opere derivate 4.0 Internazionale). L'articolo può essere usato indicando la menzione di paternità adeguata e la licenza; solo a scopi non commerciali; solo in originale. Per ulteriori informazioni: https://creativecommons.org/licenses/by-nc-nd/4.0/deed.it

e di biomarker della loro funzionalità nel metabolismo fosfo-calcico e osseo, uno screening densitometrico e la valutazione dell'incidenza di fratture da fragilità e di malattie extrascheletriche potenzialmente anch'esse correlate con il deficit assoluto o funzionale di vitamina D (in particolare cardiovascolari e immunologiche, la cui prevalenza pare effettivamente aumentata in soggetti esposti a PFAS) e l'eventuale realizzazione di studi che prevedano la supplementazione con vitamina D.
Il problema dell'inquinamento come sapete è di grande attualità e di preoccupazione per le future generazioni. La nostra Scuola ha recentemente osservato una correlazione tra inquinamento atmosferico (il particolare il particolato) e la prevalenza di osteoporosi [1] o la riattivazione di malattia [2] e una minor risposta ai trattamenti in pazienti affetti da artrite reumatoide [3]. Che il deficit assoluto o funzionale di vitamina D abbia un ruolo anche nel giustificare queste correlazioni?
Buon Natale e Buon Anno.

Bibliografia

1. Adami G, Cattani G, Rossini M, et al. Association between exposure to fine particulate matter and osteoporosis: a population-based cohort study. Osteoporos Int 2021 Jul 15. https://doi.org/10.1007/s00198-021-06060-9
2. Adami G, Viapiana O, Rossini M, et al. Association between environmental air pollution and rheumatoid arthritis flares. Rheumatology (Oxford) 2021;60:4591-4597. https://doi.org/10.1093/rheumatology/keab049
3. Adami G, Rossini M, Viapiana O, et al. Environmental Air Pollution Is a Predictor of Poor Response to Biological Drugs in Chronic Inflammatory Arthritides. ACR Open Rheumatol 2021;3:451-456. https://doi.org/10.1002/acr2.11270

VITAMIN D
UpDates
2021;4(4):132-135
https://doi.org/10.30455/2611-2876-2021-7

Vitamina D e demenza

Andrea Giusti[1], Giulia Botticella[2], Dario Camellino[2], Giuseppe Girasole[2], Giuseppina Tramontano[1], Gerolamo Bianchi[2]

[1] *SSD Malattie Metaboliche Ossee e Prevenzione delle Fratture nell'Anziano, ASL 3 Genova;*
[2] *SC Reumatologia, Dipartimento delle Specialità Mediche, ASL 3, Genova*

Riassunto

Numerose evidenze derivanti da studi sperimentali, perlopiù condotti su modelli *in vitro* o modelli animali, sembrerebbero indicare come la vitamina D giochi un ruolo nella fisiologia e nella fisiopatologia del sistema nervoso, potenzialmente determinante anche nella patogenesi di alcune malattie degenerative, quali la demenza. La vitamina D sembrerebbe infatti esercitare un effetto neurotrofico, neuroprotettivo, e neuroplastico, e sarebbe coinvolta anche nella sintesi di alcuni neurotrasmettitori. I dati derivanti dagli studi prospettici osservazionali hanno confermato chiaramente le osservazioni sperimentali, dimostrando un'associazione inversa tra stato vitaminico D (concentrazione di 25-idrossi-vitamina D) e incidenza di demenza, con una relazione di tipo dose-risposta. A oggi, gli studi di intervento con colecalciferolo nella riduzione del rischio di demenza non hanno riportato risultati positivi, prevalentemente in relazione a significativi limiti in termini di disegno sperimentale, regimi terapeutici, numerosità della popolazione in esame e durata del follow-up. Studi disegnati *ad hoc* e metodologicamente più appropriati sono necessari per definire il potenziale effetto benefico del colecalciferolo nella prevenzione del rischio di demenza.

LA VITAMINA D E IL SISTEMA NERVOSO CENTRALE E PERIFERICO

Numerose evidenze scientifiche suggeriscono come la vitamina D giochi un ruolo nella fisiologia e nella fisiopatologia del sistema nervoso centrale (SNC) e periferico. È stato infatti ipotizzato come la deficienza di vitamina D possa giocare un ruolo nella patogenesi di alcune malattie neuro-degenerative, tra cui la demenza, la malattia di Parkinson, la sclerosi multipla e la sclerosi laterale amiotrofica [1-3].

Numerose osservazioni supporterebbero un coinvolgimento della vitamina D nei processi fisiologici e fisiopatologici del SNC. Il recettore della vitamina D (VDR) è distribuito in maniera ubiquitaria nel SNC e periferico [1]. La topografia della distribuzione del VDR, inizialmente definita nei ratti/criceti, è stata infatti successivamente confermata e precisata anche negli esseri umani [1]. Il VDR sarebbe infatti espresso a livello dei neuroni e delle cellule gliali di numerose aree del sistema nervoso, tra cui la corteccia (ad es. temporale, frontale, parietale), il cervelletto, il midollo spinale e i nuclei della base [1]. All'interno del SNC è stata anche identificata l'attività della 25-idrossilasi e della 1α-idrossilasi, indicative di una produzione paracrina di 1,25-di-idrossi-vitamina D [1,25$(OH)_2$D] [1-3]. Gli stessi metaboliti della vitamina D sono stati identificati nel fluido cerebro-spinale [1-3]. Infine, un'ulteriore dimostrazione dell'esistenza di un'attività produttiva paracrina della 1,25$(OH)_2$D all'interno del sistema nervoso deriva dall'osservazione che la concentrazione della 1,25$(OH)_2$D all'interno del SNC correla positivamente con la concentrazione plasmatica di 25-idrossi-vitamina D [25(OH) D], mentre non correla con la concentrazione plasmatica di 1,25$(OH)_2$D [1-3].

Sulla base di queste e altre evidenze, è stato pertanto ipotizzato che la vitamina D possa esercitare numerose azioni a livello del SNC e periferico, sintetizzabili in quattro effetti principali: supporto neurotrofico, neurotrasmissione, neuroprotezione e neuroplasticità [1-3].

La vitamina D eserciterebbe funzioni neurotrofiche correlate con la differenziazione, la maturazione e la crescita neuronale, attraverso ad esempio la stimolazione della sintesi di fattori neurotrofici quali il *nerve growth factor* (NGF), il *glial cell line-derived neurotrophic factor* (GDNF) o la *neurotrophin 3* (NT-3) [1-3]. Analogo significato avrebbe l'effetto sui livelli

Corrispondenza
Andrea Giusti
andreagiusti6613@gmail.com

Conflitto di interessi
Gli Autori dichiarano nessun conflitto di interessi.

How to cite this article: Giusti A, Botticella G, Camellino D, et al. Vitamina D e demenza. Vitamin D – Updates 2021;4(4):132-135. https://doi.org/10.30455/2611-2876-2021-7

© Copyright by Pacini Editore srl

OPEN ACCESS

L'articolo è open access e divulgato sulla base della licenza CC-BY-NC-ND (Creative Commons Attribuzione – Non commerciale – Non opere derivate 4.0 Internazionale). L'articolo può essere usato indicando la menzione di paternità adeguata e la licenza; solo a scopi non commerciali; solo in originale. Per ulteriori informazioni: https://creativecommons.org/licenses/by-nc-nd/4.0/deed.it

(*downregulation*) di *neurotrophin 4* (NT-4) e la regolazione della espressione genica del recettore neurotrofico a bassa affinità del NGF ($p75^{NTR}$) [1-3]. A supporto di queste ipotesi e del ruolo neurotrofico della vitamina D, alcuni studi morfologici condotti in anziani sani o affetti da vario grado di deterioramento cognitivo hanno dimostrato una correlazione tra stato vitaminico D [definito dalla concentrazione plasmatica della 25(OH)D] e/o la deficienza di vitamina D, e il volume della sostanza grigia e dell'ippocampo [4,5].

La vitamina D e i suoi metaboliti sembrerebbero in grado di mediare anche la sintesi di una varietà di neurotrasmettitori, tra cui l'acetilcolina, le catecolamine, la serotonina e la dopamina [1]. Questo effetto della vitamina D sembrerebbe essere duraturo nel tempo e soprattutto transgenerazionale. Infatti, una precoce esposizione a insufficienti/deficienti livelli di vitamina D potrebbe indurre alterazioni epigenetiche che a loro volta sarebbero in grado di influenzare l'espressione genica e con il tempo incrementare la suscettibilità a numerose malattie neurodegenerative (*metabolic imprinting*) [1,6-10].

L'effetto neuroprotettivo della vitamina D è stato oggetto di numerosi studi sperimentali condotti su modelli animali, dove la somministrazione di vitamina D o dei suoi metaboliti ha dimostrato di esercitare un effetto protettivo sui neuroni attraverso una riduzione del danno cellulare e della neurotossicità mediato da alcune sostanze notoriamente neurotossiche [1,11,12]. In uno studio *in vitro*, condotto su colture di cellule neuronali corticali, Annweiler et al. hanno dimostrato come la combinazione di memantina (farmaco utilizzato nel trattamento del deterioramento cognitivo) e vitamina D (ma anche la sola vitamina D) fosse in grado di attenuare e prevenire la degenerazione assonale prodotta dalla beta-amiloide e dal glutammato [11]. I meccanismi alla base di questo effetto neuroprotettivo della vitamina D sono stati solo in parte chiariti e sono tuttora oggetto di discussione (ad es. regolazione flussi di calcio, effetto anti-infiammatorio, azione anti-ossidante) [11,12].

La vitamina D sembrerebbe essere in grado di influenzare la neuroplasticità attraverso la regolazione di geni aventi un impatto rilevante sullo sviluppo neuronale e su numerose funzioni neuronali (probabilmente già durante la gravidanza) [1,13]. Una deficienza di vitamina D, ad esempio, sembrerebbe in grado di alterare il profilo trascrizionale di geni coinvolti nel mantenimento del citoscheletro, nella funzione mitocondriale, nella plasticità neuronale e nella proliferazione e crescita cellulare [1]. Inoltre, come già descritto, una deficienza di vitamina D durante alcune fasi della gravidanza, potrebbe determinare alterazioni della regolazione della funzione neuronale (su base molecolare), capaci di influenzare la suscettibilità ad alcune malattie degenerative nell'età adulta [13].

ESISTE UNA RELAZIONE TRA LA CONCENTRAZIONE DI 25(OH)D E IL RISCHIO DI DEMENZA?

I dati epidemiologici relativi alla relazione tra lo stato vitaminico D e le malattie neurodegenerative, in particolare la demenza, sembrano supportare pienamente le evidenze descritte derivanti dai modelli animali. Una recente *overview* (Tab. I) ha analizzato i risultati dei principali studi di revisione/meta-analisi relativi alla relazione tra lo stato vitaminico D e il rischio di demenza e/o malattia di Alzheimer (AD) [3]. Sebbene i risultati dei differenti studi presi in considerazione non fossero sempre facilmente interpretabili in relazione, prevalentemente, alla mancata standardizzazione delle valutazioni sierologiche e cliniche, complessivamente due aspetti di rilievo sono emersi in modo piuttosto omogeneo e consistente [3,14-19]:

- esiste una relazione inversa tra la concentrazione di 25(OH)D e il rischio di demenza o AD;
- la relazione inversa tra la concentrazione di 25(OH)D e il rischio di demenza o AD sembrerebbe seguire il principio della "dose-risposta".

Ad esempio, Chen et al. [14], hanno elaborato una meta-analisi di 10 studi di coorte, includendo circa 28.000 pazienti. Gli autori hanno identificato una correlazione inversa tra la concentrazione di 25(OH)D e il rischio di demenza [rischio relativo 0,72 comparando la categoria con la più alta

TABELLA I. Meta-analisi degli studi di coorte [14-19] che hanno investigato la relazione tra stato vitaminico D [definito dalla concentrazione sierica della 25(OH)D] e declino cognitivo (da Maretzke et al., 2020, mod.) [3].

Referenza	Studi inclusi	N. pazienti (età)	Cut-off 25(OH)D (nmol/l)	Outcome	Risultati principali (95% IC)
Chen (2018) [14]	10 prospettici	28.640 (56-85 aa)	Alta *vs* bassa concentrazione 25(OH)D	Demenza e AD	RR demenza 0,72 (0,59-0,88) RR AD 0,78 (0,60-1,00)
Jayedi (2018) [15]	7 prospettici + 1 retrospettivo	28.354 (≥ 18 aa)	Insufficienza: 25-50 Deficienza: < 25	Demenza e AD	HR demenza per deficienza 1,33 (1,08-1,58) HR AD per deficienza 1,31 (0,98-1,65)
Goodwill (2017) [16]	14 prospettici	30.000 (≥ 18 aa)	Alta *vs* bassa concentrazione 25(OH)D	Declino cognitivo	OR declino cognitivo 1,14 (1,06-1,23)
Cao (2016) [17]	3 prospettici	12.702 (≥ 20 aa)	Alta *vs* bassa concentrazione 25(OH)D	Declino cognitivo	RR declino cognitivo 1,52 (1,17-1,98)
Shen (2015) [18]	2 prospettivi	8086 (media 74 aa)	Deficienza: < 50	Demenza e AD	OR demenza 1,63 (1,09-2,16) OR AD 1,21 (1,01-1,40)
Annweiler (2013) [19]	3 prospettivi	4095 (media 75 aa)	Alta *vs* bassa concentrazione 25(OH)D	Funzioni esecutive	OR per declino incidente 1,25 (1,05-1,48)

RR: rischio relativo; 95% IC: intervallo di confidenza 95%; HR: hazard ratio; OR: odd ratio; 25(OH)D: 25-idrossi-vitamina D sierica; AD: malattia di Alzheimer; aa: anni.

TABELLA II. Incidenza di demenza o malattia di Alzheimer in funzione della concentrazione basale di 25(OH)D (da Littlejohns et al., 2014, mod.) [20].

Demenza	N. partecipanti	N. casi	25(OH)D sierica (nmol/l)			P
			≥ 50	≥ 25 - < 50 HR (95% IC)	< 25 HR (95% IC)	
Demenza (qualunque tipo)						
Modello A*	1658	171	1	1,51 (1,06-2,16)	2,22 (1,23-4,02)	,002
Modello B**	1615	168	1	1,53 (1,06-2,21)	2,25 (1,23-4,13)	,002
Malattia di Alzheimer						
Modello A*	1589	102	1	1,67 (1,06-2,62)	2,27 (1,06-4,84)	,006
Modello B**	1547	100	1	1,69 (1,06-2,69)	2,22 (1,02-4,83)	,008

25(OH)D: 25-idrossi-vitamina D sierica; HR: hazard ratio; 95% IC: intervallo di confidenza 95%.
* Modello A: correzione (*Cox proportional hazards regression model*) per età e stagione in cui è stata dosata la 25(OH)D. ** Modello B: correzione (*Cox proportional hazards regression model*) per età, stagione in cui è stata dosata la 25(OH)D, scolarità, genere, indice di massa corporea, fumo, consumo di alcol e sintomi depressivi.

concentrazione di 25(OH)D con la categoria con la più bassa concentrazione di 25(OH)D] e di AD [rischio relativo 0,78, comparando la categoria con la più alta concentrazione di 25(OH)D con la categoria con la più bassa concentrazione di 25(OH)D]. Inoltre, analizzando l'effetto dose [concentrazione di 25(OH)D] risposta, gli autori hanno anche dimostrato come il rischio di demenza o di AD diminuisse rispettivamente del 5 e del 7% per ogni incremento di 10 nmol/l della concentrazione della 25(OH)D [14].

In linea con quanto descritto da Chen et al. e in altri studi analoghi (Tab I) [14-19], uno studio longitudinale meno recente (Tab. II) [20], che ha considerato 1.658 anziani ambulatoriali che non presentavano (al momento dell'arruolamento) demenza, malattie cardiovascolari o cerebrovascolari, ha dimostrato un'incidenza di demenza e/o AD (durante un periodo di osservazione medio di 5,6 anni, range 0,1-8,4 anni) superiore nei soggetti con stato vitaminico D deficiente (< 50 nmol/l) o severamente deficiente (< 25 nmol/l), al momento dell'arruolamento, rispetto ai soggetti considerati avere una concentrazione di 25(OH)D nel range della sufficienza [20]. Altri studi hanno confermato questi rilievi, evidenziando risultati consistenti soprattutto per valori di 25(OH)D < 25 nmol/l (deficienza severa di vitamina D) [3]. Per valori superiori a tale cut-off (ad es., compresi tra 25 nmol/l e 50 nmol/l) i risultati in favore della 25(OH)D sembrerebbero meno omogenei e consistenti.

SUPPLEMENTAZIONE CON COLECALCIFEROLO

Alla luce dei dati sperimentali (modelli animali) e di quelli derivanti dagli studi epidemiologici è stato ipotizzato un ruolo, ovviamente non di primo piano, della supplementazione con colecalciferolo nella prevenzione delle malattie neurodegenerative e in particolare della demenza [3]. Gli studi randomizzati e controllati, quelli osservazionali pre-post e le loro meta-analisi non hanno dimostrato un effetto significativo della supplementazione con colecalciferolo sui principali parametri cognitivi presi in esame. Questi studi presentavano tuttavia delle limitazioni significative e determinanti nell'interpretazione dei risultati [3]. Sia gli studi randomizzati e controllati che quelli osservazionali pre-post erano estremamente eterogenei in termini di disegno sperimentale e di regime terapeutico impiegato: i dosaggi di colecalciferolo impiegati variavano infatti da 400 UI al giorno (dosaggio verosimilmente troppo basso) a 5.000 UI al giorno, con anche boli da 600.000 UI (inappropriati). La durata della supplementazione e il periodo di follow-up erano piuttosto brevi nella maggior parte degli studi, non sufficienti in considerazione della complessa fisiopatologia di demenza/AD e pertanto inappropriati per testare il potenziale effetto protettivo del colecalciferolo sul rischio di demenza/AD. Infine, in alcuni *trial* la numerosità dei pazienti ridotta risultava inadeguata per testare l'ipotesi oggetto dello studio.

In considerazione delle suddette limitazioni, sebbene al momento non esistano evidenze solide in supporto di un effetto preventivo o comunque benefico della supplementazione con colecalciferolo nella demenza/AD, non si può escludere completamente tale potenziale beneficio e studi randomizzati e controllati disegnati *ad hoc* saranno necessari nel futuro per chiarire il potenziale della supplementazione con colecalciferolo nelle malattie neurodegenerative e in particolare nella demenza.

In conclusione, un'ultima considerazione merita di essere enfatizzata: i pazienti anziani sono quelli a maggior rischio di deterioramento cognitivo/demenza e ugualmente sono la popolazione con la più alta prevalenza di ipovitaminosi D; pertanto, questa categoria di pazienti fragili sono meritevoli sempre e comunque di essere trattati con colecalciferolo in considerazione del suo basso costo, della totale sicurezza e tollerabilità, e della grande efficacia nella prevenzione delle cadute e delle fratture, al di là dei potenziali, ma verosimili, benefici extra-scheletrici. Una dose giornaliera di mantenimento con 1.000 UI o 2.000 UI al giorno di colecalciferolo preceduta, ove indicato, da una dose di carico, sembrerebbe rappresentare la strategia più fisiologica per ottimizzare gli effetti scheletrici ed extra-scheletrici del colecalciferolo [21].

Bibliografia

[1] DeLuca GC, Kimball SM, Kolasinski J, et al. Review: the role of vitamin D in nervous system health and disease. Neuropathol Appl Neurobiol 2013;39:458-484. https://doi.org/10.1111/nan.12020

www.vitamind-journal.it

2 Bivona G, Agnello L, Bellia C, et al. Non-skeletal activities of vitamin d: from physiology to brain pathology. Medicina (Kaunas) 2019;55:341. https://doi.org/10.3390/medicina55070341

3 Maretzke F, Bechthold A, Egert S, et al. Role of vitamin D in preventing and treating selected extraskeletal diseases-an umbrella review. Nutrients 2020;12:969. https://doi.org/10.3390/nu12040969

4 Ali P, Labriffe M, Navasiolava N, et al. Vitamin D concentration and focal brain atrophy in older adults: a voxel-based morphometric study. Ann Clin Transl Neurol 2020;7:554-558. https://doi.org/10.1002/acn3.50997

5 Al-Amin M, Bradford D, Sullivan RKP, et al. Vitamin D deficiency is associated with reduced hippocampal volume and disrupted structural connectivity in patients with mild cognitive impairment. Hum Brain Mapp 2019;40:394-406. https://doi.org/10.1002/hbm.24380

6 Wjst M, Heimbeck I, Kutschke D, et al. Epigenetic regulation of vitamin D converting enzymes. J Steroid Biochem Mol Biol 2010;121:80-83. https://doi.org/10.1016/j.jsbmb.2010.03.056

7 Barker DJ. The fetal origins of diseases of old age. Eur J Clin Nutr 1992;46(Suppl 3):S3-S9.

8 Waterland RA, Garza C. Potential mechanisms of metabolic imprinting that lead to chronic disease. Am J Clin Nutr 1999;69:179-197. https://doi.org/10.1093/ajcn/69.2.179

9 Tekes K, Gyenge M, Folyovich A, et al. Influence of neonatal vitamin A or vitamin D treatment on the concentration of biogenic amines and their metabolites in the adult rat brain. Horm Metab Res 2009;41:277-280. https://doi.org/10.1055/s-0028-1103287

10 Tekes K, Gyenge M, Hantos M, et al. Transgenerational hormonal imprinting caused by vitamin A and vitamin D treatment of newborn rats. Alterations in the biogenic amine contents of the adult brain. Brain Dev 2009;31:666-670. https://doi.org/10.1016/j.braindev.2008.10.007

11 Annweiler C, Brugg B, Peyrin JM, et al. Combination of memantine and vitamin D prevents axon degeneration induced by amyloid-beta and glutamate. Neurobiol Aging 2014;35:331-335. https://doi.org/10.1016/j.neurobiolaging.2013.07.029

12 Annweiler C, Dursun E, Féron F, et al. 'Vitamin D and cognition in older adults': updated international recommendations. J Intern Med 2015;277:45-57. https://doi.org/10.1111/joim.12279

13 Levenson CW, Figueirôa SM. Gestational vitamin D deficiency: long-term effects on the brain. Nutr Rev 2008;66:726-729. https://doi.org/10.1111/j.1753-4887.2008.00122.x

14 Chen H, Xue W, Li J, et al. 25-Hydroxyvitamin D Levels and the risk of dementia and Alzheimer's disease: a dose-response meta-analysis. Front Aging Neurosci 2018;10:368. https://doi.org/10.3389/fnagi.2018.00368

15 Jayedi A, Rashidy-Pour A, Shab-Bidar S. Vitamin D status and risk of dementia and Alzheimer's disease: a meta-analysis of dose-response. Nutr Neurosci 2019;22:750-759. https://doi.org/10.1080/1028415X.2018.1436639

16 Goodwill AM, Szoeke C. A systematic review and meta-analysis of the effect of low vitamin D on cognition. J Am Geriatr Soc 2017;65:2161-2168. https://doi.org/10.1111/jgs.15012

17 Cao L, Tan L, Wang HF, et al. Dietary patterns and risk of dementia: a systematic review and meta-analysis of cohort studies. Mol Neurobiol 2016;53:6144-154. 10.1007/s12035-015-9516-4

18 Shen L, Ji HF. Vitamin D deficiency is associated with increased risk of Alzheimer's disease and dementia: evidence from meta-analysis. Nutr J 2015;14:76. https://doi.org/10.1186/s12937-015-0063-7

19 Annweiler C, Montero-Odasso M, Llewellyn DJ, et al. Meta-analysis of memory and executive dysfunctions in relation to vitamin D. J Alzheimers Dis 2013;37:147-171. https://doi.org/10.3233/JAD-130452

20 Littlejohns TJ, Henley WE, Lang IA, et al. Vitamin D and the risk of dementia and Alzheimer disease. Neurology 2014;83:920-928. https://doi.org/10.1212/WNL.0000000000000755

21 Rossini M, Adami S, Bertoldo F, et al. Guidelines for the diagnosis, prevention and management of osteoporosis. Reumatismo 2016;68:1-39. https://doi.org/10.4081/reumatismo.2016.870

VITAMIN D
UpDates
2021;4(4):136-139
https://doi.org/10.30455/2611-2876-2021-8

PFAS e correlazione con il metabolismo della vitamina D

Carlo Foresta, Andrea Di Nisio
Dipartimento di Medicina – DIMED, Università degli Studi di Padova

Riassunto

Le sostanze perfluoroalchiliche (PFAS) sono una classe di composti largamente utilizzata nell'industria e nei prodotti di consumo. Sono resistenti alla degradazione e tendono ad accumularsi nell'ambiente e negli esseri viventi con possibili effetti tossici. Questi inquinanti sono un problema di sanità pubblica soprattutto in alcune zone della Regione Veneto, ma sono state recentemente isolate in acque provenienti da altre zone d'Italia. L'acido perfluoroottanoico (PFOA) è la forma predominante nei campioni umani ed è stato dimostrato che induce gravi conseguenze sulla salute, come alterazioni neonatali, neurotossicità e immunotossicità. Studi tossicologici indicano che gli PFAS si accumulano nel tessuto osseo e ne alterano lo sviluppo. Studi epidemiologici hanno riportato una relazione inversa tra i livelli ematici di PFAS e la salute delle ossa, soprattutto in termini di densità minerale ossea (DMO). Osteopenia e osteoporosi sono state evidenziate in più coorti: dalle donne in post-menopausa fino ai giovani uomini. Essendo già dimostrata l'interazione tra questa classe di composti e alcuni recettori ormonali nucleari (come il recettore degli ormoni tiroidei e il recettore androgenico), è stata ipotizzata un'interazione anche con il recettore della vitamina D, il quale è fondamentale per una corretta regolazione del metabolismo fosfocalcico, il principale determinante della densità ossea. In questo studio vengono sintetizzate le evidenze sperimentali e cliniche a supporto dell'interferenza del PFOA sulla via di segnalazione della vitamina D.

INTRODUZIONE

Le sostanze perfluoroalchiliche sono molecole in grado di interferire con il sistema endocrino, ovvero appartengono alla categoria degli EDs (*endocrine disruptors*). Si classifica come interferente endocrino qualunque entità chimica o miscela di composti che sia in grado di interferire con un qualsiasi aspetto dell'azione ormonale e che sia quindi responsabile di variarne l'omeostasi [1]. Gli EDs esercitano la loro tossicità promuovendo la crescita e lo sviluppo tissutale. È ben conosciuto il meccanismo di interazione col sistema riproduttivo attraverso il legame di queste sostanze con il recettore androgenico (AR) ed estrogenico (ER). A seguito del legame tra l'interferente endocrino e il recettore si avrà come risposta un'azione di agonismo o antagonismo recettoriale, che si manifesta con aumento o diminuzione della risposta cellulare allo stimolo ormonale fisiologico [2].

LE SOSTANZE PERFLUOROALCHILICHE

Le sostanze perfluoroalchiliche (PFAS) sono una classe molto ampia di molecole organiche che appartengono alla categoria dei composti polifluorinati. Sono molecole prodotte artificialmente e non presenti in natura. Nella struttura dei PFAS è presente uno scheletro idrocarburico nel quale tutti gli atomi di idrogeno sono sostituiti con atomi di fluoro. La presenza del fluoro permette loro di acquisire delle caratteristiche fisico-chimiche particolari, prima fra tutte l'anfifilicità: presentano un lato apolare e uno polare, essendo contemporaneamente idrocarburi e acidi forti. Il lato polare contiene il gruppo funzionale che può essere un carbossile, un gruppo solforico, un gruppo alcoolico o svariati altri. Il gruppo funzionale polare e la lunghezza della catena fluorocarburica definiscono il singolo PFAS. Ad esempio, i due composti maggiormente studiati, perché più frequenti nelle aree inquinate, sono: l'acido perfluorooctanoico

Corrispondenza
Andrea Di Nisio
E-mail: andrea.dinisio@unipd.it

Conflitto di interessi
Gli Autori dichiarano nessun conflitto di interessi.

How to cite this article: Foresta C, Di Nisio A. PFAS e correlazione con il metabolismo della vitamina D. Vitamin D – Updates 2021;4(4):136-139. https://doi.org/10.30455/2611-2876-2021-8

© Copyright by Pacini Editore srl

OPEN ACCESS

L'articolo è open access e divulgato sulla base della licenza CC-BY-NC-ND (Creative Commons Attribuzione – Non commerciale – Non opere derivate 4.0 Internazionale). L'articolo può essere usato indicando la menzione di paternità adeguata e la licenza; solo a scopi non commerciali; solo in originale. Per ulteriori informazioni: https://creativecommons.org/licenses/by-nc-nd/4.0/deed.it

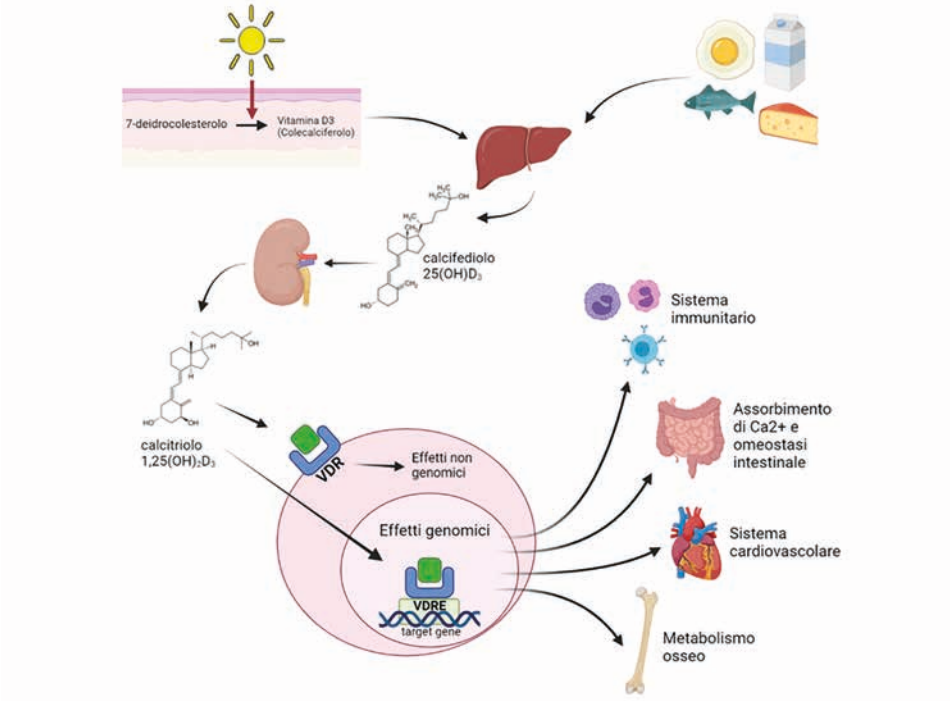

FIGURA 1.
Metabolismo della vitamina D: la vitamina D viene prodotta per via endogena dalla cute in seguito a esposizione solare o per via esogena tramite ingestione con la dieta. Il precursore della vitamina D (colecalciferolo) viene quindi convertito in 25-idrossi-vitamina D (25(OH)D, calcifediolo) dall'enzima 25-idrossilasi a livello epatico. A sua volta, la 25(OH)D viene idrossilata a livello renale in posizione 1-α nel suo metabolita biologicamente attivo, 1,25-idrossi-vitamina D (1,25(OH)D, calcitriolo) esplica le sue funzioni biologiche su diversi organi agendo sul proprio recettore nucleare, che in seguito a legame con l'agonista migra nel nucleo e si lega a specifiche sequenze di riconoscimento (VDRE) a livello dei promotori dei geni bersaglio.

(PFOA) e l'acido perfluoroottansolfonico (PFOS). Le principali fonti di esposizione possono essere l'ingestione di acqua potabile contaminata o di cibi con alti livelli di questi composti (ad esempio, pesce e frutti di mare). Svariati composti perfluoroalchilici sono stati ritrovati nei fluidi corporei: siero, liquido seminale, latte materno e persino nel cordone ombelicale, suggerendo che l'esposizione a tali composti duri tutta la vita fin dal suo principio. PFOA e PFOS inducono gravi conseguenze sulla salute umana come mortalità neonatale, neurotossicità e immunotossicità. Da dati sulla sorveglianza sanitaria negli Stati Uniti è emerso che i PFAS sono rintracciabili nel siero del 95% della popolazione [3].
Nell'uomo, i livelli sierici di PFAS variano a seconda del livello di esposizione. Nella popolazione generale non esposta si ritrovano concentrazioni medie di 5,5 ng/mL per lo PFOA e 2,1 ng/mL per lo PFOS [4]. Nella popolazione residente nelle aree inquinate della regione Veneto le concentrazioni di PFOA sono comprese tra i 54 e i 540 ng/mL [5].

TOSSICITÀ SUL SISTEMA SCHELETRICO

Da circa un decennio è noto che il rischio di osteoporosi e fratture patologiche si associa a esposizione ad alcuni inquinanti ambientali (piombo, cadmio e mercurio). Tra gli inquinanti che interagiscono con il metabolismo osseo troviamo anche i PFAS. Pochi studi sono a oggi disponibili riguardo l'interazione di queste sostanze con il metabolismo osseo. Nei roditori sono stati riportate malformazioni ossee fetali con l'esposizione prenatale allo PFOS e, sempre nei topi, l'esposizione ambientale allo PFOS ne determina un rapido accumulo nel tessuto osseo. Nell'uomo è stata dimostrata la presenza di composti perfluoroalchilici (in prevalenza PFOS) a livello osseo mediante analisi di reperti scheletrici provenienti da autopsie di soggetti esposti alla contaminazione [6].
Le analisi più recenti riguardano quelle effettuate dai due studi sulla salute della popolazione americana, in cui viene messa in evidenza la correlazione tra gli elevati livelli sierici di PFAS delle zone contaminate e la ridotta densità mineraria ossea, che variava in accordo al tipo di sostanza perfluoroalchilica considerata. Considerando più nello specifico i singoli PFAS, si nota una prevalenza più elevata di osteoporosi e una più bassa densità ossea a livello della tibia e del femore e un'alta prevalenza di osteoporosi tra le donne associata a PFOA, PFNA, e PFHxS. Più recentemente questi risultati sono stati confermati in altri studi sempre su soggetti adolescenti o giovani adulti [7,8].
Questi ultimi dati sono stati confermati in una coorte di giovani uomini (tra i 18 e 21 anni) provenienti dalle aree inquinate della Regione Veneto. Nei soggetti esposti si dimostra l'associazione tra l'esposizione a PFAS e il rischio di frattura [9].

METABOLISMO DELLA VITAMINA D

La maggior parte della vitamina D3 è prodotta nella cute a partire dalla provitamina *7*-deidrocolesterolo attraverso una reazione fotochimica che richiede l'intervento della componente UV della radiazione solare. Una volta sintetizzata nella cute, o assorbita dall'intestino, la vitamina D si trova in circolo legata alla sua proteina legante sierica (*D binding protein*, DBP), un'α-globulina sintetizzata dal fegato. Per essere biologicamente attiva la vitamina D3 necessita di una doppia idrossilazione (Fig. 1). La prima idrossilazione, in posizione 25, è svolta da enzimi mitocondriali e microsomiali che appartengono alla super famiglia del citocomo P450. La seconda idrossilazione è svolta nel rene da un enzima presente nel tubulo contorto prossimale, l'1α-idrossilasi, anch'essa appartenente alla famiglia del citocromo P450 (CYP27B1). Questa idrossilasi, a differenza della precedente, è sottoposta a stretta regolazione: il paratormone e l'ipofosforemia l'attivano; il calcio, il fosfato, l'FGF-23 e il calcitriolo (meccanismo di feedback negativo) la inibiscono. Si ottiene così l'1,25-diidrossi-colecalciferolo, o calcitriolo, il vero ormone derivato dalla vitamina D.
Il recettore della vitamina D (VDR) è espresso in numerosi tipi cellulari e tessuti. Il calcitriolo, la forma attiva della vitamina D, regola direttamente o indirettamente più di 200 geni coinvolti nella proliferazione cellulare, differenziazione, apoptosi e neoangiogenesi. È conveniente suddividere gli effetti biologici della vitamina D in scheletrici, ovvero

che riguardano il metabolismo fosfo-calcio, ed extra-scheletrici [10] (Fig. 1).

INTERFERENZA DEI PFAS SUL METABOLISMO DELLA VITAMINA D

Sebbene il numero di studi epidemiologici a conferma di un effetto negativo di queste sostanze sul metabolismo scheletrico sia sempre maggiore, non sono ancora del tutto dimostrati i meccanismi che possono indurre questa associazione. Un ormone fondamentale nello sviluppo scheletrico è la vitamina D, ormone steroideo che agisce stimolando il riassorbimento intestinale di calcio a favore di un'azione anabolica sull'osso. Diversi fattori esogeni sono noti influenzare i livelli di vitamina D circolanti, quali l'obesità, la dieta e l'inquinamento. L'omeostasi della vitamina D infatti può essere influenzata anche dagli interferenti endocrini poiché il metabolita biologicamente attivo, la 1,25-idrossivitamina D, è molto simile in struttura ai classici ormoni steroidei e il suo recettore nucleare è anch'esso paragonabile ai recettori degli ormoni tiroidei o steroidei. In due studi epidemiologici è stata, ad esempio, riportata un'associazione inversa tra bisfenolo A e ftalati rispetto ai livelli di vitamina D [11]. Data la similarità tra ormoni steroidei, e in particolare il testosterone, e la vitamina D, e tra i rispettivi recettori steroidei, in particolare il recettore per l'androgeno, e il recettore per la vitamina D, si può ipotizzare che la già riportata interferenza dei PFAS sulla funzionalità degli ormoni steroidei possa essere estesa anche al metabolismo della vitamina D. Questo meccanismo potrebbe dimostrare le precedentemente riportate associazioni tra esposizione ai PFAS e alterato sviluppo scheletrico e osteoporosi. Sulla base di queste evidenze, è stato ipotizzato un ruolo dei PFAS nell'alterare il metabolismo della vitamina D. Questo meccanismo potrebbe rappresentare una delle possibili modalità di alterazione scheletrica indotta da queste sostanze. L'omeostasi della vitamina D potrebbe essere influenzata dagli interferenti endocrini, poiché questo ormone ha origine steroidea ed è già stata dimostrata interferenza endocrina dei PFAS nei confronti dei recettori steroidei, come ad esempio il recettore androgenico [12].

Un recentissimo studio del gruppo del prof. Foresta [13] ha dimostrato che i PFAS interferiscono con il recettore della vitamina D, inducendo una ridotta risposta delle cellule scheletriche alla vitamina D stessa, che si manifesta con una minor mineralizzazione ossea (Fig. 2). In primo luogo, il PFOA compete con il calcitriolo nello stesso sito di legame del recettore della vitamina D (VDR), portando a un'alterazione della flessibilità strutturale del recettore. In secondo luogo, questa interferenza porta a una risposta alterata dei geni sensibili alla vitamina D in due popolazioni cellulari bersaglio di questo ormone, osteoblasti e cellule epiteliali del tratto colorettale. In terzo luogo, la mineralizzazione negli osteoblasti umani si riduce, in caso di coincubazione, con PFOA e calcitriolo. Infine, in una coorte di giovani uomini sani, la vitamina D non era diminuita nel gruppo esposto, ma i livelli di PTH erano più alti in associazione con l'esposizione a PFAS, suggerendo un meccanismo compensativo in risposta all'ipovitaminosi funzionale D. Complessivamente, questa evidenza trova un importante coinvolgimento fisiopatologico nella carenza di vitamina D associata all'esposizione ambientale a sostanze chimiche che alterano il sistema endocrino, e potrebbe spiegare le osservazioni epidemiologiche della ridotta massa ossea in questo contesto. Questi risultati, oltre a chiarire i meccanismi attraverso i quali i PFAS interferiscono con l'attività di questo importante ormone, suggeriscono un possibile ruolo per questi inquinanti nella patogenesi dell'osteoporosi, la principale patologia correlata ai ridotti livelli di vitamina D.

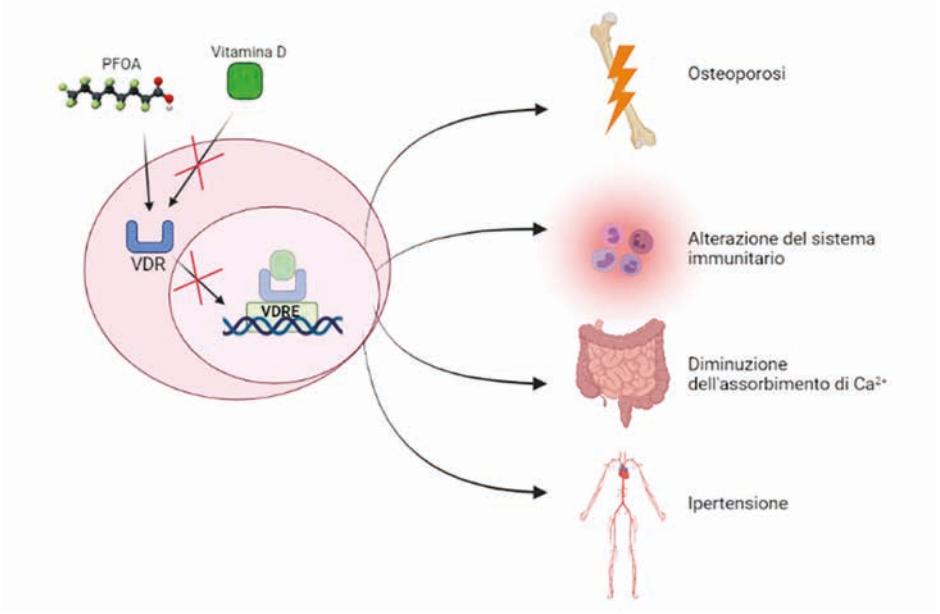

FIGURA 2.
Meccanismo di interferenza endocrina dei PFAS sulla vitamina D: i PFAS inibiscono il legame della vitamina D al suo recettore (VDR), impedendogli di legarsi ai promotori dei geni bersaglio. Questa interferenza comporta uno stato di ipovitaminosi D funzionale in cui, anche a fronte di normali livelli di vitamina D, questa non è in grado di svolgere la sua funzione biologica nelle cellule bersaglio. Questo meccanismo può spiegare le diverse manifestazioni cliniche osservate in popolazioni esposte a inquinamento da PFAS e connesse all'attività della vitamina D stessa, come osteoporosi, ridotta risposta immunitaria, ridotto assorbimento del calcio e problemi cardiovascolari.

CONCLUSIONI

Le evidenze epidemiologiche e sperimentali dimostrano che i PFAS alterano l'omeostasi della vitamina D e rappresentano quindi un fattore di rischio per il tessuto osseo in tutte le fasce di età, dall'età evolutiva (fase di crescita) alla post-menopausa, fase ad alto rischio per l'osteoporosi. Il monitoraggio dello status della vitamina D e della salute del sistema scheletrico è altamente raccomandato nelle popolazioni esposte. Nel contempo, la carenza subclinica di vitamina D (un problema diffuso nelle società occidentali) rappresenta un fattore di suscettibilità agli effetti dell'esposizione a PFAS. Pertanto, è particolarmente importante sviluppare campagne di sensibilizzazione e di prevenzione non farmacologica nelle popolazioni esposte, basate sulla promozione dell'attività fisica, della corretta esposizione alla luce solare e l'alimentazione.

www.vitamind-journal.it

Bibliografia

1. Di Nisio A, Foresta C. Water and soil pollution as determinant of water and food quality/contamination and its impact on male fertility 11 Medical and Health Sciences 1114 Paediatrics and Reproductive Medicine. Reprod Biol Endocrinol 2019;17:4. https://doi.org/10.1186/s12958-018-0449-4
2. Sifakis S, Androutsopoulos VP, Tsatsakis AM, et al. Human exposure to endocrine disrupting chemicals: effects on the male and female reproductive systems. Environ Toxicol Pharmacol 2017;51:56-70. https://doi.org/10.1016/j.etap.2017.02.024
3. Khalil N, Chen A, Lee M, et al. Association of perfluoroalkyl substances, bone mineral density, and osteoporosis in the U.S. population in NHANES 2009-2010. Environ Health Perspect 2016;124:81-87. https://doi.org/10.1289/ehp.1307909
4. Calafat AM, Wong LY, Kuklenyik Z, et al. Polyfluoroalkyl chemicals in the U.S. population: Data from the national health and nutrition examination survey (NHANES) 2003-2004 and comparisons with NHANES 1999-2000. Environ Health Perspect 2007;115:1596-1602. https://doi.org/10.1289/ehp.10598
5. Ingelido AM, Abballe A, Gemma S, et al. Biomonitoring of perfluorinated compounds in adults exposed to contaminated drinking water in the Veneto Region, Italy. Environ Int 2018. https://doi.org/10.1016/j.envint.2017.10.026
6. Pérez F, Nadal M, Navarro-Ortega A, et al. Accumulation of perfluoroalkyl substances in human tissues. Environ Int 2013;59:354-362. https://doi.org/10.1016/j.envint.2013.06.004
7. Hu Y, Liu G, Rood J, et al. Perfluoroalkyl substances and changes in bone mineral density: a prospective analysis in the POUNDS-LOST study. Environ Res 2019;179:108775. https://doi.org/10.1016/j.envres.2019.108775
8. Cluett R, Seshasayee SM, Rokoff LB, et al. Per- and polyfluoroalkyl substance plasma concentrations and bone mineral density in midchildhood: a cross-sectional study (Project Viva, United States). Environ Health Perspect 2019;127:87006. https://doi.org/10.1289/EHP4918
9. Di Nisio A, De Rocco Ponce M, Giadone A, et al. Perfluoroalkyl substances and bone health in young men: a pilot study. Endocrine 2020;67. https://doi.org/10.1007/s12020-019-02096-4
10. Wacker M, Holiack MF. Vitamin D-effects on skeletal and extraskeletal health and the need for supplementation. Nutrients 2013;5:111-148. https://doi.org/10.3390/nu5010111
11. Johns LE, Ferguson KK, Meeker JD. Relationships between urinary phthalate metabolite and bisphenol a concentrations and vitamin d levels in U.S. Adults: National Health and Nutrition Examination Survey (NHANES), 2005-2010. J Clin Endocrinol Metab 2016;101:4062-4069. https://doi.org/10.1210/jc.2016-2134
12. Di Nisio A, Sabovic I, Valente U, et al. Endocrine disruption of androgenic activity by perfluoroalkyl substances: clinical and experimental evidence. J Clin Endocrinol Metab 2019;104:1259-1271. https://doi.org/10.1210/jc.2018-01855
13. Di Nisio A, Rocca MS, De Toni L, et al. Endocrine disruption of vitamin D activity by perfluoro-octanoic acid (PFOA). Sci Rep 2020;10:16789. https://doi.org/10.1038/s41598-020-74026-8

SELEZIONE BIBLIOGRAFICA

CARDIOLOGIA

- Abouzid M, Kruszyna M, Burchardt P, et al. Vitamin D Receptor Gene Polymorphism and Vitamin D Status in Population of Patients with Cardiovascular Disease-A Preliminary Study. Nutrients. 2021 Sep 6;13(9):3117. https://doi.org/10.3390/nu13093117. PMID: 34578994
- Acharya P, Dalia T, Ranka S, et al. The Effects of Vitamin D Supplementation and 25-Hydroxyvitamin D Levels on the Risk of Myocardial Infarction and Mortality. J Endocr Soc. 2021 Jul 15;5(10):bvab124. https://doi.org/10.1210/jendso/bvab124. eCollection 2021 Oct 1. PMID: 34396023
- Adamska-Tomaszewska D, Kocełak P, Owczarek AJ, et al. Factors affecting vitamin D status in outpatients with abdominal aortic aneurysm and peripheral artery disease- a single centre study. J.Nutr Metab Cardiovasc Dis. 2021 Jul 24:S0939-4753(21)00334-3. https://doi.org/10.1016/j.numecd.2021.07.013. Online ahead of print. PMID: 34518086
- Al-Hassan S, Attia H, Alomar H, et al. The inhibitory mechanisms of losartan and vitamin D on amiodarone-induced lung inflammation in rats: Role of mitogen-activated protein kinases/activator protein-1. J Biochem Mol Toxicol. 2021 Sep 30:e22923. https://doi.org/10.1002/jbt.22923. Online ahead of print. PMID: 34590760
- Batsi C, Gkika E, Astrakas L, et al. Vitamin D Deficiency as a Risk Factor for Myocardial Ischemia. Medicina (Kaunas). 2021 Jul 29;57(8):774. https://doi.org/10.3390/medicina57080774. PMID: 34440979
- Cuffee YL, Wang M, Geyer NR, et al. Vitamin D and family history of hypertension in relation to hypertension status among college students. J Hum Hypertens. 2021 Jul 20. https://doi.org/10.1038/s41371-021-00577-6. Online ahead of print. PMID: 34285353
- Dziedzic EA, Gasior JS, Saniewski T, et al. Vitamin D deficiency among Polish patients with angiographically confirmed coronary heart disease. Pol Merkur Lekarski. 2021 Aug 16;49(292):278-282. PMID: 34464368
- Feuchtner G, Suppersberger S, Langer C, et al. The Effect of Vitamin D on Coronary Atherosclerosis: A Propensity Score Matched Case-Control Coronary CTA Study. J Cardiovasc Dev Dis. 2021 Jul 25;8(8):85. https://doi.org/10.3390/jcdd8080085. PMID: 34436227
- Grübler MR, Zittermann A, Verheyen ND, Trummer C, et al. Randomized supplementation of vitamin D versus placebo on markers of systemic inflammation in hypertensive patients. Nutr Metab Cardiovasc Dis. 2021 Aug 18:S0939-4753(21)00349-5. https://doi.org/10.1016/j.numecd.2021.07.028. Online ahead of print. PMID: 34629245
- Hansson L, Sandberg C, Öhlund I, et al. Vitamin D, liver-related biomarkers, and distribution of fat and lean mass in young patients with Fontan circulation. Cardiol Young. 2021 Aug 2:1-8. https://doi.org/10.1017/S1047951121003115. Online ahead of print. PMID: 34338624
- Hou Q, Pang C, Chen Y. Association Between Vitamin D and Statin-Related Myopathy: A Meta-analysis. Am J Cardiovasc Drugs. 2021 Jul 23. https://doi.org/10.1007/s40256-021-00492-8. Online ahead of print. PMID: 34296397
- Islam S, Visaria A, Raju P, et al. The complex interaction between vitamin D, folate, and heavy metals: potential for attenuation of blood pressure effects. J Hypertens. 2021 Jul 1;39(7):1469-1470. https://doi.org/10.1097/HJH.0000000000002840. PMID: 34074976
- Ismail HM, Algrafi AS, Amoudi O, et al. Vitamin D and Its Metabolites Deficiency in Acute Coronary Syndrome Patients Undergoing Coronary Angiography: A Case-Control Study. Vasc Health Risk Manag. 2021 Aug 10;17:471-480. https://doi.org/10.2147/VHRM.S312376. eCollection 2021. PMID: 34408425
- Juraschek SP, Miller Rd ER, Wanigatunga AA, et al. Effects of Vitamin D Supplementation on Orthostatic Hypotension: Results from the STURDY Trial. Am J Hypertens. 2021 Sep 19:hpab147. https://doi.org/10.1093/ajh/hpab147. Online ahead of print. PMID: 34537827

© Copyright by Pacini Editore srl

OPEN ACCESS

L'articolo è open access e divulgato sulla base della licenza CC-BY-NC-ND (Creative Commons Attribuzione – Non commerciale – Non opere derivate 4.0 Internazionale). L'articolo può essere usato indicando la menzione di paternità adeguata e la licenza; solo a scopi non commerciali; solo in originale. Per ulteriori informazioni: https://creativecommons.org/licenses/by-nc-nd/4.0/deed.it

- Kulsoom U, Khan A, Saghir T, et al. Vitamin D receptor gene polymorphism TaqI (rs731236) and its association with the susceptibility to coronary artery disease among Pakistani population. J Gene Med. 2021 Aug 7:e3386. https://doi.org/10.1002/jgm.3386. Online ahead of print. PMID: 34365691
- Narayanam H, Chinni SV, Samuggam S. The Impact of Micronutrients-Calcium, Vitamin D, Selenium, Zinc in Cardiovascular Health: A Mini Review. Front Physiol. 2021 Sep 9;12:742425. https://doi.org/10.3389/fphys.2021.742425. eCollection 2021. PMID: 34566703
- Nikooyeh B, Neyestani TR. Contribution of vitamin D status as a determinant of cardiometabolic risk factors: a structural equation model, National Food and Nutrition Surveillance. BMC Public Health. 2021 Oct 9;21(1):1819. https://doi.org/10.1186/s12889-021-11839-w. PMID: 34627185
- Qasemi R, Ghavamzadeh S, Faghfouri AH, et al. The effect of vitamin D supplementation on flow-mediated dilatation, oxidized LDL and intracellular adhesion molecule 1 on type 2 diabetic patients with hypertension: A randomized, placebo-controlled, double-blind trial. Diabetes Metab Syndr. 2021 Jul-Aug;15(4):102200. https://doi.org/10.1016/j.dsx.2021.102200. Epub 2021 Jul 5. PMID: 34265491
- Rai V, Agrawal DK. Immunomodulation of IL-33 and IL-37 with Vitamin D in the Neointima of Coronary Artery: A Comparative Study between Balloon Angioplasty and Stent in Hyperlipidemic Microswine. Int J Mol Sci. 2021 Aug 17;22(16):8824. https://doi.org/10.3390/ijms22168824. PMID: 34445530
- Santos BR, Casanova G, Silva TR, et al. Are vitamin D deficiency and VDR gene polymorphisms associated with high blood pressure as defined by the ACC/AHA 2017 criteria in postmenopausal women? Maturitas. 2021 Jul;149:26-33. https://doi.org/10.1016/j.maturitas.2021.05.004. Epub 2021 May 24. PMID: 34134887
- Sipos M, Gerszi D, Dalloul H, et al. Vitamin D Deficiency and Gender Alter Vasoconstrictor and Vasodilator Reactivity in Rat Carotid Artery. Int J Mol Sci. 2021 Jul 27;22(15):8029. https://doi.org/10.3390/ijms22158029. PMID: 34360792
- Soh V, Tan SJX, Sehgal R, et al. The Relationship Between Vitamin D Status and Cardiovascular Diseases. Curr Probl Cardiol. 2021 Jul;46(7):100836. https://doi.org/10.1016/j.cpcardiol.2021.100836. Epub 2021 Mar 19. PMID: 33848960 Review
- Tabaei S, Motallebnezhad M, Tabaee SS. Vitamin D Receptor (VDR) Gene Polymorphisms and Risk of Coronary Artery Disease (CAD): Systematic Review and Meta-analysis. Biochem Genet. 2021 Aug;59(4):813-836. https://doi.org/10.1007/s10528-021-10038-x. Epub 2021 Feb 15. PMID: 33590380 Review
- Tintut Y, Demer LL. Potential impact of the steroid hormone, vitamin D, on the vasculature. Am Heart J. 2021 Sep;239:147-153. https://doi.org/10.1016/j.ahj.2021.05.012. Epub 2021 May 27. PMID: 34051171 Review
- Verdoia M, Viglione F, Boggio A, et al. Vitamin D deficiency is associated with impaired reperfusion in STEMI patients undergoing primary percutaneous coronary intervention. Vascul Pharmacol. 2021 Oct;140:106897. https://doi.org/10.1016/j.vph.2021.106897. Epub 2021 Jul 16. PMID: 34274529
- Vinet A, Morrissey C, Perez-Martin A, et al. Effect of vitamin D supplementation on microvascular reactivity in obese adolescents: A randomized controlled trial. Nutr Metab Cardiovasc Dis. 2021 Jul 22;31(8):2474-2483. https://doi.org/10.1016/j.numecd.2021.04.025. Epub 2021 May 10. PMID: 34090775 Clinical Trial
- Şen Ö, Şen SB, Topuz AN, et al. Vitamin D level predicts angiographic no-reflow phenomenon after percutaneous coronary intervention in patients with ST segment elevation myocardial infarction. Biomark Med. 2021 Oct;15(15):1357-1366. https://doi.org/10.2217/bmm-2020-0689. Epub 2021 Sep 17. PMID: 34533051
- Šarac I, Jovanović J, Zec M, et al. Vitamin D Status and Its Correlation With Anthropometric and Biochemical Indicators of Cardiometabolic Risk in Serbian Underground Coal Miners in 2016. Front Nutr. 2021 Aug 19;8:689214. https://doi.org/10.3389/fnut.2021.689214. eCollection 2021. PMID: 34490320

CORONA VIRUS DISEASE

- [No authors listed] Corrigendum to Kazemi et al. Association of vitamin D status with SARS-COV-2 infection or COVID-19 severity: a systematic review and meta-analysis. Adv Nutr 2021;12(5):1636-58. Adv Nutr. 2021 Oct 1;12(5):2040-2044. https://doi.org/10.1093/advances/nmab090. PMID: 34595506
- [No authors listed] Corrigendum to Reis et al. Influence of vitamin D status on hospital length of stay and prognosis in hospitalized patients with moderate to severe COVID-19: a multicenter prospective cohort study. Am J Clin Nutr 2021;114(2):598-604. Am J Clin Nutr. 2021 Aug 2;114(2):827. https://doi.org/10.1093/ajcn/nqab227. PMID: 34337666 Free PMC article.
- Abdollahzadeh R, Shushizadeh MH, Barazandehrokh M, et al. Association of Vitamin D receptor gene polymorphisms and clinical/severe outcomes of COVID-19 patients. Infect Genet Evol. 2021 Oct 2:105098. https://doi.org/10.1016/j.meegid.2021.105098. Online ahead of print. PMID: 34610433
- Abdrabbo M, Birch CM, Brandt M, et al. Vitamin D and COVID-19: A review on the role of vitamin D in preventing and reducing the severity of COVID-19 infection. Protein Sci. 2021 Sep 23. https://doi.org/10.1002/pro.4190. Online ahead of print. PMID: 34558135 Review
- Akbari AR, Khan M, Adeboye W, et al. Ethnicity as a risk factor for vitamin D deficiency and undesirable COVID-19 outcomes. Rev Med Virol. 2021 Sep 13:e2291. https://doi.org/10.1002/rmv.2291. Online ahead of print. PMID: 34516034
- Al-Jarallah M, Rajan R, Dashti R, et al. In-hospital mortality in SARS-CoV-2 stratified by serum 25-hydroxy-vitamin Dlevels: A retrospective study. J Med Virol. 2021 Oct;93(10):5880-5885. https://doi.org/10.1002/jmv.27133. Epub 2021 Jun 20. PMID: 34101207
- Alpcan A, Tursun S, Kandur Y. Vitamin D levels in children with COVID-19: a report from Turkey. Epidemiol Infect. 2021 Aug 10;149:e180. https://doi.org/10.1017/S0950268821001825. PMID: 34375576
- Alshahawey M. COVID-19 and Vitamin D deficiency; the two pandemics. Are they correlated? Int J Vitam Nutr Res. 2021 Sep;91(5-6):383-384. https://doi.org/10.1024/0300-9831/a000671. Epub 2020 Jul 17. PMID: 32674673

- Annweiler C, Beaudenon M, Simon R, et al. Vitamin D supplementation prior to or during COVID-19 associated with better 3-month survival in geriatric patients: Extension phase of the GERIA-COVID study. J Steroid Biochem Mol Biol. 2021 Oct;213:105958. https://doi.org/10.1016/j.jsbmb.2021.105958. Epub 2021 Jul 29. PMID: 34332023
- Annweiler C, Mercat A, Souberbielle JC. Learning from previous methodological pitfalls to propose well-designed trials on vitamin D in COVID-19. J Steroid Biochem Mol Biol. 2021 Jul;211:105901. https://doi.org/10.1016/j.jsbmb.2021.105901. Epub 2021 Apr 14. PMID: 33864925
- Annweiler C, Souberbielle JC. Vitamin D supplementation and COVID-19: expert consensus and guidelines. Geriatr Psychol Neuropsychiatr Vieil. 2021 Oct 5. https://doi.org/10.1684/pnv.2021.0955. Online ahead of print. PMID: 34612818
- Annweiler C. The COVID-19 era recalls the importance of ensuring sufficient vitamin D status in the general population. J Steroid Biochem Mol Biol. 2021 Jul 30:105959. https://doi.org/10.1016/j.jsbmb.2021.105959. Online ahead of print. PMID: 34339829
- Arroyo-Díaz JA, Julve J, Vlacho B, et al. Previous Vitamin D Supplementation and Morbidity and Mortality Outcomes in People Hospitalised for COVID19: A Cross-Sectional Study. Front Public Health. 2021 Sep 24;9:758347. https://doi.org/10.3389/fpubh.2021.758347. eCollection 2021. PMID: 34631653
- Arya A, Dwivedi VD. Synergistic effect of vitamin D and remdesivir can fight COVID-19. J Biomol Struct Dyn. 2021 Jul;39(11):4198-4199. https://doi.org/10.1080/07391102.2020.1773929. Epub 2020 Jun 9. PMID: 32456606
- Bakaloudi DR, Chourdakis M. A critical update on the role of mild and serious vitamin D deficiency prevalence and the COVID-19 epidemic in Europe. Nutrition. 2021 Jul 30;93:111441. https://doi.org/10.1016/j.nut.2021.111441. Online ahead of print. PMID: 34492624
- Bakaloudi DR, Chourdakis M. Letter to the editor: "Revisiting the role of vitamin D levels in the prevention of COVID-19 infection and mortality in European countries post infections peak". Aging Clin Exp Res. 2021 Sep 16:1-2. https://doi.org/10.1007/s40520-021-01975-z. Online ahead of print. PMID: 34529263
- Baktash V, Hosack T, Patel N, et al. Vitamin D status and outcomes for hospitalised older patients with COVID-19. Postgrad Med J. 2021 Jul;97(1149):442-447. https://doi.org/10.1136/postgradmedj-2020-138712. Epub 2020 Aug 27. PMID: 32855214
- Balzanelli MG, Distratis P, Lazzaro R, et al.The Vitamin D, IL-6 and the eGFR Markers a Possible Way to Elucidate the Lung-Heart-Kidney Cross-Talk in COVID-19 Disease: A Foregone Conclusion. Microorganisms. 2021 Sep 7;9(9):1903. https://doi.org/10.3390/microorganisms9091903. PMID: 34576798
- Bandeira L, Lazaretti-Castro M, Binkley N. Clinical aspects of SARS-CoV-2 infection and vitamin D : COVID-19 and the endocrine system: special issue for reviews in endocrine and metabolic disorders (Felipe Casaneuva, Editor in Chief) A. Giustina and JP Bilezikian, Guest Editors. Rev Endocr Metab Disord. 2021 Sep 24:1-5. https://doi.org/10.1007/s11154-021-09683-9. Online ahead of print. PMID: 34559361
- Banerjee A, Ganguly U, Saha S, et al. Vitamin D and immuno-pathology of COVID-19: many interactions but uncertain therapeutic benefits. Expert Rev Anti Infect Ther. 2021 Oct;19(10):1245-1258. https://doi.org/10.1080/14787210.2021.1905519. Epub 2021 Apr 1. PMID: 33739215
- Bayraktar N, Turan H, Bayraktar M, et al. Analysis of serum cytokine and protective vitamin D levels in severe cases of COVID-19. J Med Virol. 2021 Aug 24. https://doi.org/10.1002/jmv.27294. Online ahead of print. PMID: 34427934
- Bayramoğlu E, Akkoç G, Ağbaş A, et al. Authors' reply: the biologic importance of the vitamin D binding protein polymorphism in pediatric COVID-19 patients. Eur J Pediatr. 2021 Aug;180(8):2709-2710. https://doi.org/10.1007/s00431-021-04109-9. Epub 2021 May 14. PMID: 33990871
- Bayramoğlu E, Akkoç G, Ağbaş A, et al. The association between vitamin D levels and the clinical severity and inflammation markers in pediatric COVID-19 patients: single-center experience from a pandemic hospital. Eur J Pediatr. 2021 Aug;180(8):2699-2705. https://doi.org/10.1007/s00431-021-04030-1. Epub 2021 Mar 31. PMID: 33788001
- Ben-Eltriki M, Hopefl R, Wright JM, et al. Association between Vitamin D Status and Risk of Developing Severe COVID-19 Infection: A Meta-Analysis of Observational Studies. J Am Coll Nutr. 2021 Aug 31:1-11. https://doi.org/10.1080/07315724.2021.1951891. Online ahead of print. PMID: 34464543
- Bianconi V, Mannarino MR, Figorilli F, et al. Prevalence of vitamin D deficiency and its prognostic impact on patients hospitalized with COVID-19. Nutrition. 2021 Jul 1;91-92:111408. https://doi.org/10.1016/j.nut.2021.111408. Online ahead of print. PMID: 34388589
- Biswas Mukherjee S, Gorohovski A, Merzon E, et al. Seasonal UV exposure and vitamin D: Association with the dynamics of COVID-19 transmission in Europe. FEBS Open Bio. 2021 Oct 5. https://doi.org/10.1002/2211-5463.13309. Online ahead of print. PMID: 34608759
- Bychinin MV, Klypa TV, Mandel IA, et al. Low Circulating Vitamin D in Intensive Care Unit-Admitted COVID-19 Patients as a Predictor of Negative Outcomes. J Nutr. 2021 Aug 7;151(8):2199-2205. https://doi.org/10.1093/jn/nxab107. PMID: 33982128
- Ccoicca Casaverde BL, Paravicino Hoces N. [Vitamin D and its importance for infection with SARS-CoV-2]. Nutr Hosp. 2021 Jul 29;38(4):886. https://doi.org/10.20960/nh.03715. PMID: 34132561
- Celikbilek A. Vitamin D axis status and the severity of COVID-19. J Med Virol. 2021 Jul;93(7):4085. https://doi.org/10.1002/jmv.26920. Epub 2021 Mar 14. PMID: 33666241
- Cheung CL, Cheung BMY. Vitamin D and COVID-19: causal factor or bystander? Postgrad Med J. 2021 Jul;97(1149):413-414. https://doi.org/10.1136/postgradmedj-2020-139388. Epub 2021 Jan 15. PMID: 33452160
- Chiu SK, Tsai KW, Wu CC, et al. Putative Role of Vitamin D for COVID-19 Vaccination. Int J Mol Sci. 2021 Aug 20;22(16):8988. https://doi.org/10.3390/ijms22168988. PMID: 34445700

- Crandell I, Rockwell M, Whitehead P, et al. Examination of the Moderating Effect of Race on the Relationship between Vitamin D Status and COVID-19 Test Positivity Using Propensity Score Methods. J Am Coll Nutr. 2021 Sep 2:1-12. https://doi.org/10.1080/07315724.2021.1948932. Online ahead of print. PMID: 34473011
- Cui Z, Tian Y. Using genetic variants to evaluate the causal effect of serum vitamin Dconcentration on COVID-19 susceptibility, severity and hospitalization traits: a Mendelian randomization study. J Transl Med. 2021 Jul 10;19(1):300. https://doi.org/10.1186/s12967-021-02973-5. PMID: 34246301
- Damascena AD, Azevedo LMG, Oliveira TA, et al. Addendum to vitamin D deficiency aggravates COVID-19: systematic review and meta-analysis. Crit Rev Food Sci Nutr. 2021 Aug 12:1-6. https://doi.org/10.1080/10408398.2021.1951652. Online ahead of print. PMID: 34384300
- Dantas Damascena A, Galvão Azevedo LM, de Almeida Oliveira T, et al. Vitamin D deficiency aggravates COVID-19: discussion of the evidence. Crit Rev Food Sci Nutr. 2021 Aug 12:1-5. https://doi.org/10.1080/10408398.2021.1951653. Online ahead of print. PMID: 34384289 Updated
- da Rocha AP, Atallah AN, Aldrighi JM, et al. Insufficient evidence for vitamin D use in COVID-19: A rapid systematic review. Int J Clin Pract. 2021 Jul 26:e14649. https://doi.org/10.1111/ijcp.14649. Online ahead of print. PMID: 34310814
- Dawson-Hughes B. Role of vitamin D in COVID-19: active or passive? J Clin Endocrinol Metab. 2021 Jul 7:dgab505. https://doi.org/10.1210/clinem/dgab505. Online ahead of print. PMID: 34232288
- Despland C, Gilliand M, Schaub C. [Vitamin D deficiency and suboptimal immunity : A challenge during Covid pandemia]. Rev Med Suisse. 2021 Oct 6;17(753):1711-1716. PMID: 34614313 Review. French
- Diaz-Curiel M, Cabello A, Arboiro-Pinel R, et al. The relationship between 25(OH) vitamin D levels and COVID-19 onset and disease course in Spanish patients. J Steroid Biochem Mol Biol. 2021 Sep;212:105928. https://doi.org/10.1016/j.jsbmb.2021.105928. Epub 2021 Jun 6. PMID: 34091026
- di Filippo L, Allora A, Doga M, et al. Vitamin D levels associate with blood glucose and BMI in COVID-19 patients predicting disease severity. J Clin Endocrinol Metab. 2021 Aug 12:dgab599. https://doi.org/10.1210/clinem/dgab599. Online ahead of print. PMID: 34383926
- di Filippo L, Allora A, Locatelli M, et al. Hypocalcemia in COVID-19 is associated with low vitamin D levels and impaired compensatory PTH response. Endocrine. 2021 Nov;74(2):219-225. https://doi.org/10.1007/s12020-021-02882-z. Epub 2021 Sep 29. PMID: 34586582
- Feketea G, Vlacha V, Tsiros G, et al. Vitamin D Levels in Asymptomatic Children and Adolescents with Atopy during the COVID-19 Era. J Pers Med. 2021 Jul 25;11(8):712. https://doi.org/10.3390/jpm11080712. PMID: 34442356
- Gaudio A, Murabito AR, Agodi A, et al. Reply to Ialongo et al. Vitamin D, SARS-CoV-2 and Causal Associations in Transversal Studies: The Time-Series Analysis to Reveal Potential Confounders. Comment on "Gaudio et al. Vitamin D Levels Are Reduced at the Time of Hospital Admission in Sicilian SARS-CoV-2-Positive Patients. Int. J. Environ. Res. Public Health 2021, 18, 3491". Int J Environ Res Public Health. 2021 Jul 1;18(13):7036. https://doi.org/10.3390/ijerph18137036. PMID: 34280973
- Getachew B, Tizabi Y. Vitamin D and COVID-19: Role of ACE2, age, gender, and ethnicity. J Med Virol. 2021 Sep;93(9):5285-5294. https://doi.org/10.1002/jmv.27075. Epub 2021 May 19. PMID: 33990955
- Ghanbari-Afra L, Azizi-Fini I. Commentary to "Vitamin D and survival in COVID-19 patients: A quasi-experimental study" by C. Annweiler et al, JSBMB, 2021. J Steroid Biochem Mol Biol. 2021 Aug 5:105960. https://doi.org/10.1016/j.jsbmb.2021.105960. Online ahead of print. PMID: 34364979
- Ghasemian R, Shamshirian A, Heydari K, et al. The role of vitamin D in the age of COVID-19: A systematic review and meta-analysis. Int J Clin Pract. 2021 Jul 29:e14675. https://doi.org/10.1111/ijcp.14675. Online ahead of print. PMID: 34322971
- Gilani SJ, Bin-Jumah MN, Nadeem MS, et al. Vitamin D attenuates COVID-19 complications via modulation of proinflammatory cytokines, antiviral proteins, and autophagy. Expert Rev Anti Infect Ther. 2021 Jul 15:1-11. https://doi.org/10.1080/14787210.2021.1941871. Online ahead of print. PMID: 34112047
- González-Estevez G, Turrubiates-Hernández FJ, Herrera-Jiménez LE, et al. Association of Food Intake Quality with Vitamin D in SARS-CoV-2 Positive Patients from Mexico: A Cross-Sectional Study. Int J Environ Res Public Health. 2021 Jul 7;18(14):7266. https://doi.org/10.3390/ijerph18147266. PMID: 34299717
- Grant WB. Vitamin D and coronavirus disease 2019 (COVID-19)-rapid evidence review. Aging Clin Exp Res. 2021 Sep;33(9):2637-2638. https://doi.org/10.1007/s40520-021-01941-9. Epub 2021 Aug 2. PMID: 34341950
- Güven M, Gültekin H. The effect of high-dose parenteral vitamin D(3) on COVID-19-related inhospital mortality in critical COVID-19 patients during intensive care unit admission: an observational cohort study. Eur J Clin Nutr. 2021 Sep;75(9):1383-1388. https://doi.org/10.1038/s41430-021-00984-5. Epub 2021 Jul 23. PMID: 34302132
- Hariyanto TI, Intan D, Hananto JE, et al. Authors' response: Ethnicity and vitamin D supplementations for COVID-19. Rev Med Virol. 2021 Jul 30:e2280. https://doi.org/10.1002/rmv.2280. Online ahead of print. PMID: 34331330
- Harvey NC, Cooper C, Raisi-Estabragh Z. Vitamin D and COVID-19 disease: don't believe everything you read in the papers! Reply to Dr William B. Grant. Aging Clin Exp Res. 2021 Sep;33(9):2639-2641. https://doi.org/10.1007/s40520-021-01957-1. Epub 2021 Aug 13. PMID: 34387839
- Harvey NC, Cooper C, Raisi-Estabragh Z. Vitamin D supplementation and COVID-19 disease: safety but unproven efficacy-reply to Dr Helga Rhein. Aging Clin Exp Res. 2021 Sep;33(9):2635-2636. https://doi.org/10.1007/s40520-021-01947-3. Epub 2021 Aug 18. PMID: 34406642
- Hedlund R, Diamond TK, Uversky VN. The latitude hypothesis, vitamin D, and SARS-Co-V2. J Biomol Struct Dyn. 2021 Oct;39(16):6168-6170. https://doi.org/10.1080/07391102.2020.1794973. Epub 2020 Jul 17. PMID: 32677591

- Inserra F, Tajer C, Antonietti L, et al. Vitamin D supplementation: An alternative to enhance the effectiveness of vaccines against SARS-CoV-2? Vaccine. 2021 Aug 16;39(35):4930-4931. https://doi.org/10.1016/j.vaccine.2021.07.031. Epub 2021 Jul 16. PMID: 34303561
- Jude E. Response to letter to the Editor from M. M. Speeckaert, et al: Vitamin Ddeficiency is associated with higher hospitalisation risk from COVID-19: a retrospective case-control study. J Clin Endocrinol Metab. 2021 Sep 16:dgab607. https://doi.org/10.1210/clinem/dgab607. Online ahead of print. PMID: 34529783
- Kalia V, Studzinski GP, Sarkar S. Role of vitamin D in regulating COVID-19 severity-An immunological perspective. J Leukoc Biol. 2021 Oct;110(4):809-819. https://doi.org/10.1002/JLB.4COVR1020-698R. Epub 2021 Jan 19. PMID: 33464639
- Karimi E, Azari H, Yari M, et al. Interplay between SARS-CoV-2-derived miRNAs, immune system, vitamin Dpathway and respiratory system. J Cell Mol Med. 2021 Aug;25(16):7825-7839. https://doi.org/10.1111/jcmm.16694. Epub 2021 Jun 22. PMID: 34159729
- Katz J. Increased risk for Covid-19 in patients with Vitamin D deficiency. Nutrition. 2021 Oct;90:111361. https://doi.org/10.1016/j.nut.2021.111361. Epub 2021 May 30. PMID: 34294503
- Kaya MO, Pamukçu E, Yakar B. The role of vitamin D deficiency on the Covid-19: A systematic review and meta-analysis of observational studies. Epidemiol Health. 2021 Sep 23:e2021074. https://doi.org/10.4178/epih.e2021074. Online ahead of print. PMID: 34607398
- Kazemi A, Mohammadi V, Aghababaee SK, et al. Association of Vitamin D Status with SARS-CoV-2 Infection or COVID-19 Severity: A Systematic Review and Meta-analysis. Adv Nutr. 2021 Oct 1;12(5):1636-1658. https://doi.org/10.1093/advances/nmab012. PMID: 33751020
- Khalili F, Yarani R, Haghgoo SM, et al. Letter to Editor in response to the article "Vitamin D insufficiency as a potential culprit in critical COVID-19 patients". J Med Virol. 2021 Jul;93(7):4081-4082. https://doi.org/10.1002/jmv.26912. Epub 2021 Apr 14. PMID: 33656189
- Lakkireddy M, Gadiga SG, Malathi RD, et al. Author Correction: Impact of daily high dose oral vitamin D therapy on the inflammatory markers in patients with COVID 19 disease. Sci Rep. 2021 Aug 30;11(1):17652. https://doi.org/10.1038/s41598-021-97181-y. PMID: 34462608
- Livingston M, Plant A, Dunmore S, et al. Detectable respiratory SARS-CoV-2 RNA is associated with low vitamin D levels and high social deprivation. Int J Clin Pract. 2021 Jul;75(7):e14166. https://doi.org/10.1111/ijcp.14166. Epub 2021 Apr 24. PMID: 33797849
- Li X, van Geffen J, van Weele M, et al. An observational and Mendelian randomisation study on vitamin D and COVID-19 risk in UK Biobank. Sci Rep. 2021 Sep 14;11(1):18262. https://doi.org/10.1038/s41598-021-97679-5. PMID: 34521884
- López-Castro J. Coronavirus disease-19 Pandemic and Vitamin D: So Much for so Little? Rev Invest Clin. 2021 Aug 2. https://doi.org/10.24875/RIC.21000305. Online ahead of print. PMID: 34341590
- Mandal AK, Wenban C, Heer RS, et al. Does Vitamin D have a role to play in Covid-19 in the dexamethasone era? Diabetes Metab Syndr. 2021 Sep-Oct;15(5):102237. https://doi.org/10.1016/j.dsx.2021.102237. Epub 2021 Jul 30. PMID: 34364302
- Mariño-Ramírez L, Ahmad M, Rishishwar L, et al. Vitamin D and socioeconomic deprivation mediate COVID-19 ethnic health disparities. medRxiv. 2021 Sep 22:2021.09.20.21263865. https://doi.org/10.1101/2021.09.20.21263865. Preprint. PMID: 34611667
- Matin S, Fouladi N, Pahlevan Y, et al. The sufficient vitamin D and albumin level have a protective effect on COVID-19 infection. Arch Microbiol. 2021 Oct;203(8):5153-5162. https://doi.org/10.1007/s00203-021-02482-5. Epub 2021 Jul 30. PMID: 34331101
- Mazziotti G, Lavezzi E, Brunetti A, et al. Vitamin D deficiency, secondary hyperparathyroidism and respiratory insufficiency in hospitalized patients with COVID-19. J Endocrinol Invest. 2021 Oct;44(10):2285-2293. https://doi.org/10.1007/s40618-021-01535-2. Epub 2021 Mar 5. PMID: 33666876
- McCartney DM, O'Shea PM, Faul JL, et al. Vitamin D and SARS-CoV-2 infection-evolution of evidence supporting clinical practice and policy development : A position statement from the Covit-DConsortium. Ir J Med Sci. 2021 Aug;190(3):1253-1265. https://doi.org/10.1007/s11845-020-02427-9. Epub 2020 Nov 21. PMID: 33219912
- Menshawey E, Menshawey R, Nabeh OA. Shedding light on vitamin D: the shared mechanistic and pathophysiological role between hypovitaminosis D and COVID-19 risk factors and complications. Inflammopharmacology. 2021 Aug;29(4):1017-1031. https://doi.org/10.1007/s10787-021-00835-6. Epub 2021 Jun 29. PMID: 34185200
- Nimavat N, Singh S, Singh P, et al. Vitamin D deficiency and COVID-19: A case-control study at a tertiary care hospital in India. Ann Med Surg (Lond). 2021 Aug;68:102661. https://doi.org/10.1016/j.amsu.2021.102661. Epub 2021 Aug 5. PMID: 34377451
- Oristrell J, Oliva JC, Casado E, et al. Vitamin D supplementation and COVID-19 risk: a population-based, cohort study. J Endocrinol Invest. 2021 Jul 17:1-13. https://doi.org/10.1007/s40618-021-01639-9. Online ahead of print. PMID: 34273098
- Pal R, Banerjee M. Spurious undermining of the adjuvant role of vitamin D in COVID-19. Diabetes Metab Syndr. 2021 Sep-Oct;15(5):102230. https://doi.org/10.1016/j.dsx.2021.102230. Epub 2021 Jul 23. PMID: 34340050
- Pamukçu E, Kaya MO. Letter to editor "vitamin D deficiency aggravates covid-19: systematic review and meta-analysis". Crit Rev Food Sci Nutr. 2021 Aug 12:1-2. https://doi.org/10.1080/10408398.2021.1951650. Online ahead of print. PMID: 34384298 Updated.
- Parsons IT, Gifford RM, Stacey MJ, et al. Does vitamin D supplementation prevent SARS-CoV-2 infection in military personnel? Review of the evidence. BMJ Mil Health. 2021 Aug;167(4):280-286. https://doi.org/10.1136/bmjmilitary-2020-001686. Epub 2021 Jan 27. PMID: 33504571
- Petrelli F, Luciani A, Perego G, et al. Therapeutic and prognostic role of vitamin D for COVID-19 infection: A systematic review and meta-analysis of 43 observa-

tional studies. J Steroid Biochem Mol Biol. 2021 Jul;211:105883. https://doi.org/10.1016/j.jsbmb.2021.105883. Epub 2021 Mar 26. PMID: 33775818

- Pimentel GD, Dela Vega MCM, Pichard C. Low vitamin D levels and increased neutrophil in patients admitted at ICU with COVID-19. Clin Nutr ESPEN. 2021 Aug;44:466-468. https://doi.org/10.1016/j.clnesp.2021.05.021. Epub 2021 May 31. PMID: 34330507

- Qayyum S, Mohammad T, Slominski RM, et al. Vitamin D and lumisterol novel metabolites can inhibit SARS-CoV-2 replication machinery enzymes. Am J Physiol Endocrinol Metab. 2021 Aug 1;321(2):E246-E251. https://doi.org/10.1152/ajpendo.00174.2021. Epub 2021 Jun 28. PMID: 34181461

- Rahemtoola MS, Suhotoo MJR. Commentary on "Vitamin D deficiency and COVID-19: A case-control study at a tertiary care hospital in India". Ann Med Surg (Lond). 2021 Sep 9:102783. https://doi.org/10.1016/j.amsu.2021.102783. Online ahead of print. PMID: 34518781

- Raisi-Estabragh Z, Martineau AR, Curtis EM, et al. Vitamin D and coronavirus disease 2019 (COVID-19): rapid evidence review. Aging Clin Exp Res. 2021 Jul;33(7):2031-2041. https://doi.org/10.1007/s40520-021-01894-z. Epub 2021 Jun 12. PMID: 34118024

- Rawat D, Roy A, Maitra S, et al. "Vitamin D supplementation and COVID-19 treatment: A systematic review and meta-analysis". Diabetes Metab Syndr. 2021 Jul-Aug;15(4):102189. https://doi.org/10.1016/j.dsx.2021.102189. Epub 2021 Jun 28. PMID: 34217144

- Reis BZ, Fernandes AL, Sales LP, et al. Influence of vitamin D status on hospital length of stay and prognosis in hospitalized patients with moderate to severe COVID-19: a multicenter prospective cohort study. Am J Clin Nutr. 2021 Aug 2;114(2):598-604. https://doi.org/10.1093/ajcn/nqab151. PMID: 34020451

- Ribeiro HG, Dantas-Komatsu RCS, Medeiros JFP, et al. Previous vitamin D status and total cholesterol are associated with SARS-CoV-2 infection. Clin Chim Acta. 2021 Nov;522:8-13. https://doi.org/10.1016/j.cca.2021.08.003. Epub 2021 Aug 5. PMID: 34364853

- Salamanna F, Maglio M, Sartori M, et al. Vitamin D and Platelets: A Menacing Duo in COVID-19 and Potential Relation to Bone Remodeling. Int J Mol Sci. 2021 Sep 16;22(18):10010. https://doi.org/10.3390/ijms221810010. PMID: 34576172

- Shah Alam M, Czajkowsky DM, Aminul Islam M, et al. The role of vitamin D in reducing SARS-CoV-2 infection: An update. Int Immunopharmacol. 2021 Aug;97:107686. https://doi.org/10.1016/j.intimp.2021.107686. Epub 2021 Apr 17. PMID: 33930705

- Shah K, V P V, Pandya A, et al. Low vitamin D levels and prognosis in a COVID-19 paediatric population: a systematic review. QJM. 2021 Jul 22:hcab202. https://doi.org/10.1093/qjmed/hcab202. Online ahead of print. PMID: 34293161

- Shakeri H, Azimian A, Ghasemzadeh-Moghaddam H, et al. Evaluation of the relationship between serum levels of zinc, vitamin B12, vitaminD, and clinical outcomes in patients with COVID-19. J Med Virol. 2021 Aug 18:10.1002/jmv.27277. https://doi.org/10.1002/jmv.27277. Online ahead of print. PMID: 34406674

- Siddiqui L, Muhammad F, Gul R. Vitamin D - A potential life saver for patients with SARS-CoV-2. J Pak Med Assoc. 2021 Sep;71(9):2293. https://doi.org/10.47391/JPMA.3178. PMID: 34580540

- Sinaci S, Ocal DF, Yucel Yetiskin DF, et al. Impact of vitamin D on the course of COVID-19 during pregnancy: A case control study. J Steroid Biochem Mol Biol. 2021 Oct;213:105964. https://doi.org/10.1016/j.jsbmb.2021.105964. Epub 2021 Aug 11. PMID: 34390830

- Sooriyaarachchi P, Jeyakumar DT, King N, et al. Impact of vitamin D deficiency on COVID-19. Clin Nutr ESPEN. 2021 Aug;44:372-378. https://doi.org/10.1016/j.clnesp.2021.05.011. Epub 2021 May 29. PMID:

- Speeckaert MM, Delanghe JR. Contribution of Vitamin D-Binding Protein Polymorphism to Susceptibility and Outcome of COVID-19 Patients. J Nutr. 2021 Aug 7;151(8):2498-2499. https://doi.org/10.1093/jn/nxab234. PMID: 34363485

- Speeckaert MM, Delanghe JR. Letter to the Editor from M. M. Speeckaert et al.: Vitamin D deficiency is associated with higher hospitalization risk from COVID-19: A retrospective case-control study. J Clin Endocrinol Metab. 2021 Sep 16:dgab606. https://doi.org/10.1210/clinem/dgab606. Online ahead of print. PMID: 34529788

- Speeckaert MM, Delanghe JR. The potential significance of vitamin D binding protein polymorphism in COVID-19. Int J Infect Dis. 2021 Aug;109:90. https://doi.org/10.1016/j.ijid.2021.06.044. Epub 2021 Jun 24. PMID: 34174433

- Speeckaert MM, Speeckaert R, Delanghe JR. The biologic importance of the vitamin D binding protein polymorphism in pediatric COVID-19 patients. Eur J Pediatr. 2021 Aug;180(8):2707-2708. https://doi.org/10.1007/s00431-021-04110-2. Epub 2021 May 23. PMID: 34027625

- Speeckaert MM, Speeckaert R, Delanghe JR. Vitamin D and Vitamin D binding protein: the inseparable duo in COVID-19. J Endocrinol Invest. 2021 Oct;44(10):2323-2324. https://doi.org/10.1007/s40618-021-01573-w. Epub 2021 Apr 11. PMID: 33840080

- Story MJ. Essential sufficiency of zinc, omega-3 polyunsaturated fatty acids, vitamin D and magnesium for prevention and treatment of COVID-19, diabetes, cardiovascular diseases, lung diseases and cancer. Biochimie. 2021 Aug;187:94-109. https://doi.org/10.1016/j.biochi.2021.05.013. Epub 2021 May 31. PMID: 34082041

- Szeto B, Fan L, Nickolas TL. Coronavirus disease 2019, vitamin D and kidney function. Curr Opin Nephrol Hypertens. 2021 Jul 1;30(4):387-396. https://doi.org/10.1097/MNH.0000000000000723. PMID: 33990506 Review

- Taha R, Abureesh S, Alghamdi S, et al. The Relationship Between Vitamin D and Infections Including COVID-19: Any Hopes? Int J Gen Med. 2021 Jul 24;14:3849-3870. https://doi.org/10.2147/IJGM.S317421. eCollection 2021. PMID: 34335050

- Teama MAEM, Abdelhakam DA, Elmohamadi MA, et al. Vitamin D deficiency as a predictor of severity in patients with COVID-19 infection. Sci Prog. 2021 Jul-Sep;104(3):368504211036854. https://doi.org/10.1177/00368504211036854. PMID: 34347528

- Townsend L, Dyer AH, McCluskey P, et al. Investigating the Relationship between Vitamin D and Persistent Symptoms Following SARS-CoV-2 Infection. Nutrients. 2021 Jul 15;13(7):2430. https://doi.org/10.3390/nu13072430. PMID: 34371940
- Ul Afshan F, Nissar B, Chowdri NA, et al. Relevance of vitamin D(3) in COVID-19 infection. Gene Rep. 2021 Sep;24:101270. https://doi.org/10.1016/j.genrep.2021.101270. Epub 2021 Jul 7. PMID: 34250314
- Vassiliou AG, Jahaj E, Orfanos SE, et al. Vitamin D in infectious complications in critically ill patients with or without COVID-19. Metabol Open. 2021 Sep;11:100106. https://doi.org/10.1016/j.metop.2021.100106. Epub 2021 Jul 7. PMID: 34250458
- Vaughan M, Trott M, Sapkota R, et al. Changes in 25-hydroxyvitamin D levels post-vitamin D supplementation in people of Black and Asian ethnicities and its implications during COVID-19 pandemic: A systematic review. J Hum Nutr Diet. 2021 Oct 6. https://doi.org/10.1111/jhn.12949. Online ahead of print. PMID: 34617343 Review
- Velikova T, Fabbri A, Infante M. The role of vitamin D as a potential adjuvant for COVID-19 vaccines. Eur Rev Med Pharmacol Sci. 2021 Sep;25(17):5323-5327. https://doi.org/10.26355/eurrev_202109_26637. PMID: 34533808
- Verma S, Chaturvedi V, Ganguly NK, et al. Vitamin D deficiency: concern for rheumatoid arthritis and COVID-19? Mol Cell Biochem. 2021 Aug 28:1-12. https://doi.org/10.1007/s11010-021-04245-8. Online ahead of print. PMID: 34453644
- Vyas N, Kurian SJ, Bagchi D, et al. Vitamin D in Prevention and Treatment of COVID-19: Current Perspective and Future Prospects. J Am Coll Nutr. 2021 Sep-Oct;40(7):632-645. https://doi.org/10.1080/07315724.2020.1806758. Epub 2020 Sep 1. PMID: 32870735
- Wee CL, Mokhtar SS, Banga Singh KK, et al. Vitamin D deficiency attenuates endothelial function by reducing antioxidant activity and vascular eNOS expression in the rat microcirculation. Microvasc Res. 2021 Nov;138:104227. https://doi.org/10.1016/j.mvr.2021.104227. Epub 2021 Jul 27. PMID: 34324883
- Wenban C, Heer RS, Baktash V, et al. Dexamethasone treatment may mitigate adverse effects of vitamin D deficiency in hospitalized Covid-19 patients. J Med Virol. 2021 Jul 17:10.1002/jmv.27215. https://doi.org/10.1002/jmv.27215. Online ahead of print. PMID: 34273116
- Werneke U, Gaughran F, Taylor DM. Vitamin D in the time of the coronavirus (COVID-19) pandemic - a clinical review from a public health and public mental health perspective. Ther Adv Psychopharmacol. 2021 Jul 9;11:20451253211027699. https://doi.org/10.1177/20451253211027699. eCollection 2021. PMID: 34290856
- Wieland LS. Vitamin D supplementation for the treatment of COVID-19: Summary of a living Cochrane review. Explore (NY). 2021 Sep-Oct;17(5):481-482. https://doi.org/10.1016/j.explore.2021.06.004. Epub 2021 Jun 27. PMID: 34294560
- Wu CC, Lu KC. Vitamin D deficiency and inactivated SARS-CoV-2 vaccines. Eur J Intern Med. 2021 Sep 9:S0953-6205(21)00305-8. https://doi.org/10.1016/j.ejim.2021.09.005. Online ahead of print. PMID: 34521583
- Zafar M, Karkhanis M, Shahbaz M, et al. Vitamin D levels and mortality with SARS-COV-2 infection: a retrospective two-centre cohort study. Postgrad Med J. 2021 Sep 6:postgradmedj-2021-140564. https://doi.org/10.1136/postgradmedj-2021-140564. Online ahead of print. PMID: 34489318

DERMATOLOGIA

- Bakr IS, Zaki AM, El-Moslemany RM, et al. Vitamin D oral gel for prevention of radiation-induced oral mucositis: A randomized clinical trial. Oral Dis. 2021 Jul;27(5):1197-1204. https://doi.org/10.1111/odi.13650. Epub 2020 Oct 27. PMID: 32996671 Clinical Trial
- Bocheva G, Slominski RM, Slominski AT. The Impact of Vitamin D on Skin Aging. Int J Mol Sci. 2021 Aug 23;22(16):9097. https://doi.org/10.3390/ijms22169097. PMID: 34445803 Free PMC article. Review
- Conic RRZ, Piliang M, Bergfeld W, et al. Vitamin D status in scarring and non-scarring alopecia. J Am Acad Dermatol. 2021 Aug;85(2):478-480. https://doi.org/10.1016/j.jaad.2018.04.032. Epub 2018 Apr 22. PMID: 29689324
- de Queiroz M, Vaske TM, Boza JC. Serum ferritin and vitamin D levels in women with non-scarring alopecia. J Cosmet Dermatol. 2021 Sep 26. https://doi.org/10.1111/jocd.14472. Online ahead of print. PMID: 34564937
- Filoni A, Congedo M, Lobreglio D, et al. Free and total vitamin D in psoriatic patients treated with biological drugs. Exp Dermatol. 2021 Jul;30(7):995-996. https://doi.org/10.1111/exd.14322. Epub 2021 Apr 5. PMID: 33687755
- Hasamoh Y, Thadanipon K, Juntongjin P. Association between Vitamin D Level and Acne, and Correlation with Disease Severity: A Meta-Analysis. Dermatology. 2021 Aug 4:1-8. https://doi.org/10.1159/000517514. Online ahead of print. PMID: 34348293
- Kim MR, Oji V, Valentin F, et al. Vitamin D Status in Distinct Types of Ichthyosis: Importance of Genetic Type and Severity of Scaling. Acta Derm Venereol. 2021 Sep 15;101(9):adv00546. https://doi.org/10.2340/00015555-3887. PMID: 34396419
- Lin L, Shen L, Zhang J, et al. Ionic Hydrogels Based Wearable Sensors to Monitor the Solar Radiation Dose for Vitamin D Production and Sunburn Prevention. ACS Appl Mater Interfaces. 2021 Sep 29;13(38):45995-46002. https://doi.org/10.1021/acsami.1c13027. Epub 2021 Sep 15. PMID: 34524812
- Lucock MD, Jones PR, Veysey M, et al. Biophysical evidence to support and extend the vitamin D-folate hypothesis as a paradigm for the evolution of human skin pigmentation. Am J Hum Biol. 2021 Aug 21:e23667. https://doi.org/10.1002/ajhb.23667. Online ahead of print. PMID: 34418235
- Moravvej H, Memariani H, Memariani M. Vitamin D Deficiency and Keloids: Causal Factor or Bystander? Dermatology. 2021 Aug 20:1-3. https://doi.org/10.1159/000518472. Online ahead of print. PMID: 34515094 Free article.
- Ou Y, Jiang X, Guan H. Vitamin D Receptor Gene Polymorphisms and Risk of Atopic Dermatitis in Chinese Han Population. Int J Gen Med. 2021 Sep 7;14:5301-5312. https://doi.org/10.2147/IJGM.S326477. eCollection 2021. PMID: 34526805

- Pukale SS, Mittal A, Chitkara D. Topical Application of Vitamin D(3)-Loaded Hybrid Nanosystem to Offset Imiquimod-Induced Psoriasis. AAPS PharmSciTech. 2021 Sep 24;22(7):238. https://doi.org/10.1208/s12249-021-02116-5. PMID: 34561775
- Saini K, Mysore V. Role of vitamin D in hair loss: A short review. J Cosmet Dermatol. 2021 Sep 22. https://doi.org/10.1111/jocd.14421. Online ahead of print. PMID: 34553483 Review
- Shida A, Vizcaychipi M. Vitamin D: The 'Immune Cell Mediator' in burn critical care patients. Burns. 2021 Aug;47(5):1216-1217. https://doi.org/10.1016/j.burns.2021.02.002. Epub 2021 Feb 17. PMID: 33840552
- Vandikas MS, Landin-Wilhelmsen K, Holmäng A, et al. High levels of serum vitamin D-binding protein in patients with psoriasis: A case-control study and effects of ultraviolet B phototherapy. J Steroid Biochem Mol Biol. 2021 Jul;211:105895. https://doi.org/10.1016/j.jsbmb.2021.105895. Epub 2021 Apr 2. PMID: 33819632
- Wong CT, Oh DH. Vitamin D Receptor Promotes Global Nucleotide Excision Repair by Facilitating XPC Dissociation from Damaged DNA. J Invest Dermatol. 2021 Jul;141(7):1656-1663. https://doi.org/10.1016/j.jid.2020.11.033. Epub 2021 Jan 29. PMID: 33524369

EPIDEMIOLOGIA

- Al-Daghri NM, Hussain SD, Ansari MGA, et al. Decreasing prevalence of vitamin D deficiency in the central region of Saudi Arabia (2008-2017). J Steroid Biochem Mol Biol. 2021 Sep;212:105920. https://doi.org/10.1016/j.jsbmb.2021.105920. Epub 2021 May 15. PMID: 34004334
- Arabi A, Chamoun N, Nasrallah MP, et al. Vitamin D Deficiency in Lebanese Adults: Prevalence and Predictors from a Cross-Sectional Community-Based Study. Int J Endocrinol. 2021 Aug 20;2021:3170129. https://doi.org/10.1155/2021/3170129. eCollection 2021. PMID: 34462634
- Basińska-Lewandowska M, Lewiński A, Horzelski W, et al. Effect of Summer Sunshine Exposure on Vitamin D Status in Young and Middle Age Poles: Is 30 ng/mL Vitamin D Cut-Off Really Suitable for the Polish Population? Int J Environ Res Public Health. 2021 Jul 31;18(15):8116. https://doi.org/10.3390/ijerph18158116. PMID: 34360409
- Black LJ, Dunlop E, Lucas RM, et al. Prevalence and predictors of vitamin D deficiency in a nationally representative sample of Australian Aboriginal and Torres Strait Islander adults. Br J Nutr. 2021 Jul 14;126(1):101-109. https://doi.org/10.1017/S0007114520003931. Epub 2020 Oct 8. PMID: 33028435
- Bolesławska I, Kowalówka M, Dobrzyńska M, et al. Differences in the Concentration of Vitamin D Metabolites in Plasma Due to the Low-Carbohydrate-High-Fat Diet and the Eastern European Diet-A Pilot Study. Nutrients. 2021 Aug 13;13(8):2774. https://doi.org/10.3390/nu13082774. PMID: 34444934
- Bolland MJ, Avenell A, Grey A. Vitamin D deficiency, supplementation and testing: have we got it right in New Zealand? N Z Med J. 2021 Sep 3;134(1541):86-95. PMID: 34531599
- Dalamaga M, Muscogiuri G, Paganitsa G, et al. Adherence to the Mediterranean diet is an independent predictor of circulating vitamin D levels in normal weight and non-smoker adults: an observational cross-sectional study. Int J Food Sci Nutr. 2021 Sep;72(6):848-860. https://doi.org/10.1080/09637486.2021.1878488. Epub 2021 Jan 28. PMID: 33509003
- Dunlop E, James AP, Cunningham J, et al. Vitamin D composition of Australian foods. Food Chem. 2021 Oct 1;358:129836. https://doi.org/10.1016/j.foodchem.2021.129836. Epub 2021 Apr 20. PMID: 33933982
- George JA, Norris SA, Snyman T, et al. Longitudinal changes in vitamin D and its metabolites in pregnant South Africans. J Steroid Biochem Mol Biol. 2021 Sep;212:105949. https://doi.org/10.1016/j.jsbmb.2021.105949. Epub 2021 Jul 7. PMID: 34242778
- Groysman M, Bearelly S, Baker A, et al. Association of Perioperative Complications with Vitamin D Levels in Major Head and Neck Surgery. Laryngoscope. 2021 Aug 13. https://doi.org/10.1002/lary.29776. Online ahead of print. PMID: 34387893
- Kabataş N, Doğan AŞ, Yılmaz M, et al. Association between age-related macular degeneration and 25(OH) vitamin Dlevels in the Turkish population. Arq Bras Oftalmol. 2021 Sep 10:S0004-27492021005007206. https://doi.org/10.5935/0004-2749.20220002. Online ahead of print. PMID: 34586223
- Kamyshna II, Pavlovych LB, Malyk IV, et al. 25-OH Vitamin D blood serum linkage with VDR gene polymorphism (rs2228570) in thyroid pathology patients in the West-Ukrainian population. J Med Life. 2021 Jul-Aug;14(4):549-556. https://doi.org/10.25122/jml-2021-0101. PMID: 34621381
- Karras SN, Koufakis T, Dimakopoulos G, et al. Vitamin D equilibrium affects sex-specific changes in lipid concentrations during Christian Orthodox fasting. J Steroid Biochem Mol Biol. 2021 Jul;211:105903. https://doi.org/10.1016/j.jsbmb.2021.105903. Epub 2021 Apr 30. PMID: 33933575
- Koc Okudur S, Soysal P. Excessive Daytime Sleepiness is Associated With Malnutrition, Dysphagia, and Vitamin D Deficiency in Older Adults. J Am Med Dir Assoc. 2021 Oct;22(10):2134-2139. https://doi.org/10.1016/j.jamda.2021.05.035. Epub 2021 Jun 25. PMID: 34181909
- Leitch BA, Wilson PB, Ufholz KE, et al. Vitamin D Awareness and Intake in Collegiate Athletes. J Strength Cond Res. 2021 Oct 1;35(10):2742-2748. https://doi.org/10.1519/JSC.0000000000003240. PMID: 31373981
- Liu W, Hu J, Fang Y, et al. Vitamin D status in Mainland of China: A systematic review and meta-analysis. EClinicalMedicine. 2021 Jul 14;38:101017. https://doi.org/10.1016/j.eclinm.2021.101017. eCollection 2021 Aug. PMID: 34308318
- Magliulo L, Bondi D, Pietrangelo T, et al. Serum ferritin and vitamin D evaluation in response to high altitude comparing Italians trekkers vs Nepalese porters. Eur J Sport Sci. 2021 Jul;21(7):994-1002. https://doi.org/10.1080/17461391.2020.1792559. Epub 2020 Aug 6. PMID: 32627691
- Mantha S, Tripuraneni SL, Fleisher LA, et al. Relative contribution of vitamin D deficiency to subclinical atherosclerosis in Indian context: Preliminary findings. Medicine (Baltimore). 2021 Aug 13;100(32):e26916. https://doi.org/10.1097/MD.0000000000026916. PMID: 34397932

- Mathews NE, Sengupta P, Benjamin AI. Effect of vitamin-D supplementation on self-perceived health-related quality of life in postmenopausal women in Ludhiana, Punjab. Indian J Public Health. 2021 Jul-Sep;65(3):294-297. https://doi.org/10.4103/ijph.IJPH_226_21. PMID: 34558494
- Oshiro CE, Hillier TA, Edmonds G, et al. Vitamin D deficiency and insufficiency in Hawaii: Levels and sources of serum vitamin D in older adults. Am J Hum Biol. 2021 Jul 2:e23636. https://doi.org/10.1002/ajhb.23636. Online ahead of print. PMID: 34213035
- Panchulidze M, Grdzelidze T, Kvanchakhadze R. INFLUENCE OF VARIOUS FACTORS ON THE VITAMIN D LEVELS IN MENOPAUSAL WOMEN LIVING IN KVEMO KARTLI. Georgian Med News. 2021 Sep;(318):114-119. PMID: 34628390
- Podsiadło S, Skiba A, Kałuża A, et al. Influence of Nordic Walking Training on Vitamin D Level in the Blood and Quality of Life among Women Aged 65-74. Healthcare (Basel). 2021 Sep 2;9(9):1146. https://doi.org/10.3390/healthcare9091146. PMID: 34574920
- Prothero LS, Foster T. A survey-based evaluation of ambulance staff awareness of vitamin D and risk of deficiency in a UK ambulance service. Br Paramed J. 2021 Sep 1;6(2):40-48. https://doi.org/10.29045/14784726.2021.9.6.2.40. PMID: 34539254
- Schleicher RL, Sternberg MR, Potischman N, et al. Supplemental Vitamin D Increased Serum Total 25-Hydroxyvitamin D in the US Adult Population During 2007-2014. J Nutr. 2021 Aug 7;151(8):2446-2454. https://doi.org/10.1093/jn/nxab147. PMID: 34036360
- Sherief LM, Ali A, Gaballa A, et al. Vitamin D status and healthy Egyptian adolescents: Where do we stand? Medicine (Baltimore). 2021 Jul 23;100(29):e26661. https://doi.org/10.1097/MD.0000000000026661. PMID: 34398026
- Siddiqee MH, Bhattacharjee B, Siddiqi UR, et al. High prevalence of vitamin D deficiency among the South Asian adults: a systematic review and meta-analysis. BMC Public Health. 2021 Oct 9;21(1):1823. https://doi.org/10.1186/s12889-021-11888-1. PMID: 34627207
- Sundarakumar JS, Shahul Hameed SK; SANSCOG Study Team, et al. Burden of Vitamin D, Vitamin B12 and Folic Acid Deficiencies in an Aging, Rural Indian Community. Front Public Health. 2021 Sep 3;9:707036. https://doi.org/10.3389/fpubh.2021.707036. eCollection 2021. PMID: 34540786
- Tabbakh T, Wakefield M, Dobbinson SJ. Concerns about vitamin D and sun exposure behaviour among Australians. Health Promot J Austr. 2021 Jul;32(3):399-406. https://doi.org/10.1002/hpja.372. Epub 2020 Jul 24. PMID: 32557897
- Vearing RM, Hart KH, Darling AL, et al. Global Perspective of the Vitamin D Status of African-Caribbean Populations: A Systematic Review and Meta-analysis. Eur J Clin Nutr. 2021 Jul 19. https://doi.org/10.1038/s41430-021-00980-9. Online ahead of print. PMID: 34282293 Review
- Wu J, Chavez-Arom V, Han JJ, et al. High Rates of Vitamin D Deficiency in Acute Rehabilitation Patients. Yeh BY.Arch Rehabil Res Clin Transl. 2021 Jun 30;3(3):100137. https://doi.org/10.1016/j.arrct.2021.100137. eCollection 2021 Sep. PMID: 34589687
- Yousef S, Manuel D, Colman I, et al. Vitamin D Status among First-Generation Immigrants from Different Ethnic Groups and Origins: An Observational Study Using the Canadian Health Measures Survey. Nutrients. 2021 Aug 5;13(8):2702. https://doi.org/10.3390/nu13082702. PMID: 34444863
- Yu L, Zhang J, Li S, et al. [Impact of overweight and obesity on the relationship between serum vitamin Dand fasting blood glucose in children aged 6-17 years in Shandong Province]. Wei Sheng Yan Jiu. 2021 Jul;50(4):547-551. https://doi.org/10.19813/j.cnki.weishengyanjiu.2021.04.003. PMID: 34311823 Chinese
- Zareef TA, Jackson RT. Knowledge and attitudes about vitamin D and sunlight exposure in premenopausal women living in Jeddah, and their relationship with serum vitamin D levels. J Health Popul Nutr. 2021 Aug 28;40(1):38. https://doi.org/10.1186/s41043-021-00263-w. PMID: 34454622

EMATOLOGIA

- Bodea J, Beebe K, Campbell C, et al. Stoss therapy is safe for treatment of vitamin D deficiency in pediatric patients undergoing HSCT. Bone Marrow Transplant. 2021 Sep;56(9):2137-2143. https://doi.org/10.1038/s41409-021-01294-x. Epub 2021 Apr 19. PMID: 33875811
- Flores-Villalva S, O'Brien MB, Reid C, et al. Low serum vitamin D concentrations in Spring-born dairy calves are associated with elevated peripheral leukocytes. Sci Rep. 2021 Sep 23;11(1):18969. https://doi.org/10.1038/s41598-021-98343-8. PMID: 34556723
- Gahr K, Sommers N, Bostrom B. Bone Mineral Metabolism During Chemotherapy in Childhood Acute Lymphoblastic Leukemia: Unexpected Vitamin D Deficiency From Induction Corticosteroids in Acute Lymphoblastic Leukemia. J Pediatr Hematol Oncol. 2021 Aug 1;43(6):240-241. https://doi.org/10.1097/MPH.0000000000002028. PMID: 33290292
- Gjærde LK, Ostrowski SR, Andersen NS, et al. Pre-transplantation plasma vitamin D levels and acute graft-versus-host disease after myeloablative hematopoietic cell transplantation in adults. Transpl Immunol. 2021 Oct;68:101437. https://doi.org/10.1016/j.trim.2021.101437. Epub 2021 Jul 15. PMID: 34273495
- Hama AH, Shakiba E, Rahimi Z, et al. Vitamin D level, lipid profile, and vitamin D receptor and transporter gene variants in sickle cell disease patients from Kurdistan of Iraq. J Clin Lab Anal. 2021 Sep;35(9):e23908. https://doi.org/10.1002/jcla.23908. Epub 2021 Jul 14. PMID: 34261187
- Ito Y, Honda A, Kurokawa M. Impact of vitamin D level at diagnosis and transplantation on the prognosis of hematological malignancy: a meta-analysis. Blood Adv. 2021 Sep 8:bloodadvances.2021004958. https://doi.org/10.1182/bloodadvances.2021004958. Online ahead of print. PMID: 34496015
- Jiménez-Cortegana C, Sánchez-Martínez PM, Palazón-Carrión N, et al. Lower Survival and Increased Circulating Suppressor Cells in Patients with Relapsed/Refractory Diffuse Large B-Cell Lymphoma with Deficit of Vitamin DLevels Using R-GDP Plus Lenalidomide (R2-GDP): Results from the R2-GDP-GOTEL Trial. Cancers (Basel). 2021 Sep 15;13(18):4622. https://doi.org/10.3390/cancers13184622. PMID: 34572849

- Kucukay MB, Alanli R. Vitamin D Replacement Effect on Platelet Counts. J Coll Physicians Surg Pak. 2021 Sep;31(9):1064-1068. https://doi.org/10.29271/jcpsp.2021.09.1064. PMID: 34500522
- Macedo R, Pasin C, Ganetsky A, et al. Vitamin D deficiency after allogeneic hematopoietic cell transplantation promotes T-cell activation and is inversely associated with an EZH2-ID3 signature. Transplant Cell Ther. 2021 Sep 28:S2666-6367(21)01260-4. https://doi.org/10.1016/j.jtct.2021.09.017. Online ahead of print. PMID: 34597852
- Müller T, Lohse L, Blodau A, et al. Vitamin D and Blood Parameters. Biomolecules. 2021 Jul 12;11(7):1017. https://doi.org/10.3390/biom11071017. PMID: 34356641
- Oortgiesen BE, Kroes JA, Scholtens P, et al. High prevalence of peripheral neuropathy in multiple myeloma patients and the impact of vitamin D levels, a cross-sectional study. Support Care Cancer. 2021 Jul 17. https://doi.org/10.1007/s00520-021-06414-3. Online ahead of print. PMID: 34273034
- Robak O, Kastner MT, Stecher C, et al. Cytomegalovirus Infection Downregulates Vitamin D Receptor in Patients Undergoing Hematopoietic Stem Cell Transplantation. Transplantation. 2021 Jul 1;105(7):1595-1602. https://doi.org/10.1097/TP.0000000000003448. PMID: 32890131
- Sherief LM, Beshir M, Raafat N, et al. Genetic polymorphism of vitamin D receptors and plasminogen activator inhibitor-1 and osteonecrosis risk in childhood acute lymphoblastic leukemia. Mol Genet Genomic Med. 2021 Jul;9(7):e1700. https://doi.org/10.1002/mgg3.1700. Epub 2021 May 27. PMID: 34042331
- Wang Y, Huang X, Wu Y, et al. Increased Risk of Vitamin D Deficiency Among HIV-Infected Individuals: A Systematic Review and Meta-Analysis. Front Nutr. 2021 Aug 18;8:722032. https://doi.org/10.3389/fnut.2021.722032. eCollection 2021. PMID: 34490331

ENDOCRINOLOGIA

- Alharazy S, Alissa E, Lanham-New S, et al. Association between vitamin D and glycaemic parameters in a multi-ethnic cohort of postmenopausal women with type 2 diabetes in Saudi Arabia. BMC Endocr Disord. 2021 Aug 12;21(1):162. https://doi.org/10.1186/s12902-021-00825-3. PMID: 34380489
- Al Kadi H. Prevalence and Determinants of a Blunted Parathyroid Hormone Response in Young Saudi Women with Vitamin D Deficiency: A Cross-Sectional Study. Int J Endocrinol. 2021 Sep 17;2021:5579484. https://doi.org/10.1155/2021/5579484. eCollection 2021. PMID: 34580590
- Arıman A, Merder E, Çulha MG, et al. Relation of glycated hemoglobin and vitamin D deficiency with erectile dysfunction in patients with type 2 diabetes mellitus. Andrologia. 2021 Aug;53(7):e14076. https://doi.org/10.1111/and.14076. Epub 2021 Apr 27. PMID: 33905126
- Asemi Z, Raygan F, Bahmani F, et al. The effects of vitamin D, K and calcium co-supplementation on carotid intima-media thickness and metabolic status in overweight type 2 diabetic patients with CHD - Expression of concern. Br J Nutr. 2021 Aug 6:1. https://doi.org/10.1017/S0007114521002038. Online ahead of print. PMID: 34353379
- Asghari S, Hamedi-Shahraki S, Amirkhizi F.Vitamin D status and systemic redox biomarkers in adults with obesity. Clin Nutr ESPEN. 2021 Oct;45:292-298. https://doi.org/10.1016/j.clnesp.2021.07.032. Epub 2021 Aug 14. PMID: 34620331
- Azer SM, Vaughan LE, Tebben PJ, et al. 24-Hydroxylase Deficiency Due to CYP24A1 Sequence Variants: Comparison With Other Vitamin D-mediated Hypercalcemia Disorders. J Endocr Soc. 2021 Jul 2;5(9):bvab119. https://doi.org/10.1210/jendso/bvab119. eCollection 2021 Sep 1. PMID: 34337279
- Bakhamis S, Imtiaz F, Ramzan K, et al. 25-Hydroxylase vitamin D deficiency in 27 Saudi Arabian subjects: a clinical and molecular report on CYP2R1 mutations. Endocr Connect. 2021 Jul 17;10(7):767-775. https://doi.org/10.1530/EC-21-0102. PMID: 34137732
- Banerjee RR, Spence T, Frank SJ, et al. Very Low Vitamin D in a Patient With a Novel Pathogenic Variant in the GC Gene That Encodes Vitamin D-Binding Protein. J Endocr Soc. 2021 Jun 5;5(9):bvab104. https://doi.org/10.1210/jendso/bvab104. eCollection 2021 Sep 1. PMID: 34589658
- Barham A, Mohammad B, Hasoun L, et al. The combination of omega-3 fatty acids with high doses of vitamin D3 elevate A1c levels: A randomized Clinical Trial in people with vitamin D deficiency. Int J Clin Pract. 2021 Sep 4:e14779. https://doi.org/10.1111/ijcp.14779. Online ahead of print. PMID: 34482574
- Batman A, Saygili ES, Yildiz D, et al. Risk of hypercalcemia in patients with very high serum 25-OH vitamin D levels. Int J Clin Pract. 2021 Jul;75(7):e14181. https://doi.org/10.1111/ijcp.14181. Epub 2021 Apr 29. PMID: 33759301
- Bejar CA, Goyal S, Afzal S, et al. A Bidirectional Mendelian Randomization Study to evaluate the causal role of reduced blood vitamin D levels with type 2 diabetes risk in South Asians and Europeans. Nutr J. 2021 Jul 27;20(1):71. https://doi.org/10.1186/s12937-021-00725-1. PMID: 34315477
- Bellastella G, Scappaticcio L, Longo M, et al. New insights into vitamin D regulation: is there a role for alkaline phosphatase? J Endocrinol Invest. 2021 Sep;44(9):1891-1896. https://doi.org/10.1007/s40618-021-01503-w. Epub 2021 Jan 25. PMID: 33492600
- Bikle DD. Vitamin D regulation of and by long non coding RNAs. Mol Cell Endocrinol. 2021 Jul 15;532:111317. https://doi.org/10.1016/j.mce.2021.111317. Epub 2021 May 17. PMID: 34015414
- Boisen IM, Nielsen JE, Verlinden L, et al. Calcium transport in male reproduction is possibly influenced by vitamin D and CaSR. J Endocrinol. 2021 Oct 1:JOE-20-0321.R2. https://doi.org/10.1530/JOE-20-0321. Online ahead of print. PMID: 34612843
- Buksińska-Lisik M, Kwasiborski PJ, Ryczek R, et al. Vitamin D Deficiency as a Predictor of a High Prevalence of Coronary Artery Disease in Pancreas Transplant Candidates With Type 1 Diabetes. Front Endocrinol (Lausanne). 2021 Aug 11;12:714728. https://doi.org/10.3389/fendo.2021.714728. eCollection 2021. PMID: 34456872
- Chang Villacreses MM, Karnchanasorn R, Panjawatanan P, et al. Conundrum of vitamin D on glucose and fuel homeostasis. World J Diabetes. 2021 Sep 15;12(9):1363-1385. https://doi.org/10.4239/wjd.v12.i9.1363. PMID: 34630895

- Chen X, Chu C, Doebis C, et al. Sex-Dependent Association of Vitamin D With Insulin Resistance in Humans. J Clin Endocrinol Metab. 2021 Aug 18;106(9):e3739-e3747. https://doi.org/10.1210/clinem/dgab213. PMID: 34406392
- Choi EHE, Qeadan F, Alkhalili E, et al. Preoperative vitamin D deficiency is associated with increased risk of postoperative hypocalcemia after total thyroidectomy. J Investig Med. 2021 Aug;69(6):1175-1181. https://doi.org/10.1136/jim-2020-001644. Epub 2021 Mar 31. PMID: 33789986
- Cojic M, Kocic R, Klisic A, et al. The Effects of Vitamin D Supplementation on Metabolic and Oxidative Stress Markers in Patients With Type 2 Diabetes: A 6-Month Follow Up Randomized Controlled Study. Front Endocrinol (Lausanne). 2021 Aug 19;12:610893. https://doi.org/10.3389/fendo.2021.610893. eCollection 2021. PMID: 34489860
- Cordeiro MM, Biscaia PB, Brunoski J, et al. Vitamin D supplementation decreases visceral adiposity and normalizes leptinemia and circulating TNF-alpha levels in western diet-fed obese rats. Life Sci. 2021 Aug 1;278:119550. https://doi.org/10.1016/j.lfs.2021.119550. Epub 2021 Apr 29. PMID: 33932442
- Cvek M, Kaličanin D, Barić A, et al. Vitamin D and Hashimoto's Thyroiditis: Observations from CROHT Biobank. Nutrients. 2021 Aug 15;13(8):2793. https://doi.org/10.3390/nu13082793. PMID: 34444953
- Dashti F, Mousavi SM, Larijani B, et al. The effects of vitamin D supplementation on inflammatory biomarkers in patients with abnormal glucose homeostasis: A systematic review and meta-analysis of randomized controlled trials. Pharmacol Res. 2021 Aug;170:105727. https://doi.org/10.1016/j.phrs.2021.105727. Epub 2021 Jun 11. PMID: 34126229 Review
- Das S, Selvarajan S, Kamalanathan S, et al. A Randomized Double-Blind Placebo-Controlled Trial Evaluating the Efficacy of Oral Cholecalciferol in Improving Renal and Vascular Functions in Vitamin D-Deficient Patients With Type 2 Diabetes Mellitus. J Diet Suppl. 2021 Aug 13:1-11. https://doi.org/10.1080/19390211.2021.1958041. Online ahead of print. PMID: 34387520
- Dewansingh P, Reckman GAR, Mijlius CF, et al. Protein, Calcium, Vitamin D Intake and 25(OH)D Status in Normal Weight, Overweight, and Obese Older Adults: A Systematic Review and Meta-Analysis. Front Nutr. 2021 Sep 10;8:718658. https://doi.org/10.3389/fnut.2021.718658. eCollection 2021. PMID: 34568405
- Faienza MF, Brunetti G, Grugni G, et al. The genetic background and vitamin D supplementation can affect irisin levels in Prader-Willi syndrome. J Endocrinol Invest. 2021 Oct;44(10):2261-2271. https://doi.org/10.1007/s40618-021-01533-4. Epub 2021 Mar 3. PMID: 33656700
- Fang F, Chai Y, Wei H, et al. Vitamin D deficiency is associated with thyroid autoimmunity: results from an epidemiological survey in Tianjin, China. Endocrine. 2021 Aug;73(2):447-454. https://doi.org/10.1007/s12020-021-02688-z. Epub 2021 Mar 23. PMID: 33759075
- Farazi M, Jayedi A, Dehghani Firouzabadi F, et al. The joint association of serum vitamin D status and cardiorespiratory fitness with obesity and metabolic syndrome in Tehranian adults. Br J Nutr. 2021 Aug 23:1-10. https://doi.org/10.1017/S0007114521003196. Online ahead of print. PMID: 34420527
- Galyean S, Syn D, Subih HS, et al. Improving vitamin D status in bariatric surgery subjects with monthly high-dose ergocalciferol. Int J Vitam Nutr Res. 2021 Sep 15. https://doi.org/10.1024/0300-9831/a000728. Online ahead of print. PMID: 34521264
- Gholamalizadeh M, Doaei S, Mokhtari Z, et al. Association of serum 25-OH-vitamin D level with FTO and IRX3 genes expression in obese and overweight boys with different FTO rs9930506 genotypes. J Transl Med. 2021 Aug 16;19(1):350. https://doi.org/10.1186/s12967-021-03029-4. PMID: 34399781
- Guesmi A, Zouaoui M, Haouat E, et al. Association of Vitamin D Receptor Gene Polymorphisms With the Evolution of MODY Diabetes: Study in Tunisian Patients. Biol Res Nurs. 2021 Oct;23(4):608-618. https://doi.org/10.1177/10998004211004770. Epub 2021 Apr 8. PMID: 33827288
- Hajhashemy Z, Foshati S, Saneei P. Relationship between abdominal obesity (based on waist circumference) and serum vitamin D levels: a systematic review and meta-analysis of epidemiologic studies. Nutr Rev. 2021 Sep 19:nuab070. https://doi.org/10.1093/nutrit/nuab070. Online ahead of print. PMID: 34537844
- Hajhashemy Z, Shahdadian F, Moslemi E, et al. Serum vitamin D levels in relation to metabolic syndrome: A systematic review and dose-response meta-analysis of epidemiologic studies. Obes Rev. 2021 Jul;22(7):e13223. https://doi.org/10.1111/obr.13223. Epub 2021 Apr 7. PMID: 33829636 Review
- Halschou-Jensen PM, Sauer J, Bouchelouche P, et al. Improved Healing of Diabetic Foot Ulcers After High-dose Vitamin D: A Randomized Double-blinded Clinical Trial. Int J Low Extrem Wounds. 2021 Jul 2:15347346211020268. https://doi.org/10.1177/15347346211020268. Online ahead of print. PMID: 34213957
- Hamouda HA, Mansour SM, Elyamany MF. Vitamin D Combined with Pioglitazone Mitigates Type-2 Diabetes-induced Hepatic Injury Through Targeting Inflammation, Apoptosis, and Oxidative Stress. Inflammation. 2021 Sep 1. https://doi.org/10.1007/s10753-021-01535-7. Online ahead of print. PMID: 34468908
- Hanna HWZ, Rizzo C, Abdel Halim RM, et al. Vitamin D status in Hashimoto's thyroiditis and its association with vitamin Dreceptor genetic variants. J Steroid Biochem Mol Biol. 2021 Sep;212:105922. https://doi.org/10.1016/j.jsbmb.2021.105922. Epub 2021 May 17. PMID: 34015387
- He Y, Yang X, Li M, et al. Vitamin D supplementation and energy and metabolic homoeostasis in obese and overweight subjects: a protocol for a systematic review. BMJ Open. 2021 Sep 30;11(9):e051230. https://doi.org/10.1136/bmjopen-2021-051230. PMID: 34593501
- Holt R, Pedersen JH, Dinsdale E, et al. Vitamin D supplementation improves fasting insulin levels and HDL cholesterol in infertile men. J Clin Endocrinol Metab. 2021 Sep 11:dgab667. https://doi.org/10.1210/clinem/dgab667. Online ahead of print. PMID: 34508607
- Hou Y, Song A, Jin Y, et al. A dose-response meta-analysis between serum concentration of 25-hydroxy vitamin D and risk of type 1 diabetes mellitus. Eur J Clin Nutr. 2021 Jul;75(7):1010-1023. https://doi.org/10.1038/s41430-020-00813-1. Epub 2020 Nov 24. PMID: 33235321

- Jin T, Lu W, Gong X, et al. Association of vitamin D receptor polymorphisms with metabolic syndrome-related components: A cross-sectional study. J Clin Lab Anal. 2021 Jul;35(7):e23829. https://doi.org/10.1002/jcla.23829. Epub 2021 May 19. PMID: 34008880
- Kaufmann M, Schlingmann KP, Berezin L, et al. Differential diagnosis of vitamin D-related hypercalcemia using serum vitamin Dmetabolite profiling. J Bone Miner Res. 2021 Jul;36(7):1340-1350. https://doi.org/10.1002/jbmr.4306. Epub 2021 May 10. PMID: 33856702
- Kawada T. Letter to the editor Re: Faienza MF, Brunetti G, Grugni G, et al. The genetic background and vitamin D supplementation can affect irisin levels in Prader-Willi syndrome. J Endocrinol Invest 2021 Mar 3. https://doi.org/10.1007/s40618-021-01533-4. J Endocrinol Invest. 2021 Jul 19. https://doi.org/10.1007/s40618-021-01640-2. Online ahead of print. PMID: 34279814
- Keller A, Thorsteinsdottir F, Stougaard M, et al. Vitamin D concentrations from neonatal dried blood spots and the risk of early-onset type 2 diabetes in the Danish D-tect case-cohort study. Diabetologia. 2021 Jul;64(7):1572-1582. https://doi.org/10.1007/s00125-021-05450-2. Epub 2021 May 24. PMID: 34028586
- Khatiwada AS, Harris AS. Use of pre-operative calcium and vitamin D supplementation to prevent post-operative hypocalcaemia in patients undergoing thyroidectomy: a systematic review. J Laryngol Otol. 2021 Jul;135(7):568-573. https://doi.org/10.1017/S0022215121001523. Epub 2021 Jun 14. PMID: 34120662
- Kim J, Nam JS, Kim H, et al. No effect of vitamin D supplementation on metabolic parameters but on lipids in patients with type 2 diabetes and chronic kidney disease. Int J Vitam Nutr Res. 2021 Sep;91(5-6):649-658. https://doi.org/10.1024/0300-9831/a000642. Epub 2020 Mar 9. PMID: 32149579
- Krysiak R, Kowalcze K, Okopień B. The impact of exogenous vitamin D on thyroid autoimmunity in euthyroid men with autoimmune thyroiditis and early-onset androgenic alopecia. Pharmacol Rep. 2021 Oct;73(5):1439-1447. https://doi.org/10.1007/s43440-021-00295-3. Epub 2021 Jun 9. PMID: 34106452
- Krysiak R, Kowalcze K, Okopień B. Vitamin D status determines the impact of metformin on circulating prolactin levels in premenopausal women. J Clin Pharm Ther. 2021 Oct;46(5):1349-1356. https://doi.org/10.1111/jcpt.13447. Epub 2021 Jun 2. PMID: 34076286
- Lee J, Lee YJ, Kim Y. A high prevalence of prediabetes and vitamin D deficiency are more closely associated in women: results of a cross-sectional study. J Int Med Res. 2021 Jul;49(7):300060521103384. https://doi.org/10.1177/03000605211033384. PMID: 34334004
- Liu Q, Zhang Y, Zhao H, et al. Increased Epoxyeicosatrienoic Acids and Hydroxyeicosatetraenoic Acids After Treatment of Iodide Intake Adjustment and 1,25-Dihydroxy-Vitamin D(3) Supplementation in High Iodide Intake-Induced Hypothyroid Offspring Rats. Front Physiol. 2021 Jul 26;12:669652. https://doi.org/10.3389/fphys.2021.669652. eCollection 2021. PMID: 34381374
- Ludvigsson J, Routray I, Vigård T, et al. Combined Etanercept, GAD-alum and vitamin D treatment: an open pilot trial to preserve beta cell function in recent onset type 1 diabetes. Diabetes Metab Res Rev. 2021 Oct;37(7):e3440. https://doi.org/10.1002/dmrr.3440. Epub 2021 Feb 18. PMID: 33486892
- Marziou A, Aubert B, Couturier C, et al. Combined Beneficial Effect of Voluntary Physical Exercise and Vitamin DSupplementation in Diet-induced Obese C57BL/6J Mice. Med Sci Sports Exerc. 2021 Sep 1;53(9):1883-1894. https://doi.org/10.1249/MSS.0000000000002664. PMID: 33787528
- Meng L, Su C, Shapses SA, et al. Total and free vitamin D metabolites in patients with primary hyperparathyroidism. J Endocrinol Invest. 2021 Jul 19. https://doi.org/10.1007/s40618-021-01633-1. Online ahead of print. PMID: 34282553
- Menon AS, Kapoor R, Anayath S, et al. Vitamin D, body mass composition and metabolic risk factors in healthy young Indians. Med J Armed Forces India. 2021 Oct;77(4):485-489. https://doi.org/10.1016/j.mjafi.2020.05.011. Epub 2020 Jul 31. PMID: 34594080
- Morvaridzadeh M, Agah S, Alibakhshi P, et al. Effects of Calcium and Vitamin D Co-supplementation on the Lipid Profile: A Systematic Review and Meta-analysis. Clin Ther. 2021 Aug 27:S0149-2918(21)00260-5. https://doi.org/10.1016/j.clinthera.2021.07.018. Online ahead of print. PMID: 34456059
- Nikooyeh B, Hollis BW, Neyestani TR. The effect of daily intake of vitamin D-fortified yogurt drink, with and without added calcium, on serum adiponectin and sirtuins 1 and 6 in adult subjects with type 2 diabetes. Nutr Diabetes. 2021 Jul 30;11(1):26. https://doi.org/10.1038/s41387-021-00168-x. PMID: 34389701
- Nikooyeh B, Neyestani TR. Can vitamin D be considered an adiponectin secretagogue? A systematic review and meta-analysis. J Steroid Biochem Mol Biol. 2021 Sep;212:105925. https://doi.org/10.1016/j.jsbmb.2021.105925. Epub 2021 Jun 3. PMID: 34089834
- Nizar R, Cantley NWP, Tang JCY. Infantile hypercalcaemia type 1: a vitamin D-mediated, under-recognised cause of hypercalcaemia. Endocrinol Diabetes Metab Case Rep. 2021 Sep 1;2021:EDM210058. https://doi.org/10.1530/EDM-21-0058. Online ahead of print. PMID: 34551392
- Patel DG, Kurian SJ, Miraj SS, et al. Effect of Vitamin D Supplementation in Type 2 Diabetes Patients with Tuberculosis: A Systematic Review. Curr Diabetes Rev. 2021 Sep 2. https://doi.org/10.2174/1573399817666210902144539. Online ahead of print. PMID: 34473618
- Perna S. The enigma of vitamin D supplementation in aging with obesity. Minerva Gastroenterol (Torino). 2021 Jul 30. https://doi.org/10.23736/S2724-5985.21.02955-7. Online ahead of print. PMID: 34328295
- Pojednic RM, Trussler EM, Navon JD, et al. Vitamin D deficiency associated with risk of prediabetes among older adults: Data from the National Health and Nutrition Examination Survey (NHANES), 2007-2012. Diabetes Metab Res Rev. 2021 Sep 30:e3499. https://doi.org/10.1002/dmrr.3499. Online ahead of print. PMID: 34590783
- Ponvilawan B, Charoenngam N. Vitamin D and uric acid: Is parathyroid hormone the missing link? J Clin Transl Endocrinol. 2021 Jul 8;25:100263. https://doi.org/10.1016/j.jcte.2021.100263.

eCollection 2021 Sep. PMID: 34307053

- Rasouli N, Brodsky IG, Chatterjee R, et al. Effects of vitamin D supplementation on insulin sensitivity and secretion in prediabetes. J Clin Endocrinol Metab. 2021 Sep 2:dgab649. https://doi.org/10.1210/clinem/dgab649. Online ahead of print. PMID: 34473295

- Rehman R, Alam F, Baig M, et al.Editorial: Vitamin D Deficiency and Sufficiency in Reproduction and Bone Metabolism. Front Endocrinol (Lausanne). 2021 Sep 6;12:740021. https://doi.org/10.3389/fendo.2021.740021. eCollection 2021. PMID: 34552565

- Schleu MF, Barreto-Duarte B, Arriaga MB, et al. Lower Levels of Vitamin D Are Associated with an Increase in Insulin Resistance in Obese Brazilian Women. Nutrients. 2021 Aug 27;13(9):2979. https://doi.org/10.3390/nu13092979. PMID: 34578857

- Setayesh L, Amini A, Bagheri R, et al. Elevated Plasma Concentrations of Vitamin D-Binding Protein Are Associated with Lower High-Density Lipoprotein and Higher Fat Mass Index in Overweight and Obese Women. Nutrients. 2021 Sep 16;13(9):3223. https://doi.org/10.3390/nu13093223. PMID: 34579103

- Song A, Zhao H, Yang Y, et al. Safety and efficacy of common vitamin D supplementation in primary hyperparathyroidism and coexistent vitamin D deficiency and insufficiency: a systematic review and meta-analysis. J Endocrinol Invest. 2021 Aug;44(8):1667-1677. https://doi.org/10.1007/s40618-020-01473-5. Epub 2021 Jan 16. PMID: 33453021

- Suthakaran R, Indigahawela I, Mori K, et al. Preventing calcium and vitamin D deficiencies following weight loss and metabolic surgery. BMC Surg. 2021 Sep 25;21(1):351. https://doi.org/10.1186/s12893-021-01348-3. PMID: 34563195

- Taheriniya S, Arab A, Hadi A, et al. Vitamin D and thyroid disorders: a systematic review and Meta-analysis of observational studies. BMC Endocr Disord. 2021 Aug 21;21(1):171. https://doi.org/10.1186/s12902-021-00831-5. PMID: 34425794

- Talari HR, Najafi V, Raygan F, et al. Long-term vitamin D and high-dose n-3 fatty acids' supplementation improve markers of cardiometabolic risk in type 2 diabetic patients with CHD - Expression of concern. Br J Nutr. 2021 Aug 6:1. https://doi.org/10.1017/S0007114521002439. Online ahead of print. PMID: 34353392

- Tanemoto M, Katsuoka Y. Conversion from intravenous maxacalcitol to oral vitamin D in secondary hyperparathyroidism management. Clin Exp Nephrol. 2021 Sep 21. https://doi.org/10.1007/s10157-021-02138-0. Online ahead of print. PMID: 34549338

- Theik NWY, Raji OE, Shenwai P, et al. Relationship and Effects of Vitamin D on Metabolic Syndrome: A Systematic Review. Cureus. 2021 Aug 24;13(8):e17419. https://doi.org/10.7759/cureus.17419. eCollection 2021 Aug. PMID: 34589329

- Torres Dominguez EA , Meza Peñafiel A , Gómez Pedraza A , et al. Molecular mechanisms from insulin-mimetic effect of vitamin D: treatment alternative in Type 2 diabetes mellitus. Food Funct. 2021 Aug 2;12(15):6682-6690. https://doi.org/10.1039/d0fo03230a. PMID: 34165135 Free article. Review

- Turashvili N, Javashvili L, Giorgadze E. "Vitamin D Deficiency Is More Common in Women with Autoimmune Thyroiditis: A Retrospective Study". Int J Endocrinol. 2021 Aug 17;2021:4465563. https://doi.org/10.1155/2021/4465563. eCollection 2021. PMID: 34457000

- Valle M, Mitchell PL, Pilon G, et al. Salmon peptides limit obesity-associated metabolic disorders by modulating a gut-liver axis in vitamin D-deficient mice. Obesity (Silver Spring). 2021 Oct;29(10):1635-1649. https://doi.org/10.1002/oby.23244. Epub 2021 Aug 27. PMID: 34449134

- Vassalle C, Parlanti A, Pingitore A, et al. Vitamin D, Thyroid Hormones and Cardiovascular Risk: Exploring the Components of This Novel Disease Triangle. Front Physiol. 2021 Sep 16;12:722912. https://doi.org/10.3389/fphys.2021.722912. eCollection 2021. PMID: 34603080

- Warren T, McAllister R, Morgan A, et al. The Interdependency and Co-Regulation of the Vitamin D and Cholesterol Metabolism. Cells. 2021 Aug 6;10(8):2007. https://doi.org/10.3390/cells10082007. PMID: 34440777

- Yarahmadi A, Alamdari DH, Azarpira N, et al. Vitamin D and diabetic foot ulcers: A missed topic. Int J Vitam Nutr Res. 2021 Sep 30. https://doi.org/10.1024/0300-9831/a000731. Online ahead of print. PMID: 34587813

- Zakhary CM, Rushdi H, Hamdan JA, et al. Protective Role of Vitamin D Therapy in Diabetes Mellitus Type II. Cureus. 2021 Aug 20;13(8):e17317. https://doi.org/10.7759/cureus.17317. eCollection 2021 Aug. PMID: 34567869

- Zhao Y, Mei G, Zhou F, et al. Vitamin D decreases pancreatic iron overload in type 2 diabetes through the NF-kappaB-DMT1 pathway. J Nutr Biochem. 2021 Sep 23:108870. https://doi.org/10.1016/j.jnutbio.2021.108870. Online ahead of print. PMID: 34563663

- Zhao Y, Zhao W, Hao Q, et al. Vitamin D status and obesity markers in older adults: results from West China Health and Aging Trends study. BMC Geriatr. 2021 Oct 7;21(1):528. https://doi.org/10.1186/s12877-021-02449-7. PMID: 34620118

- Zhuang Z, Yu C, Guo Y, et al. Metabolic Signatures of Genetically Elevated Vitamin D Among Chinese: Observational and Mendelian Randomization Study. J Clin Endocrinol Metab. 2021 Jul 13;106(8):e3249-e3260. https://doi.org/10.1210/clinem/dgab097. PMID: 33596318

- Zhu T, Zhao J, Zhuo S, et al. High Fat Diet and High Cholesterol Diet Reduce Hepatic Vitamin D-25-Hydroxylase Expression and Serum 25-Hydroxyvitamin D(3) Level through Elevating Circulating Cholesterol, Glucose, and Insulin Levels. Mol Nutr Food Res. 2021 Aug 27:e2100220. https://doi.org/10.1002/mnfr.202100220. Online ahead of print. PMID: 34448353

GASTROENTEROLOGIA

- Abd El-Haleim EA, Sallam NA. Vitamin D modulates hepatic microRNAs and mitigates tamoxifen-induced steatohepatitis in female rats. Fundam Clin Pharmacol. 2021 Jul 27. https://doi.org/10.1111/fcp.12720. Online ahead of print. PMID: 34312906

- Ali II, Shah I, Marzouk S, et al. Vitamin D Is Necessary for Murine Gastric Epithelial Homeostasis. Biology (Basel). 2021 Jul 23;10(8):705. https://doi.org/10.3390/biology10080705. PMID: 34439938

- Antoine T, Le May C, Margier M, et al. The Complex ABCG5/ABCG8 Regulates Vitamin D Absorption Rate and Contributes to its Efflux from the Intestine. Halimi C, Nowicki M, Defoort C, Svilar L, Reboul E.Mol Nutr Food Res. 2021 Sep 12:e2100617. https://doi.org/10.1002/mnfr.202100617. Online ahead of print. PMID: 34510707
- Bjelakovic M, Nikolova D, Bjelakovic G, et al. Vitamin D supplementation for chronic liver diseases in adults. Cochrane Database Syst Rev. 2021 Aug 25;8(8):CD011564. https://doi.org/10.1002/14651858.CD011564.pub3. PMID: 34431511 Review
- Bourbour F, Kabir A, Pazouki A, et al. Trends in Serum Vitamin D Levels within 12 Months after One Anastomosis Gastric Bypass (OAGB). Obes Surg. 2021 Sep;31(9):3956-3965. https://doi.org/10.1007/s11695-021-05434-6. Epub 2021 Apr 21. PMID: 33881740
- Chatterjee I, Zhang Y, Zhang J, et al. Overexpression of Vitamin D Receptor in Intestinal Epithelia Protects Against Colitis via Upregulating Tight Junction Protein Claudin 15. J Crohns Colitis. 2021 Oct 7;15(10):1720-1736. https://doi.org/10.1093/ecco-jcc/jjab044. PMID: 33690841
- Dash KR, Panda C, Das HS, et al. Association of Vitamin D Level With Disease Severity and Quality of Life in Newly Diagnosed Patients of Ulcerative Colitis: A Cross-Sectional Analysis. Cureus. 2021 Jul 19;13(7):e16481. https://doi.org/10.7759/cureus.16481. eCollection 2021 Jul. PMID: 34430097
- de Bruyn JR, Bossuyt P, Ferrante M, et al. High-Dose Vitamin D Does Not Prevent Postoperative Recurrence of Crohn's Disease in a Randomized Placebo-Controlled Trial. Clin Gastroenterol Hepatol. 2021 Aug;19(8):1573-1582.e5. https://doi.org/10.1016/j.cgh.2020.05.037. Epub 2020 May 24. PMID: 32461138 Free article. Clinical Trial
- Dutra JDM, Lisboa QC, Ferolla SM, et al. Vitamin D levels are not associated with non-alcoholic fatty liver disease severity in a Brazilian population. Int J Vitam Nutr Res. 2021 Sep;91(5-6):411-418. https://doi.org/10.1024/0300-9831/a000667. Epub 2020 Jul 8. PMID: 32639223
- Fatemi SA, Elliott KEC, Bello A, et al. Effects of the in ovo injection of vitamin D(3) and 25-hydroxyvitamin D(3) in Ross 708 broilers subsequently challenged with coccidiosis. I. performance, meat yield and intestinal lesion incidence(1,2,3). Poult Sci. 2021 Oct;100(10):101382. https://doi.org/10.1016/j.psj.2021.101382. Epub 2021 Jul 10. PMID: 34403989
- Fatemi SA, Elliott KEC, Bello A, et al. Effects of the in ovo injection of vitamin D(3) and 25-hydroxyvitamin D(3) in Ross 708 broilers subsequently fed commercial or calcium and phosphorus-restricted diets. II. Immunity and small intestine morphology(1,2,3). Poult Sci. 2021 Aug;100(8):101240. https://doi.org/10.1016/j.psj.2021.101240. Epub 2021 May 4. PMID: 34217906
- Grover I, Gunjan D, Singh N, et al. Effect of Vitamin D Supplementation on Vitamin D Level and Bone Mineral Density in Patients With Cirrhosis: A Randomized Clinical Trial. Am J Gastroenterol. 2021 Oct 1;116(10):2098-2104. https://doi.org/10.14309/ajg.0000000000001272. PMID: 33927126
- Guo Y , Zhang T , Wang Y , et al. Effects of oral vitamin D supplementation on inflammatory bowel disease: a systematic review and meta-analysis. Food Funct. 2021 Sep 7;12(17):7588-7606. https://doi.org/10.1039/d1fo00613d. Epub 2021 Jul 7. PMID: 34231596
- Liao WL, Yang WC, Shaw HM, et al. Adherence to Nutritional Supplementation Determines Postoperative Vitamin DStatus, but Not Levels of Bone Resorption Marker, in Sleeve-Gastrectomy Patients. Obes Surg. 2021 Aug;31(8):3707-3714. https://doi.org/10.1007/s11695-021-05484-w. Epub 2021 May 25. PMID: 34033013
- Li W, Lin Y, Luo Y, et al. Vitamin D Receptor Protects against Radiation-Induced Intestinal Injury in Mice via Inhibition of Intestinal Crypt Stem/Progenitor Cell Apoptosis. Nutrients. 2021 Aug 24;13(9):2910. https://doi.org/10.3390/nu13092910. PMID: 34578802
- Lobo de Sá FD, Backert S, Nattramilarasu PK, et al. Vitamin D Reverses Disruption of Gut Epithelial Barrier Function Caused by Campylobacter jejuni. Int J Mol Sci. 2021 Aug 18;22(16):8872. https://doi.org/10.3390/ijms22168872. PMID: 34445577
- McGillis L, Bronte-Tinkew DM, Dang F, et al. Vitamin D deficiency enhances expression of autophagy-regulating miR-142-3p in mouse and "involved" IBD patient intestinal tissues. Am J Physiol Gastrointest Liver Physiol. 2021 Aug 1;321(2):G171-G184. https://doi.org/10.1152/ajpgi.00398.2020. Epub 2021 Jun 23. PMID: 34159811
- Omar I, Sam MA, Pegler ME, et al. Effect of One Anastomosis Gastric Bypass on Haematinics, Vitamin D and Parathyroid Hormone Levels: a Comparison Between 150 and 200 cm Bilio-Pancreatic Limbs. Obes Surg. 2021 Jul;31(7):2954-2961. https://doi.org/10.1007/s11695-021-05281-5. Epub 2021 Feb 17. PMID: 33594592
- Shieh A, Lee SM, Lagishetty V, et al. Pilot trial of vitamin D3 and calcifediol in healthy vitamin D deficient adults: does it change the fecal microbiome? J Clin Endocrinol Metab. 2021 Aug 3:dgab573. https://doi.org/10.1210/clinem/dgab573. Online ahead of print. PMID: 34343292
- Shirwaikar Thomas A, Criss ZK, Shroyer NF, et al. Vitamin D Receptor Gene Single Nucleotide Polymorphisms and Association With Vitamin D Levels and Endoscopic Disease Activity in Inflammatory Bowel Disease Patients: A Pilot Study. Inflamm Bowel Dis. 2021 Jul 27;27(8):1263-1269. https://doi.org/10.1093/ibd/izaa292. PMID: 33165606
- Sun S, Xu M, Zhuang P, et al. Effect and mechanism of vitamin D activation disorder on liver fibrosis in biliary atresia. Sci Rep. 2021 Oct 6;11(1):19883. https://doi.org/10.1038/s41598-021-99158-3. PMID: 34615940
- Tangestani H, Boroujeni HK, Djafarian K, et al. Vitamin D and The Gut Microbiota: a Narrative Literature Review. Clin Nutr Res. 2021 Jul 20;10(3):181-191. https://doi.org/10.7762/cnr.2021.10.3.181. eCollection 2021 Jul. PMID: 34386438
- Tenev R, Gulubova M, Ananiev J, et al. Gastric Antral Vascular Ectasia and Vitamin D Deficiency: New Associated Disease and Proposed Pathogenetic Mechanisms. Dig Dis Sci. 2021 Oct;66(10):3630-3634. https://doi.org/10.1007/s10620-020-06666-9. Epub 2020 Oct 27. PMID: 33106980
- Triantos C, Aggeletopoulou I, Thomopoulos K, et al. Vitamin D-Liver Disease Association: Biological Basis and Mechanisms of Action. Hepatology. 2021 Aug;74(2):1065-

1073. https://doi.org/10.1002/hep.31699. PMID: 33405236 Review.

- Wang M, Zhang R, Wang M, et al. Corrigendum: Genetic Polymorphism of Vitamin D Family Genes CYP2R1, CYP24A1, and CYP27B1 Are Associated With a High Risk of Non-alcoholic Fatty Liver Disease: A Case-Control Study. Front Genet. 2021 Sep 16;12:762978. https://doi.org/10.3389/fgene.2021.762978. eCollection 2021. PMID: 34603404
- Wang M, Zhang R, Wang M, et al. Genetic Polymorphism of Vitamin D Family Genes CYP2R1, CYP24A1, and CYP27B1 Are Associated With a High Risk of Non-alcoholic Fatty Liver Disease: A Case-Control Study. Front Genet. 2021 Aug 16;12:717533. https://doi.org/10.3389/fgene.2021.717533. eCollection 2021. PMID: 34484304
- Wang YQ, Geng XP, Wang MW, et al. Vitamin D deficiency exacerbates hepatic oxidative stress and inflammation during acetaminophen-induced acute liver injury in mice. Int Immunopharmacol. 2021 Aug;97:107716. https://doi.org/10.1016/j.intimp.2021.107716. Epub 2021 May 2. PMID: 33951559
- Wibowo S, Subandiyah K, Handono K, et al. Role of vitamin D in Wnt pathway activation for colonic epithelial cell differentiation. J Taibah Univ Med Sci. 2021 Mar 4;16(4):575-581. https://doi.org/10.1016/j.jtumed.2021.01.012. eCollection 2021 Aug. PMID: 34408615
- Williams CE, Williams EA, Corfe BM. Vitamin D supplementation in people with IBS has no effect on symptom severity and quality of life: results of a randomised controlled trial. Eur J Nutr. 2021 Jul 30. https://doi.org/10.1007/s00394-021-02633-w. Online ahead of print. PMID: 34328539
- Xie J, Fan Y, Jia R, et al. Yes-associated protein regulates the hepatoprotective effect of vitamin Dreceptor activation through promoting adaptive bile duct remodeling in cholestatic mice. J Pathol. 2021 Sep;255(1):95-106. https://doi.org/10.1002/path.5750. Epub 2021 Jul 16. PMID: 34156701
- Xu Y, Baylink DJ, Cao H, et al. Inflammation- and Gut-Homing Macrophages, Engineered to De Novo Overexpress Active Vitamin D, Promoted the Regenerative Function of Intestinal Stem Cells. Int J Mol Sci. 2021 Sep 1;22(17):9516. https://doi.org/10.3390/ijms22179516. PMID: 34502422
- Yeung CY, Chiang Chiau JS, Cheng ML, et al. Effects of Vitamin D-Deficient Diet on Intestinal Epithelial Integrity and Zonulin Expression in a C57BL/6 Mouse Model. Front Med (Lausanne). 2021 Aug 3;8:649818. https://doi.org/10.3389/fmed.2021.649818. eCollection 2021. PMID: 34414198
- Yoo MY, Lee J, Chung JI, et al. The Association between Serum Vitamin D Concentration and Colon Polyp: A Cross-Sectional Study Using Health Care Screening Database in a Tertiary Hospital in Korea. Korean J Fam Med. 2021 Jul;42(4):303-309. https://doi.org/10.4082/kjfm.20.0181. Epub 2021 Jul 20. PMID: 34320798
- Zhai LL, Tang ZG. Effect of Vitamin D Supplementation on Vitamin D Level and Bone Mineral Density in Patients With Cirrhosis: Several Confounding Factors. Am J Gastroenterol. 2021 Oct 1;116(10):2143-2144. https://doi.org/10.14309/ajg.0000000000001362. PMID: 34158465
- Zhang R, Wang M, Wang M, et al. Vitamin D Level and Vitamin D Receptor Genetic Variation Were Involved in the Risk of Non-Alcoholic Fatty Liver Disease: A Case-Control Study. Front Endocrinol (Lausanne). 2021 Aug 6;12:648844. https://doi.org/10.3389/fendo.2021.648844. eCollection 2021. PMID: 34421816
- Zhang X, Shang X, Jin S, et al. Vitamin D ameliorates high-fat-diet-induced hepatic injury via inhibiting pyroptosis and alters gut microbiota in rats. Arch Biochem Biophys. 2021 Jul 15;705:108894. https://doi.org/10.1016/j.abb.2021.108894. Epub 2021 May 6. PMID: 33965368

GINECOLOGIA OSTETRICIA

- Alhomaid RM, Mulhern MS, Strain J, et al. Maternal obesity and baseline vitamin D insufficiency alter the response to vitamin D supplementation: a double-blind, randomized trial in pregnant women. Am J Clin Nutr. 2021 Sep 1;114(3):1208-1218. https://doi.org/10.1093/ajcn/nqab112. PMID: 33964855
- Amberntsson A, Papadopoulou E, Winkvist A, et al. Maternal vitamin D intake and BMI during pregnancy in relation to child's growth and weight status from birth to 8 years: a large national cohort study. BMJ Open. 2021 Oct 1;11(10):e048980. https://doi.org/10.1136/bmjopen-2021-048980. PMID: 34598984
- Amiri M, Rostami M, Bidhendi-Yarandi R, et al. Relationship between vitamin D status in the first trimester of the pregnancy and gestational weight gain: a mediation analysis. Arch Gynecol Obstet. 2021 Jul 31. https://doi.org/10.1007/s00404-021-06163-y. Online ahead of print. PMID: 34333703
- Artunc-Ulkumen B, Kirteke K, Koyuncu FM. The effect of maternal vitamin D levels on placental shear wave elastography findings in the first trimester. J Obstet Gynaecol. 2021 Aug;41(6):860-863. https://doi.org/10.1080/01443615.2020.1803240. Epub 2020 Oct 16. PMID: 33063563
- Asadpour R, Taravat M, Rahbar M, et al. Effects of vitamin D supplementation in extender on sperm kinematics and apoptosis following the freeze-thaw process in normozoospermic and asthenozoospermic Holstein bulls. Basic Clin Androl. 2021 Aug 5;31(1):20. https://doi.org/10.1186/s12610-021-00137-5. PMID: 34348640
- Baer R, Tene L, Weintraub AY, et al. The effect of vitamin D deficiency and supplementation on urinary incontinence: scoping review. Int Urogynecol J. 2021 Sep 7. https://doi.org/10.1007/s00192-021-04963-z. Online ahead of print. PMID: 34491371 Review
- Baldini D, Malvasi A, Kosmas I, et al. Increased bioavailability of Vitamin D improved pregnancy outcomes in in vitro fertilization cycles, only in patients over 36 years: a cross-sectional study. Eur Rev Med Pharmacol Sci. 2021 Aug;25(15):4964-4972. https://doi.org/10.26355/eurrev_202108_26453. PMID: 34355368
- Banks N, Sun F, Krawetz SA, et al. Male vitamin D status and male factor infertility. Fertil Steril. 2021 Oct;116(4):973-979. https://doi.org/10.1016/j.fertnstert.2021.06.035. Epub 2021 Jul 18. PMID: 34289935
- Barišić A, Pereza N, Hodžić A, et al. Genetic variation in the maternal vitamin D receptor FokI gene as a risk factor for recurrent pregnancy loss. J Matern Fetal Neonatal Med. 2021 Jul;34(14):2221-2226. https://doi.org/10.1080/14767058.2019.1660768. Epub 2019 Sep 16. PMID: 31446814

- Bergløv A, Moseholm E, Katzenstein TL, et al. Prevalence and association with birth outcomes of low vitamin D levels among pregnant women living with HIV. AIDS. 2021 Jul 15;35(9):1491-1496. https://doi.org/10.1097/QAD.0000000000002899. PMID: 33813556
- Brian-D Adinma JI, Ahaneku JE, et al. Vitamin D and associated factors, among pregnant women in southeastern Nigeria. J Obstet Gynaecol. 2021 Sep 6:1-7. https://doi.org/10.1080/01443615.2021.1931068. Online ahead of print. PMID: 34486910
- Butler AE, Dargham SR, Abouseif A, et al. Vitamin D deficiency effects on cardiovascular parameters in women with polycystic ovary syndrome: A retrospective, cross-sectional study. J Steroid Biochem Mol Biol. 2021 Jul;211:105892. https://doi.org/10.1016/j.jsbmb.2021.105892. Epub 2021 Mar 27. PMID: 33785436
- Butler AE, Moin ASM, Sathyapalan T, et al.Vitamin D association with the renin angiotensin system in polycystic ovary syndrome. Steroid Biochem Mol Biol. 2021 Oct 5;214:105965. https://doi.org/10.1016/j.jsbmb.2021.105965. Online ahead of print. PMID: 34619249
- Chang CJ, Barr DB, Zhang Q, et al. Associations of single and multiple per- and polyfluoroalkyl substance (PFAS) exposure with vitamin D biomarkers in African American women during pregnancy. Environ Res. 2021 Jul 18;202:111713. https://doi.org/10.1016/j.envres.2021.111713. Online ahead of print. PMID: 34284018
- Chiang CH, Kung WJ, Lee CH, et al. High Levels of 25-OH-Vitamin D and Copper in Pregnant Women with Abnormal Glucose Challenge Test. Biol Trace Elem Res. 2021 Sep 28. https://doi.org/10.1007/s12011-021-02920-x. Online ahead of print. PMID: 34581971
- Ciebiera M, Ali M, Prince L, et al. The Significance of Measuring Vitamin D Serum Levels in Women with Uterine Fibroids. Reprod Sci. 2021 Aug;28(8):2098-2109. https://doi.org/10.1007/s43032-020-00363-8. Epub 2020 Oct 27. PMID: 33108619
- Cisneiros R, Segatto J, Paixão E, et al. Vitamin D deficiency and visceral adipose tissue in early pregnant women. BMC Pregnancy Childbirth. 2021 Jul 2;21(1):476. https://doi.org/10.1186/s12884-021-03888-1. PMID: 34215200
- Curtis EM, Parsons C, Maslin K, et al. Bone turnover in pregnancy, measured by urinary C-terminal telopeptide of type I collagen (CTX), is influenced by vitamin D supplementation and is associated with maternal bone health: Findings from the MAVIDOS trial. Am J Clin Nutr. 2021 Jul 23:nqab264. https://doi.org/10.1093/ajcn/nqab264. Online ahead of print. PMID: 34297067
- Fang X, Qu J, Huan S, et al. Associations of urine metals and metal mixtures during pregnancy with cord serum vitamin D Levels: A prospective cohort study with repeated measurements of maternal urinary metal concentrations. Environ Int. 2021 Oct;155:106660. https://doi.org/10.1016/j.envint.2021.106660. Epub 2021 May 27. PMID: 34052726
- Forde H, Crowley RK, McKenna MJ, et al. No effect of calcium and vitamin D intake on maternal blood pressure in a healthy pregnant population. Eur J Obstet Gynecol Reprod Biol. 2021 Sep;264:8-14. https://doi.org/10.1016/j.ejogrb.2021.07.005. Epub 2021 Jul 7. PMID: 34271366 Clinical Trial
- GO Koyucu RG, Özcan T. Effect of intrapartum vitamin D levels on labor pain. J Obstet Gynaecol Res. 2021 Aug 9. https://doi.org/10.1111/jog.14960. Online ahead of print. PMID: 34374177
- Grant WB. Vitamin D Status May Help Explain Maternal Race and Ethnic Factors in Primary Cesarean Section Delivery. Am J Perinatol. 2021 Aug;38(S 01):e367-e369. https://doi.org/10.1055/s-0040-1709494. Epub 2020 Apr 24. PMID: 32330967
- Huang XM, Liu YH, Zhang H, et al. Dietary and serum vitamin D and preeclampsia risk in Chinese pregnant women: a matched case-control study. Br J Nutr. 2021 Aug 6:1-9. https://doi.org/10.1017/S0007114521002956. Online ahead of print. PMID: 34353401
- Hu B, Dong Y, Wang G, et al. Commentary on "The association between serum vitamin D, fertility and semen quality: A systematic review and meta-analysis" [Int. J. Surg. 71 (2019) 101-109]. Int J Surg. 2021 Aug 3:106044. https://doi.org/10.1016/j.ijsu.2021.106044. Online ahead of print. PMID: 34352416
- Hussein TM, Eldabah N, Zayed HA, et al. Assessment of serum vitamin D level and seminal vitamin D receptor gene methylation in a sample of Egyptian men with idiopathic infertility. Andrologia. 2021 Oct;53(9):e14172. https://doi.org/10.1111/and.14172. Epub 2021 Jul 1. PMID: 34197002
- Ismail NA, Mohamed Ismail NA, Bador KM. Vitamin D in gestational diabetes mellitus and its association with hyperglycaemia, insulin sensitivity and other factors. J Obstet Gynaecol. 2021 Aug;41(6):899-903. https://doi.org/10.1080/01443615.2020.1820462. Epub 2020 Dec 2. PMID: 33962550
- Jarosz AC, Noori D, Zeitoun T, et al. Variation in the vitamin D receptor gene, plasma 25-hydroxyvitamin D, and risk of premenstrual symptoms. Genes Nutr. 2021 Sep 22;16(1):15. https://doi.org/10.1186/s12263-021-00696-2. PMID: 34551710
- Jeremic A, Mikovic Z, Soldatovic I, et al. Follicular and serum levels of vitamin D in women with unexplained infertility and their relationship with in vitro fertilization outcome: an observational pilot study. Arch Med Sci. 2021 Aug 17;17(5):1418-1422. https://doi.org/10.5114/aoms/141185. eCollection 2021. PMID: 34522272
- Jiang X, Lu J, Zhang Y, et al. Association between maternal vitamin D status with pregnancy outcomes and offspring growth in a population of Wuxi, China. Asia Pac J Clin Nutr. 2021 Sep;30(3):464-476. https://doi.org/10.6133/apjcn.202109_30(3).0013. PMID: 34587706
- Kaneshapillai A, Hettiaratchi U, Prathapan S, et al. Parathyroid hormone in Sri Lankan pregnant women: Vitamin D and other determinants. PLoS One. 2021 Oct 8;16(10):e0258381. https://doi.org/10.1371/journal.pone.0258381. eCollection 2021. PMID: 34624060
- Kaplan S, Türk A, Aydın H, et al. Vitamin D improves oxidative stress and histopathological damage in rat ovaries caused by hyperthyroidism. J Obstet Gynaecol Res. 2021 Oct;47(10):3551-3560. https://doi.org/10.1111/jog.14948. Epub 2021 Jul 21. PMID: 34291533
- Karamali M, Asemi Z, Ahmadi-Dastjerdi M, et al. Calcium plus vitamin D supplementation affects pregnancy outcomes in

gestational diabetes: randomized, double-blind, placebo-controlled trial - EXPRESSION OF CONCERN. Public Health Nutr. 2021 Sep;24(13):4369. https://doi.org/10.1017/S1368980021002573. Epub 2021 Jul 23. PMID: 34296668

- Karimi E, Arab A, Rafiee M, et al. A systematic review and meta-analysis of the association between vitamin D and ovarian reserve. Sci Rep. 2021 Aug 6;11(1):16005. https://doi.org/10.1038/s41598-021-95481-x. PMID: 34362981
- Karras SN, Dursun E, Alaylıoğlu M, et al. Investigating the Role of Functional Polymorphism of Maternal and Neonatal Vitamin D Binding Protein in the Context of 25-Hydroxyvitamin D Cutoffs as Determinants of Maternal-Neonatal Vitamin D Status Profiles in a Sunny Mediterranean Region. Nutrients. 2021 Sep 1;13(9):3082. https://doi.org/10.3390/nu13093082. PMID: 34578960
- Kiely ME, McCarthy EK, Hennessy Á. Iron, iodine and vitamin D deficiencies during pregnancy: epidemiology, risk factors and developmental impacts. Proc Nutr Soc. 2021 Aug;80(3):290-302. https://doi.org/10.1017/S0029665121001944. Epub 2021 May 14. PMID: 33988109
- Lee SS, Subramaniam R, Tusimin M, et al. Inadequate vitamin D intake among pregnant women in Malaysia based on revised recommended nutrient intakes value and potential dietary strategies to tackle the inadequacy. Nutr Res Pract. 2021 Aug;15(4):492-503. https://doi.org/10.4162/nrp.2021.15.4.492. Epub 2020 Oct 16. PMID: 34349882
- Lian J, Cheng Z. A commentary on "The association between serum vitamin D, fertility and semen quality: A systematic review and meta-analysis" (Int J Surg 2019; 71:101-109). Int J Surg. 2021 Aug;92:106034. https://doi.org/10.1016/j.ijsu.2021.106034. Epub 2021 Jul 24. PMID: 34314897
- Li P, Li P, Liu Y, et al. Maternal vitamin D deficiency increases the risk of obesity in male offspring mice by affecting the immune response. Nutrition. 2021 Jul-Aug;87-88:111191. https://doi.org/10.1016/j.nut.2021.111191. Epub 2021 Feb 11. PMID: 33744641
- Liu DY, Li RY, Fu LJ, et al. SNP rs12794714 of CYP2R1 is associated with serum vitamin D levels and recurrent spontaneous abortion (RSA): a case-control study. Arch Gynecol Obstet. 2021 Jul;304(1):179-190. https://doi.org/10.1007/s00404-021-06004-y. Epub 2021 Feb 24. PMID: 33625596
- Lorenzon F, Gregorio T, Niebisch F, et al. Maternal vitamin D administration attenuates metabolic disturbances induced by prenatal exposure to dexamethasone in a sex-dependent manner. J Steroid Biochem Mol Biol. 2021 Sep;212:105941. https://doi.org/10.1016/j.jsbmb.2021.105941. Epub 2021 Jun 18. PMID: 34147644
- Mehdizadehkashi A, Rokhgireh S, Tahermanesh K, et al. The effect of vitamin D supplementation on clinical symptoms and metabolic profiles in patients with endometriosis. Gynecol Endocrinol. 2021 Jul;37(7):640-645. https://doi.org/10.1080/09513590.2021.1878138. Epub 2021 Jan 29. PMID: 33508990
- Miller KM, Klerk NH, Davis EA, et al. Demographic and clinical predictors of vitamin D status in pregnant women tested for deficiency in Western Australia. Aust N Z J Public Health. 2021 Oct;45(5):474-481. https://doi.org/10.1111/1753-6405.13150. Epub 2021 Sep 2. PMID: 34473387
- Morris SK, Pell LG, Rahman MZ, et al. Effects of Maternal Vitamin D Supplementation During Pregnancy and Lactation on Infant Acute Respiratory Infections: Follow-up of a Randomized Trial in Bangladesh. J Pediatric Infect Dis Soc. 2021 Jul 2:piab032. https://doi.org/10.1093/jpids/piab032. Online ahead of print. PMID: 34213544
- Mu Y, Cheng D, Yin TL, et al. Vitamin D and Polycystic Ovary Syndrome: a Narrative Review. Reprod Sci. 2021 Aug;28(8):2110-2117. https://doi.org/10.1007/s43032-020-00369-2. Epub 2020 Oct 28. PMID: 33113105 Review
- Muyayalo KP, Song S, Zhai H, et al. Low vitamin D levels in follicular fluid, but not in serum, are associated with adverse outcomes in assisted reproduction. Arch Gynecol Obstet. 2021 Aug 8. https://doi.org/10.1007/s00404-021-06174-9. Online ahead of print. PMID: 34368906
- Ni M, Zhang Q, Zhao J, et al. Relationship between maternal vitamin D status in the first trimester of pregnancy and maternal and neonatal outcomes: a retrospective single center study. BMC Pediatr. 2021 Jul 29;21(1):330. https://doi.org/10.1186/s12887-021-02730-z. PMID: 34325665
- Pi Y, Tian X, Ma J, et al. Vitamin D alleviates hypoxia/reoxygenation-induced injury of human trophoblast HTR-8 cells by activating autophagy. Placenta. 2021 Aug;111:10-18. https://doi.org/10.1016/j.placenta.2021.05.008. Epub 2021 May 30. PMID: 34126416
- Rahnemaei FA, Gholamrezaei A, Afrakhteh M, et al. Vitamin D supplementation for primary dysmenorrhea: a double-blind, randomized, placebo-controlled trial. Obstet Gynecol Sci. 2021 Jul;64(4):353-363. https://doi.org/10.5468/ogs.20316. Epub 2021 May 18. PMID: 34010550
- Sampathkumar A, Tan KM, Chen L, et al. Genetic Link Determining the Maternal-Fetal Circulation of Vitamin D. Front Genet. 2021 Sep 21;12:721488. https://doi.org/10.3389/fgene.2021.721488. eCollection 2021. PMID: 34621292
- Savard C, Bielecki A, Plante AS, et al. Longitudinal Assessment of Vitamin D Status across Trimesters of Pregnancy. J Nutr. 2021 Jul 1;151(7):1937-1946. https://doi.org/10.1093/jn/nxab060. PMID: 33830266
- Shahid M, Khan S, Ashraf M, et al. Male infertility: Role of vitamin D and oxidative stress markers. Andrologia. 2021 Sep;53(8):e14147. https://doi.org/10.1111/and.14147. Epub 2021 Jul 11. PMID: 34247390
- Shen X. Study on the relationship between serum Vitamin D and the risk of preeclampsia in early, second and third trimester of pregnancy. Minerva Surg. 2021 Sep 29. https://doi.org/10.23736/S2724-5691.21.09092-4. Online ahead of print. PMID: 34586772
- Shrestha D, Saha R, Karki C, et al. Study of Vitamin-D Deficiency among Pregnant Women in their First Trimester Visiting a Tertiary Care Hospital: A Descriptive Cross-sectional Study. J Nepal Med Assoc. 2021 Jul 30;59(239):626-629. https://doi.org/10.31729/jnma.6235. PMID: 34508511
- Somigliana E, Sarais V, Reschini M, et al. Single oral dose of vitamin D(3) supplementation prior to in vitro fertilization and embryo transfer in normal weight women: the SUNDRO randomized con-

trolled trial. Am J Obstet Gynecol. 2021 Sep;225(3):283.e1-283.e10. https://doi.org/10.1016/j.ajog.2021.04.234. Epub 2021 Apr 21. PMID: 33894153 Clinical Trial

- Stenhouse C, Halloran KM, Newton MG, et al. Novel mineral regulatory pathways in ovine pregnancy: II. Calcium-binding proteins, calcium transporters, and vitamin D signaling. Biol Reprod. 2021 Jul 2;105(1):232-243. https://doi.org/10.1093/biolre/ioab063. PMID: 33822885
- Tanna NK, Alexander EC, Lee C, et al. Interventions to improve vitamin D status in at-risk ethnic groups during pregnancy and early childhood: a systematic review. Public Health Nutr. 2021 Aug;24(11):3498-3519. https://doi.org/10.1017/S1368980021000756. Epub 2021 Feb 17. PMID: 33593453
- Tarszabó R, Bányai B, Ruisanchez É, et al. Influence of Vitamin D on the Vasoactive Effect of Estradiol in a Rat Model of Polycystic Ovary Syndrome. Int J Mol Sci. 2021 Aug 30;22(17):9404. https://doi.org/10.3390/ijms22179404. PMID: 34502321
- Troja C, Hoofnagle AN, Szpiro A, et al. Understanding the Role of Emerging Vitamin D Biomarkers on Short-term Persistence of High-Risk Human Papillomavirus Infection Among Mid-Adult Women. J Infect Dis. 2021 Jul 2;224(1):123-132. https://doi.org/10.1093/infdis/jiaa711. PMID: 33205195
- Vulcan T, Filip GA, Lenghel LM, et al. Polymorphisms of Vitamin D Receptor and the Effect on Metabolic and Endocrine Abnormalities in Polycystic Ovary Syndrome: A Review. Horm Metab Res. 2021 Oct;53(10):645-653. https://doi.org/10.1055/a-1587-9336. Epub 2021 Sep 20. PMID: 34544196
- Wang S, Xin X, Luo W, et al. Association of vitamin D and gene variants in the vitamin D metabolic pathway with preterm birth. Nutrition. 2021 Sep;89:111349. https://doi.org/10.1016/j.nut.2021.111349. Epub 2021 May 24. PMID: 34217944
- Wang X, Jiao X, Tian Y, et al. Associations between maternal vitamin D status during three trimesters and cord blood 25(OH)D concentrations in newborns: a prospective Shanghai birth cohort study. Eur J Nutr. 2021 Sep;60(6):3473-3483. https://doi.org/10.1007/s00394-021-02528-w. Epub 2021 Mar 4. PMID: 33661376
- Wang X, Zhao S, Zhou M, et al. Factors influencing vitamin D levels in women attending the fertility clinic and the effect on assisted fertility outcomes. Ann Palliat Med. 2021 Jul;10(7):7813-7822. https://doi.org/10.21037/apm-21-1511. PMID: 34353068
- Weiler HA, Brooks SPJ, Sarafin K, et al. Early prenatal use of a multivitamin diminishes the risk for inadequate vitamin Dstatus in pregnant women: results from the Maternal-Infant Research on Environmental Chemicals (MIREC) cohort study. Am J Clin Nutr. 2021 Sep 1;114(3):1238-1250. https://doi.org/10.1093/ajcn/nqab172. PMID: 34081131
- Wei SQ, Bilodeau JF, Julien P, et al. Maternal vitamin D, oxidative stress, and pre-eclampsia. Int J Gynaecol Obstet. 2021 Sep;154(3):444-450. https://doi.org/10.1002/ijgo.13559. Epub 2021 Jan 21. PMID: 33350462
- Yamade I, Inoue T, Hamada H, et al. Ineffectiveness of antenatal guidance intervention for vitamin D insufficiency and deficiency in pregnant women in Kyoto, Japan. J Obstet Gynaecol Res. 2021 Oct;47(10):3540-3550. https://doi.org/10.1111/jog.14972. Epub 2021 Aug 10. PMID: 34376022
- Yamanouchi L, Srinivasan M, Barlow N, et al. Level of adherence to vitamin D supplementation guidelines in an antenatal centre in Birmingham, UK, and its effect on biochemical and obstetrical outcomes: a single-centre cross-sectional study. BMJ Open. 2021 Sep 15;11(9):e048705. https://doi.org/10.1136/bmjopen-2021-048705. PMID: 34526340
- Yevgi R, Bilge N, Simsek F, et al. Vitamin D levels and C-reactive protein/albumin ratio in pregnant women with cerebral venous sinus thrombosis. J Thromb Thrombolysis. 2021 Aug 3. https://doi.org/10.1007/s11239-021-02541-0. Online ahead of print. PMID: 34342785
- Zanatta AP, Gonçalves R, Ourique da Silva F, et al. Estradiol and 1alpha,25(OH)(2) vitamin D(3) share plasma membrane downstream signal transduction through calcium influx and genomic activation in immature rat testis. Theriogenology. 2021 Sep 15;172:36-46. https://doi.org/10.1016/j.theriogenology.2021.05.030. Epub 2021 May 30. PMID: 34091204

IMMUNOLOGIA

- Ahluwalia S, Choudhary D, Tyagi P, et al. Vitamin D signaling inhibits HBV activity by directly targeting the HBV Core promoter. J Biol Chem. 2021 Sep 22:101233. https://doi.org/10.1016/j.jbc.2021.101233. Online ahead of print. PMID: 34562448
- Alharbi A. A Potential Role of Vitamin D on Platelet Leukocyte Aggregation and Pathological Events in Sepsis: An Updated Review. J Inflamm Res. 2021 Jul 30;14:3651-3664. https://doi.org/10.2147/JIR.S321362. eCollection 2021. PMID: 34354363
- Bhutia SK. Vitamin D in autophagy signaling for health and diseases: Insights on potential mechanisms and future perspectives. J Nutr Biochem. 2021 Aug 14;99:108841. https://doi.org/10.1016/j.jnutbio.2021.108841. Online ahead of print. PMID: 34403722 Review
- Castillo-Castellanos F, Ramírez L, Lomelí H. zmiz1a zebrafish mutants have defective erythropoiesis, altered expression of autophagy genes, and a deficient response to vitamin D. Life Sci. 2021 Nov 1;284:119900. https://doi.org/10.1016/j.lfs.2021.119900. Epub 2021 Aug 25. PMID: 34453946
- Chen YC, Sung HC, Chuang TY, et al. Vitamin D(3) decreases TNF-alpha-induced inflammation in lung epithelial cells through a reduction in mitochondrial fission and mitophagy. Cell Biol Toxicol. 2021 Jul 13:1-24. https://doi.org/10.1007/s10565-021-09629-6. Online ahead of print. PMID: 34255241
- Chen YH, Cheadle CE, Rice LV, et al. The Induction of Alpha-1 Antitrypsin by Vitamin D in Human T Cells Is TGF-beta Dependent: A Proposed Anti-inflammatory Role in Airway Disease. Front Nutr. 2021 Aug 12;8:667203. https://doi.org/10.3389/fnut.2021.667203. eCollection 2021. PMID: 34458299
- Erdoğan M, Fındıklı HA. Novel biomarker for predicting sepsis mortality: vitamin D receptor. J Int Med Res. 2021 Aug;49(8):300060521103473 3. https://doi.org/10.1177/03000605211034733. PMID: 34396836

- Huang FC, Huang SC. The Cooperation of Bifidobacterium longum and Active Vitamin D3 on Innate Immunity in Salmonella Colitis Mice via Vitamin D Receptor. Microorganisms. 2021 Aug 25;9(9):1804. https://doi.org/10.3390/microorganisms9091804. PMID: 34576700
- Ismailova A, White JH. Vitamin D, infections and immunity. Rev Endocr Metab Disord. 2021 Jul 29:1-13. https://doi.org/10.1007/s11154-021-09679-5. Online ahead of print. PMID: 34322844
- Kim E, Bonnegarde-Bernard A, Opiyo SO, et al. Pollutants enhance IgE sensitization in the gut via local alteration of vitamin D-metabolizing enzymes. Mucosal Immunol. 2021 Sep 9. https://doi.org/10.1038/s41385-021-00440-4. Online ahead of print. PMID: 34504311
- Książek A, Zagrodna A, Bohdanowicz-Pawlak A, et al. Relationships between Vitamin D and Selected Cytokines and Hemogram Parameters in Professional Football Players-Pilot Study. Int J Environ Res Public Health. 2021 Jul 2;18(13):7124. https://doi.org/10.3390/ijerph18137124. PMID: 34281061
- Lee S, Lee JE, Lee SO, et al. Influence of Vitamin D Deficiency on the Development of Opportunistic Infection in People Living with HIV/AIDS (PWHAs). J Am Coll Nutr. 2021 Aug;40(6):545-550. https://doi.org/10.1080/07315724.2020.1805043. Epub 2020 Aug 13. PMID: 32790581
- Li A, Yi B, Han H, et al. Vitamin D-VDR (vitamin D receptor) regulates defective autophagy in renal tubular epithelial cell in streptozotocin-induced diabetic mice via the AMPK pathway. Autophagy. 2021 Aug 25:1-14. https://doi.org/10.1080/15548627.2021.1962681. Online ahead of print. PMID: 34432556
- Lian P, Bai Y, Li J, et al. Vitamin D receptor and 1alpha-hydroxylase are highly expressed in lungs of mice infected with H9N2 avian influenza viruses. J Steroid Biochem Mol Biol. 2021 Jul;211:105907. https://doi.org/10.1016/j.jsbmb.2021.105907. Epub 2021 May 10. PMID: 33965570
- Liao X, Lan Y, Shao R, et al. Vitamin D Enhances Neutrophil Generation and Function in Zebrafish (Danio rerio). J Innate Immun. 2021 Sep 24:1-14. https://doi.org/10.1159/000519183. Online ahead of print. PMID: 34564076
- Lithgow H, Florida-James G, Ross M, et al. Exercise acutely increases vitamin D receptor expression in T lymphocytes in vitamin D-deficient men, independent of age. Exp Physiol. 2021 Jul;106(7):1460-1469. https://doi.org/10.1113/EP089480. Epub 2021 May 19. PMID: 33823058
- Liu J, Shao R, Lan Y, et al. Vitamin D(3) protects turbot (Scophthalmus maximus L.) from bacterial infection. Fish Shellfish Immunol. 2021 Nov;118:25-33. https://doi.org/10.1016/j.fsi.2021.08.024. Epub 2021 Aug 24. PMID: 34450270
- Lopez DV, Al-Jaberi FAH, Damas ND, et al. Vitamin D Inhibits IL-22 Production Through a Repressive Vitamin D Response Element in the il22 Promoter. Front Immunol. 2021 Aug 2;12:715059. https://doi.org/10.3389/fimmu.2021.715059. eCollection 2021. PMID: 34408754
- Lopez DV, Al-Jaberi FAH, Woetmann A, et al. Macrophages Control the Bioavailability of Vitamin D and Vitamin D-Regulated T Cell Responses. Front Immunol. 2021 Sep 21;12:722806. https://doi.org/10.3389/fimmu.2021.722806. eCollection 2021. PMID: 34621269
- Lungu PS, Kilembe W, Lakhi S, et al. A comparison of vitamin D and cathelicidin (LL-37) levels between patients with active TB and their healthy contacts in a high HIV prevalence setting: a prospective descriptive study. Trans R Soc Trop Med Hyg. 2021 Aug 16:trab126. https://doi.org/10.1093/trstmh/trab126. Online ahead of print. PMID: 34401915
- Mahboub B, Al Heialy S, Hachim MY, et al. Vitamin D Regulates the Expression of Glucocorticoid Receptors in Blood of Severe Asthmatic Patients. J Immunol Res. 2021 Aug 5;2021:9947370. https://doi.org/10.1155/2021/9947370. eCollection 2021. PMID: 34395637
- Ma JG, Wu GJ, Xiao HL, et al. Vitamin D has an effect on airway inflammation and Th17/Treg balance in asthmatic mice. Kaohsiung J Med Sci. 2021 Aug 30. https://doi.org/10.1002/kjm2.12441. Online ahead of print. PMID: 34460994
- Martori C, Velez R, Gállego M, et al. Vitamin d and leishmaniasis: Neither seasonal nor risk factor in canine host but potential adjuvant treatment through cbd103 expression. PLoS Negl Trop Dis. 2021 Aug 16;15(8):e0009681. https://doi.org/10.1371/journal.pntd.0009681. eCollection 2021 Aug. PMID: 34398874
- Mumena CH, Mudhihiri MH, Sasi R, et al. The relevance of vitamin D in the oral health of HIV infected patients. J Steroid Biochem Mol Biol. 2021 Jul;211:105905. https://doi.org/10.1016/j.jsbmb.2021.105905. Epub 2021 May 4. PMID: 33962013 Review
- Murdaca G, Paladin F, Gangemi S. Role of Vitamin D in the Clinical Course of Nasal Polyposis. Biomedicines. 2021 Jul 21;9(8):855. https://doi.org/10.3390/biomedicines9080855. PMID: 34440059
- Niu L, Chen S, Yang X, et al. Vitamin D decreases Porphyromonas gingivalis internalized into macrophages by promoting autophagy. Oral Dis. 2021 Oct;27(7):1775-1788. https://doi.org/10.1111/odi.13696. Epub 2020 Nov 5. PMID: 33098722
- O'Brien MB, Beynon CL, McLoughlin RM, et al. The immune response in bovine primary dermal fibroblasts is influenced by Interleukin 8 promoter haplotype and vitamin D. Vet Immunol Immunopathol. 2021 Aug;238:110291. https://doi.org/10.1016/j.vetimm.2021.110291. Epub 2021 Jul 8. PMID: 34246812
- O'Brien MB, McLoughlin RM, Roche C, et al. Effect of IL-8 haplotype on temporal profile in circulating concentrations of interleukin 8 and 25(OH) vitamin D in Holstein-Friesian calves. Vet Immunol Immunopathol. 2021 Aug;238:110287. https://doi.org/10.1016/j.vetimm.2021.110287. Epub 2021 Jun 17. PMID: 34214911
- Paz JLP, Silvestre MDPSCA, Moura LS, et al. Association of the polymorphism of the vitamin D receptor gene (VDR) with the risk of leprosy in the Brazilian Amazon. Biosci Rep. 2021 Jul 30;41(7):BSR20204102. https://doi.org/10.1042/BSR20204102. PMID: 34143211
- Peng HB, Bukuroshi P, Durk MR, et al. Impact of age, hypercholesterolemia, and the vitamin D receptor on brain endogenous beta-amyloid peptide accumulation in mice. Biopharm Drug Dispos. 2021 Sep;42(8):372-388. https://doi.org/10.1002/bdd.2297. Epub 2021 Aug 18. PMID: 34219248
- Tamasauskiene L, Golubickaite I, Ugenskiene R, et al. Vitamin D receptor gene polymorphisms in atopy. Immun In-

flamm Dis. 2021 Aug 3. https://doi.org/10.1002/iid3.487. Online ahead of print. PMID: 34343413

- Vieira-Neto A, Poindexter MB, Nehme Marinho M, et al. Effect of source and amount of vitamin D on function and mRNA expression in immune cells in dairy cows. J Dairy Sci. 2021 Oct;104(10):10796-10811. https://doi.org/10.3168/jds.2021-20284. Epub 2021 Jul 30. PMID: 34334204

- Wani BA, Shehjar F, Shah S, et al. Role of genetic variants of Vitamin D receptor, Toll-like receptor 2 and Toll-like receptor 4 in extrapulmonary tuberculosis. Microb Pathog. 2021 Jul;156:104911. https://doi.org/10.1016/j.micpath.2021.104911. Epub 2021 May 13. PMID: 33991642

- Wu Z, Camargo CA, Sluyter J, et al. Effect of monthly vitamin D supplementation on antibiotic prescribing in older adults: a post hoc analysis of a randomized controlled trial. Am J Clin Nutr. 2021 Jul 1;114(1):314-321. https://doi.org/10.1093/ajcn/nqab015. PMID: 33742207 Clinical Trial

- Yadav U, Kumar P, Rai V. FokI polymorphism of the vitamin D receptor (VDR) gene and susceptibility to tuberculosis: Evidence through a meta-analysis. Infect Genet Evol. 2021 Aug;92:104871. https://doi.org/10.1016/j.meegid.2021.104871. Epub 2021 Apr 24. PMID: 33901685 Review

- Yang M, Li F, Zhang R, et al.Alteration of the Intestinal Microbial Flora and the Serum IL-17 Level in Patients with Graves' Disease Complicated with Vitamin D Deficiency. Int Arch Allergy Immunol. 2021 Sep 20:1-10. https://doi.org/10.1159/000518949. Online ahead of print. PMID: 34544076

- Yang Y, Wei S, Chu K, et al. Upregulation of autophagy in M2 macrophage by vitamin D alleviates crystalline silica-induced pulmonary inflammatory damage. Ecotoxicol Environ Saf. 2021 Dec 1;225:112730. https://doi.org/10.1016/j.ecoenv.2021.112730. Epub 2021 Aug 31. PMID: 34478973

- Zargaran A, Zargaran D, Trompeter AJ. The role of Vitamin D in orthopaedic infection: a systematic literature review. Bone Jt Open. 2021 Sep;2(9):721-727. https://doi.org/10.1302/2633-1462.29.BJO-2020-0192.R1. PMID: 34488428

- Zavala-Jonguitud LF, Anda JC, Flores-Padilla MG, et al. [Correlation between insufficiency or deficiency of vitamin D levels and interleukins 1beta and 6]. Rev Alerg Mex. 2021 Jul-Sep;68(3):180-184. https://doi.org/10.29262/ram.v68i3.885. PMID: 34634848 Spanish

- Zhou Y, Xue Y, Bao A, et al. Effect of Vitamin D Deficiency and Supplementation in Lactation and Early Life on Allergic Airway Inflammation and the Expression of Autophagy-Related Genes in an Ovalbumin Mouse Model. J Inflamm Res. 2021 Aug 24;14:4125-4141. https://doi.org/10.2147/JIR.S321642. eCollection 2021. PMID: 34466017

LABORATORIO

- Bach A, Fleischer H, Wijayawardena B, et al. Optimization of Automated Sample Preparation for Vitamin D Determination on a Biomek i7 Workstation. SLAS Technol. 2021 Jul 20:24726303211030291. https://doi.org/10.1177/24726303211030291. Online ahead of print. PMID: 34282678

- Binks MJ, Bleakley AS, Rathnayake G, et al. Can dried blood spots be used to accurately measure vitamin D metabolites? Clin Chim Acta. 2021 Jul;518:70-77. https://doi.org/10.1016/j.cca.2021.03.003. Epub 2021 Mar 10. PMID: 33713691

- Camara JE, Wise SA, Hoofnagle AN, et al. Assessment of serum total 25-hydroxyvitamin D assay commutability of Standard Reference Materials and College of American Pathologists Accuracy-Based Vitamin D (ABVD) Scheme and Vitamin D External Quality Assessment Scheme (DEQAS) materials: Vitamin D Standardization Program (VDSP) Commutability Study 2. Anal Bioanal Chem. 2021 Aug;413(20):5067-5084. https://doi.org/10.1007/s00216-021-03470-w. Epub 2021 Jun 28. PMID: 34184102

- Cimino R, Bhangu SK, Baral A, et al. Ultrasound-Assisted Microencapsulation of Soybean Oil and Vitamin D Using Bare Glycogen Nanoparticles. Molecules. 2021 Aug 25;26(17):5157. https://doi.org/10.3390/molecules26175157. PMID: 34500590

- Cokluk E, Akbay H, Alp H. Biological Variation of Iron, Transferrin, Ferritin, Folate, Vitamin B12 and 25-OH Vitamin D in Healthy Individuals. Clin Lab. 2021 Sep 1;67(9). https://doi.org/10.7754/Clin.Lab.2021.210102. PMID: 34542961

- Ekimoto T, Kudo T, Yamane T, et al. Mechanism of Vitamin D Receptor Ligand-Binding Domain Regulation Studied by gREST Simulations. J Chem Inf Model. 2021 Jul 26;61(7):3625-3637. https://doi.org/10.1021/acs.jcim.1c00534. Epub 2021 Jun 30. PMID: 34189910

- Favresse J, Bayart JL, Burlacu MC, et al. Usefulness of a Non-Streptavidin Bead Technology to Overcome Biotin Interference: Proof of Principle with 25-OH Vitamin D, TSH, and FT4. J Appl Lab Med. 2021 Jul 7;6(4):1072-1077. https://doi.org/10.1093/jalm/jfaa203. PMID: 33382887

- Hasanzadeh A, Radmanesh F, Hosseini ES, et al. Synthesis and characterization of vitamin D(3)-functionalized carbon dots for CRISPR/Cas9 delivery. Nanomedicine (Lond). 2021 Aug;16(19):1673-1690. https://doi.org/10.2217/nnm-2021-0038. Epub 2021 Jul 22. PMID: 34291668

- Jayaraj JM, Reteti E, Kesavan C, et al. Structural insights on vitamin D receptor and screening of new potent agonist molecules: structure and ligand-based approach. J Biomol Struct Dyn. 2021 Jul;39(11):4148-4159. https://doi.org/10.1080/07391102.2020.1775122. Epub 2020 Jun 11. PMID: 32462983

- Jenkinson C, Desai R, McLeod MD, et al. Circulating conjugated and unconjugated vitamin D metabolite measurements by liquid chromatography mass spectrometry. J Clin Endocrinol Metab. 2021 Sep 27:dgab708. https://doi.org/10.1210/clinem/dgab708. Online ahead of print. PMID: 34570174

- Kim W, Park J, Kim W, et al. Bio-inspired Ag nanovilli-based sandwich-type SERS aptasensor for ultrasensitive and selective detection of 25-hydroxy vitamin D(3). Biosens Bioelectron. 2021 Sep 15;188:113341. https://doi.org/10.1016/j.bios.2021.113341. Epub 2021 May 14. PMID: 34044348

- Lahoz R, Sánchez JP, Górriz S, et al. Comparative study of two immunoassays used for the determination of serum vitamin D. Pract Lab Med. 2021 Jun 23;26:e00242. https://doi.org/10.1016/j.plabm.2021.e00242. eCollection 2021 Aug. PMID: 34258354

- Mahajan K, Verma H, Choudhary S, et al. Identification of kinase inhibitors that rule out

the CYP27B1-mediated activation of vitamin D: an integrated machine learning and structure-based drug designing approach. Mol Divers. 2021 Aug;25(3):1617-1641. https://doi.org/10.1007/s11030-021-10270-y. Epub 2021 Jul 16. PMID: 34272637

- Mena-Bravo A, Calderón-Santiago M, Lope V, et al. Vitamin D(3) levels in women and factors contributing to explain metabolic variations. J Steroid Biochem Mol Biol. 2021 Jul;211:105884. https://doi.org/10.1016/j.jsbmb.2021.105884. Epub 2021 Mar 26. PMID: 33775819

- Minieri M, Leoni BD, Bellincampi L, et al. Serum iPTH range in a reference population: From an integrated approach to vitamin D prevalence impact evaluation. Clin Chim Acta. 2021 Oct;521:1-8. https://doi.org/10.1016/j.cca.2021.06.004. Epub 2021 Jun 8. PMID: 34111419

- Muller Kobold AC, Kema IP, Dijck-Brouwer J, et al. Pepsin pretreatment corrects underestimation of 25-hydroxyvitamin Dmeasurement by an automated immunoassay in subjects with high vitamin Dbinding protein levels. Clin Chem Lab Med. 2021 Sep 1. https://doi.org/10.1515/cclm-2021-0722. Online ahead of print. PMID: 34464525

- Nybo M, Fruekilde PN, Andersen-Ranberg K. Measurement of vitamin D in dried blood spots stored under different temperature conditions. Ann Clin Biochem. 2021 Sep;58(5):461-467. https://doi.org/10.1177/00045632211013870. Epub 2021 May 4. PMID: 33874736 Clinical Trial

- Sakamoto R, Nagata A, Ohshita H, et al. Chemical Synthesis of Side-Chain-Hydroxylated Vitamin D(3) Derivatives and Their Metabolism by CYP27B1. Chembiochem. 2021 Oct 1;22(19):2896-2900. https://doi.org/10.1002/cbic.202100250. Epub 2021 Jul 24. PMID: 34250710

- Schmitz LM, Kinner A, Althoff K, et al. Investigation of Vitamin D(2) and Vitamin D(3) Hydroxylation by Kutzneria albida. Chembiochem. 2021 Jul 1;22(13):2266-2274. https://doi.org/10.1002/cbic.202100027. Epub 2021 May 4. PMID: 33647186

- Shardell M, Cappola AR, Guralnik JM, et al. Sex-specific 25-hydroxyvitamin D threshold concentrations for functional outcomes in older adults: PRoject on Optimal VItamin D in Older adults (PROVIDO). Am J Clin Nutr. 2021 Jul 1;114(1):16-28. https://doi.org/10.1093/ajcn/nqab025. PMID: 33826696

- Sohail A, Al Menhali A, Hisaindee S, et al. An LC-MS/MS Method for Analysis of Vitamin D Metabolites and C3 Epimers in Mice Serum: Oral Supplementation Compared to UV Irradiation. Molecules. 2021 Aug 26;26(17):5182. https://doi.org/10.3390/molecules26175182. PMID: 34500616

- Tuddenham C, Greaves RF, Rajapaksa AE, et al. Detection of Vitamin D Metabolites in Breast Milk: Perspectives and challenges for measurement by Liquid Chromatography Tandem-Mass Spectrometry. Clin Biochem. 2021 Aug 19:S0009-9120(21)00224-1. https://doi.org/10.1016/j.clinbiochem.2021.08.003. Online ahead of print. PMID: 34419456 Review

- Wise SA, Camara JE, Burdette CQ, et al. Interlaboratory comparison of 25-hydroxyvitamin D assays: Vitamin DStandardization Program (VDSP) Intercomparison Study 2 - Part 1 liquid chromatography - tandem mass spectrometry (LC-MS/MS) assays - impact of 3-epi-25-hydroxyvitamin D(3) on assay performance. Anal Bioanal Chem. 2021 Aug 25. https://doi.org/10.1007/s00216-021-03576-1. Online ahead of print. PMID: 34432104

- Wise SA, Camara JE, Burdette CQ, et al. Interlaboratory comparison of 25-hydroxyvitamin D assays: Vitamin DStandardization Program (VDSP) Intercomparison Study 2 - Part 2 ligand binding assays - impact of 25-hydroxyvitamin D(2) and 24R,25-dihydroxyvitamin D(3) on assay performance. Anal Bioanal Chem. 2021 Aug 25. https://doi.org/10.1007/s00216-021-03577-0. Online ahead of print. PMID: 34435207

- Wise SA, Camara JE, Sempos CT, et al. Vitamin D Standardization Program (VDSP) intralaboratory study for the assessment of 25-hydroxyvitamin D assay variability and bias. J Steroid Biochem Mol Biol. 2021 Sep;212:105917. https://doi.org/10.1016/j.jsbmb.2021.105917. Epub 2021 May 16. PMID: 34010687

- Young AR, Morgan KA, Harrison GI, et al. A revised action spectrum for vitamin D synthesis by suberythemal UV radiation exposure in humans in vivo. Proc Natl Acad Sci U S A. 2021 Oct 5;118(40):e2015867118. https://doi.org/10.1073/pnas.2015867118. PMID: 34580202

MISCELLANEA

- [No authors listed] Corrigendum: Using Teeth as Tools: Investigating the Mother-Infant Dyad and Developmental Origins of Health and Disease Hypothesis using Vitamin DDeficiency. Am J Phys Anthropol. 2021 Aug;175(4):948. https://doi.org/10.1002/ajpa.24292. Epub 2021 May 11. PMID: 33973226

- Abiri B, Vafa M, Azizi-Soleiman F, et al. Changes in Bone Turnover, Inflammatory, Oxidative Stress, and Metabolic Markers in Women Consuming Iron plus Vitamin D Supplements: a Randomized Clinical Trial. Biol Trace Elem Res. 2021 Jul;199(7):2590-2601. https://doi.org/10.1007/s12011-020-02400-8. Epub 2020 Sep 25. PMID: 32975739 Clinical Trial

- Abouzid M, Główka AK, Karaźniewicz-Łada M. Trend research of vitamin D receptor: Bibliometric analysis. Health Informatics J. 2021 Oct-Dec;27(4):14604582211043158. https://doi.org/10.1177/14604582211043158. PMID: 34609237

- Abril Rubio A, Arjona González P, Castillo Fernández N, et al. [Adequacy of the prescription of vitamin D in Primary Care]. Semergen. 2021 Aug 29:S1138-3593(21)00226-4. https://doi.org/10.1016/j.semerg.2021.07.010. Online ahead of print. PMID: 34465546 Spanish

- Alzahrani AAH, Alharbi RA, Alzahrani MSA, et al. Association between periodontitis and vitamin D status: A case-control study. Saudi J Biol Sci. 2021 Jul;28(7):4016-4021. https://doi.org/10.1016/j.sjbs.2021.04.006. Epub 2021 Apr 20. PMID: 34220259

- Amiri Z, Nosrati M, Sharifan P, et al. Factors determining the serum 25-hydroxyvitamin D response to vitamin Dsupplementation: Data mining approach. Biofactors. 2021 Jul 17. https://doi.org/10.1002/biof.1770. Online ahead of print. PMID: 34273212

- Amrein K, Hoffmann M, Lobmeyr E, et al. Vitamin D in critical care: where are we now and what is next? Curr Opin Crit Care. 2021 Aug 1;27(4):378-384. https://doi.org/10.1097/MCC.0000000000000849. PMID: 34184648 Review

- Aung K, Htay T. USPSTF found insufficient

evidence on benefits and harms of screening for vitamin D deficiency in asymptomatic adults. Ann Intern Med. 2021 Sep;174(9):-JC100. https://doi.org/10.7326/ACPJ202109210-100. Epub 2021 Sep 7. PMID: 34487448

- Awadh AA, Hilleman DE, Knezevich E, et al. Vitamin D supplements: The pharmacists' perspective. J Am Pharm Assoc (2003). 2021 Jul-Aug;61(4):e191-e201. https://doi.org/10.1016/j.japh.2021.02.002. Epub 2021 Feb 10. PMID: 33674204 Review

- Backus RC, Foster LR. Investigation of the effects of dietary supplementation with 25-hydroxyvitamin D(3) and vitamin D(3) on indicators of vitamin D status in healthy dogs. Am J Vet Res. 2021 Sep;82(9):722-736. https://doi.org/10.2460/ajvr.82.9.722. PMID: 34432521

- Bassuk SS, Chandler PD, Buring JE, et al. The VITamin D and OmegA-3 TriaL (VITAL): Do Results Differ by Sex or Race/Ethnicity? Am J Lifestyle Med. 2020 Dec 24;15(4):372-391. https://doi.org/10.1177/1559827620972035. eCollection 2021 Jul-Aug. PMID: 34366734 Review

- Best CM, Zelnick LR, Thummel KE, et al. Serum Vitamin D: Correlates of Baseline Concentration and Response to Supplementation in VITAL-DKD. J Clin Endocrinol Metab. 2021 Sep 20:dgab693. https://doi.org/10.1210/clinem/dgab693. Online ahead of print. PMID: 34543425

- Bilak Ş, Yılmaz S, Bilgin B. Comparison of vitamin D levels between patients with pterygium and healthy subjects. Int Ophthalmol. 2021 Sep;41(9):3057-3064. https://doi.org/10.1007/s10792-021-01868-0. Epub 2021 Apr 21. PMID: 33881669

- Boucher BJ, Grant WB. R Scragg's and JD Slutyer's "Is There Proof of Extraskeletal Benefits From VitaminD Supplementation From Recent Mega Trials of Vitamin D?". JBMR Plus. 2021 Mar 30;5(7):e10491. https://doi.org/10.1002/jbm4.10491. eCollection 2021 Jul. PMID: 34258500

- Bou Kheir G, Khaldi A, Karam A, et al. A dynamic online nomogram predicting severe vitamin D deficiency at ICU admission. Clin Nutr. 2021 Sep 4;40(10):5383-5390. https://doi.org/10.1016/j.clnu.2021.08.024. Online ahead of print. PMID: 34562689

- Buttriss JL, Lanham-New SA, Steenson S, et al. Implementation strategies for improving vitamin D status and increasing vitamin D intake in the UK: current controversies and future perspectives: proceedings of the 2nd Rank Prize Funds Forum on vitamin D. Br J Nutr. 2021 Jul 21:1-21. https://doi.org/10.1017/S0007114521002555. Online ahead of print. PMID: 34284830

- Campos-Outcalt D. How to proceed when it comes to vitamin D. J Fam Pract. 2021 Jul;70(6):289-292. https://doi.org/10.12788/jfp.0215. PMID: 34431774

- Castillo JA, Giraldo DM, Hernandez JC, et al. Regulation of innate immune responses in macrophages differentiated in the presence of vitamin D and infected with dengue virus 2. PLoS Negl Trop Dis. 2021 Oct 11;15(10):e0009873. https://doi.org/10.1371/journal.pntd.0009873. Online ahead of print. PMID: 34634046

- Chen A, Han Y, Poss KD. Regulation of zebrafish fin regeneration by vitamin D signaling. Dev Dyn. 2021 Sep;250(9):1330-1339. https://doi.org/10.1002/dvdy.261. Epub 2020 Oct 26. PMID: 33064344

- Cho MC, Park KS, Shin JK, et al. Correlational analysis of bone health status and vitamin D-related biomarkers in women working in agriculture. Medicine (Baltimore). 2021 Aug 27;100(34):e27071. https://doi.org/10.1097/MD.0000000000027071. PMID: 34449504

- Clarke KE, Hurst EA, Mellanby RJ. Vitamin D metabolism and disorders in dogs and cats. J Small Anim Pract. 2021 Jul 29. https://doi.org/10.1111/jsap.13401. Online ahead of print. PMID: 34323302 Review

- Conway E, Sweeney T, Dowley A, et al. The effects of mushroom powder and vitamin D(2) -enriched mushroom powder supplementation on the growth performance and health of newly weaned pigs. J Anim Physiol Anim Nutr (Berl). 2021 Jul 24. https://doi.org/10.1111/jpn.13614. Online ahead of print. PMID: 34302391 Review

- Dai Z, McKenzie JE, McDonald S, et al. Assessment of the Methods Used to Develop Vitamin D and Calcium Recommendations-A Systematic Review of Bone Health Guidelines. Nutrients. 2021 Jul 15;13(7):2423. https://doi.org/10.3390/nu13072423. PMID: 34371932

- De Martinis M, Allegra A, Sirufo MM, et al. Vitamin D Deficiency, Osteoporosis and Effect on Autoimmune Diseases and Hematopoiesis: A Review. Int J Mol Sci. 2021 Aug 17;22(16):8855. https://doi.org/10.3390/ijms22168855. PMID: 34445560 Free PMC article. Review

- Dey Bhowmik A, Shaw P, Mondal P, et al. Calcium and Vitamin D Supplementation Effectively Alleviates Dental and Skeletal Fluorosis and Retain Elemental Homeostasis in Mice. Biol Trace Elem Res. 2021 Aug;199(8):3035-3044. https://doi.org/10.1007/s12011-020-02435-x. Epub 2020 Oct 14. PMID: 33057951

- Didar Z. Enrichment of dark chocolate with vitamin D(3) (free or liposome) and assessment quality parameters. J Food Sci Technol. 2021 Aug;58(8):3065-3072. https://doi.org/10.1007/s13197-020-04810-x. Epub 2020 Sep 29. PMID: 34294969

- Díaz-Ruiz R, Valdeón I, Álvarez JR, et al. Simultaneous encapsulation of trans-resveratrol and vitamin D(3) in highly concentrated double emulsions. J Sci Food Agric. 2021 Jul;101(9):3654-3664. https://doi.org/10.1002/jsfa.10995. Epub 2020 Dec 22. PMID: 33280118

- Erem AS, Razzaque MS. Vitamin D-independent benefits of safe sunlight exposure. J Steroid Biochem Mol Biol. 2021 Oct;213:105957. https://doi.org/10.1016/j.jsbmb.2021.105957. Epub 2021 Jul 27. PMID: 34329737 Review

- Fagnant HS, Lutz LJ, Nakayama AT, et al. Breakfast Skipping is Associated with Vitamin D Deficiency among Young Adults entering Initial Military Training. Acad Nutr Diet. 2021 Sep 30:S2212-2672(21)01342-3. https://doi.org/10.1016/j.jand.2021.09.016. Online ahead of print. PMID: 34601165

- Fassio A, Gatti D, Rossini M, et al. Pharmacodynamics of Oral Cholecalciferol in Healthy Individuals with Vitamin DDeficiency: A Randomized Open-Label Study. Nutrients. 2021 Jul 2;13(7):2293. https://doi.org/10.3390/nu13072293. PMID: 34371803

- Fatemi SA, Alqhtani A, Elliott KEC, et al. Effects of the in ovo injection of vitamin D(3)

and 25-hydroxyvitamin D(3) in Ross 708 broilers subsequently fed commercial or calcium and phosphorus-restricted diets. I. Performance, carcass characteristics, and incidence of woody breast myopathy(1,2,3). Poult Sci. 2021 Aug;100(8):101220. https://doi.org/10.1016/j.psj.2021.101220. Epub 2021 Apr 28. PMID: 34214750

- Fogleman SA, Janney C, Cialdella-Kam L, et al. Vitamin D Deficiency in the Military: It's Time to Act! Mil Med. 2021 Oct 9:usab402. https://doi.org/10.1093/milmed/usab402. Online ahead of print. PMID: 34626466
- Fraile Navarro D, López García-Franco A, Niño de Guzmán E, et al. Vitamin D recommendations in clinical guidelines: A systematic review, quality evaluation and analysis of potential predictors. Int J Clin Pract. 2021 Sep 6:e14805. https://doi.org/10.1111/ijcp.14805. Online ahead of print. PMID: 34486779
- Fraser DR. Vitamin D toxicity related to its physiological and unphysiological supply. Trends Endocrinol Metab. 2021 Sep 10:S1043-2760(21)00199-5. https://doi.org/10.1016/j.tem.2021.08.006. Online ahead of print. PMID: 34518055 Review
- Goksøyr SØ, Goldstone J, Lille-Langøy R, et al. Polycyclic aromatic hydrocarbons modulate the activity of Atlantic cod (Gadus morhua) vitamin D receptor paralogs in vitro. Aquat Toxicol. 2021 Jul 16;238:105914. https://doi.org/10.1016/j.aquatox.2021.105914. Online ahead of print. PMID: 34304057
- González CM, Gaikwad S, Lasanta G, et al. Design, synthesis and evaluation of side-chain hydroxylated derivatives of lithocholic acid as potent agonists of the vitamin D receptor (VDR). Bioorg Chem. 2021 Oct;115:105202. https://doi.org/10.1016/j.bioorg.2021.105202. Epub 2021 Jul 22. PMID: 34339974
- Hejazian SM, Ahmadian E, Zununi Vahed S, et al. The Association of Sleep Quality and Vitamin D Levels in Hemodialysis Patients. Biomed Res Int. 2021 Sep 21;2021:4612091. https://doi.org/10.1155/2021/4612091. eCollection 2021. PMID: 34604382
- Huang Z, You T. Personalise vitamin D(3) using physiologically based pharmacokinetic modelling. CPT Pharmacometrics Syst Pharmacol. 2021 Jul;10(7):723-734. https://doi.org/10.1002/psp4.12640. Epub 2021 Jun 3. PMID: 33960722
- Händel MN, Jacobsen R, Thorsteinsdottir F, et al. Assessing Health Consequences of Vitamin D Fortification Utilizing a Societal Experiment Design: Methodological Lessons Learned from the D-Tect Project. Int J Environ Res Public Health. 2021 Jul 31;18(15):8136. https://doi.org/10.3390/ijerph18158136. PMID: 34360427
- Jayaraj JM, Kuriakose BB, Alhazmi AH, et al. Structural and functional insights on vitamin D receptor and CYP24A1 deleterious single nucleotide polymorphisms: A computational and pharmacogenomics perpetual approach. Cell Biochem Funct. 2021 Oct;39(7):874-885. https://doi.org/10.1002/cbf.3658. Epub 2021 Jul 6. PMID: 34231237
- Kawagoe F, Mototani S, Kittaka A. Design and Synthesis of Fluoro Analogues of Vitamin D. Int J Mol Sci. 2021 Jul 30;22(15):8191. https://doi.org/10.3390/ijms22158191. PMID: 34360956
- Kotwan J, Kühn J, Baur AC, et al. Oral Intake of Lumisterol Affects the Metabolism of Vitamin D. Mol Nutr Food Res. 2021 Jul;65(14):e2001165. https://doi.org/10.1002/mnfr.202001165. Epub 2021 Jun 18. PMID: 34061442
- Küchler EC, Carelli J, Morais ND, et al. Assessing the association between vitamin D receptor and dental age variability. Clin Oral Investig. 2021 Aug 31. https://doi.org/10.1007/s00784-021-04140-y. Online ahead of print. PMID: 34463798
- Küchler EC, Schröder A, Teodoro VB, et al. The role of 25-hydroxyvitamin-D3 and vitamin D receptor gene in human periodontal ligament fibroblasts as response to orthodontic compressive strain: an in vitro study. BMC Oral Health. 2021 Aug 6;21(1):386. https://doi.org/10.1186/s12903-021-01740-8. PMID: 34362362
- Lavelli V, D'Incecco P, Pellegrino L. Vitamin D Incorporation in Foods: Formulation Strategies, Stability, and Bioaccessibility as Affected by the Food Matrix. Foods. 2021 Aug 25;10(9):1989. https://doi.org/10.3390/foods10091989. PMID: 34574096
- Lu X, Chen Z, Watsky MA. Effects of 1,25 and 24,25 Vitamin D on Corneal Fibroblast VDR and Vitamin DMetabolizing and Catabolizing Enzymes. Curr Eye Res. 2021 Sep;46(9):1271-1282. https://doi.org/10.1080/02713683.2021.1884726. Epub 2021 Mar 3. PMID: 33535006
- Martín Giménez VM, Bergam I, Reiter RJ, et al. Metal ion homeostasis with emphasis on zinc and copper: Potential crucial link to explain the non-classical antioxidative properties of vitamin D and melatonin. Life Sci. 2021 Sep 15;281:119770. https://doi.org/10.1016/j.lfs.2021.119770. Epub 2021 Jun 28. PMID: 34197883 Review
- Mendes MM, Hart KH, Williams EL, et al. Vitamin D Supplementation and Sunlight Exposure on Serum Vitamin DConcentrations in 2 Parallel, Double-Blind, Randomized, Placebo-Controlled Trials. J Nutr. 2021 Oct 1;151(10):3137-3150. https://doi.org/10.1093/jn/nxab209. PMID: 34255034
- Mendoza A, Takemoto Y, Cruzado KT, et al. Controlled lipid beta-oxidation and carnitine biosynthesis by a vitamin Dmetabolite. Cell Chem Biol. 2021 Sep 7:S2451-9456(21)00397-4. https://doi.org/10.1016/j.chembiol.2021.08.008. Online ahead of print. PMID: 34506728
- Mouton Sclaunich H, Marchand C, Rekik A, et al. A case of iatrogenic vitamin D toxicity revealed by drug reconciliation. Therapie. 2021 Jul 27:S0040-5957(21)00177-3. https://doi.org/10.1016/j.therap.2021.07.005. Online ahead of print. PMID: 34454745
- Neill HR, Gill CIR, McDonald EJ, et al. The future is bright: Biofortification of common foods can improve vitamin Dstatus. Crit Rev Food Sci Nutr. 2021 Jul 22:1-17. https://doi.org/10.1080/10408398.2021.1950609. Online ahead of print. PMID: 34291674
- Nikooyeh B, Neyestani TR. The effects of vitamin D-fortified foods on circulating 25(OH)D concentrations in adults: a systematic review and meta-analysis. Br J Nutr. 2021 Jul 26:1-18. https://doi.org/10.1017/S0007114521002816. Online ahead of print. PMID: 34308818
- Nzekoue FK, Alesi A, Vittori S, et al. Development of functional whey cheese enriched in vitamin D(3): nutritional composition, fortification, analysis, and stability study during cheese processing and storage. Int J Food Sci Nutr. 2021 Sep;72(6):746-756.

https://doi.org/10.1080/09637486.2020.1857711. Epub 2020 Dec 8. PMID: 33292001

- Oczkowicz M, Szymczyk B, Świątkiewicz M, et al. Analysis of the effect of vitamin D supplementation and sex on Vdr, Cyp2r1 and Cyp27b1 gene expression in Wistar rats' tissues. J Steroid Biochem Mol Biol. 2021 Sep;212:105918. https://doi.org/10.1016/j.jsbmb.2021.105918. Epub 2021 May 15. PMID: 34004333
- Pellegrino L, Marangoni F, Muscogiuri G, et al. Vitamin D Fortification of Consumption Cow's Milk: Health, Nutritional and Technological Aspects. A Multidisciplinary Lecture of the Recent Scientific Evidence. D'Incecco P, Duval GT, Annweiler C, Colao A.Molecules. 2021 Aug 31;26(17):5289. https://doi.org/10.3390/molecules26175289. PMID: 34500722
- Pfeifer CM, Caré MM, Servaes S, et al. Reply to "Vitamin D Insufficiency Versus Deficiency: An Important Distinction". AJR Am J Roentgenol. 2021 Oct;217(4):1021-1022. https://doi.org/10.2214/AJR.21.26372. Epub 2021 Aug 25. PMID: 34432498
- Pillar S, Amer R. The association between vitamin D and uveitis: A comprehensive review. Surv Ophthalmol. 2021 Jul 31:S0039-6257(21)00168-5. https://doi.org/10.1016/j.survophthal.2021.07.006. Online ahead of print. PMID: 34343538 Review
- Rhein H. Vitamin D-let common sense prevail-on the balance of probabilities. Aging Clin Exp Res. 2021 Sep;33(9):2633. https://doi.org/10.1007/s40520-021-01939-3. Epub 2021 Jul 28. PMID: 34322855
- Rosen CJ. From gut to blood: the travels and travails of vitamin D supplementation. Am J Clin Nutr. 2021 Sep 1;114(3):831-832. https://doi.org/10.1093/ajcn/nqab125. PMID: 34008840
- Rothen JP, Rutishauser J, Walter PN, et al. Vitamin D oral intermittent treatment (DO IT) study, a randomized clinical trial with individual loading regimen. Sci Rep. 2021 Sep 21;11(1):18746. https://doi.org/10.1038/s41598-021-97417-x. PMID: 34548526
- Saluja RK, Dewan P, Gomber S, et al. Low dose depot oral vitamin D(3)v. daily oral vitamin D(3) for treating nutritional rickets: a randomised clinical trial. Br J Nutr. 2021 Jul 19:1-6. https://doi.org/10.1017/S0007114521002713. Online ahead of print. PMID: 34275501
- Schoenmakers I, Fraser WD, Forbes A. Vitamin D and acute and severe illness - a mechanistic and pharmacokinetic perspective. Nutr Res Rev. 2021 Aug 9:1-40. https://doi.org/10.1017/S0954422421000251. Online ahead of print. PMID: 34369338
- Scully H, Laird E, Healy M, et al. Vitamin D retesting by general practitioners: a factor and cost analysis. Clin Chem Lab Med. 2021 Jul 19;59(11):1790-1799. https://doi.org/10.1515/cclm-2021-0607. Print 2021 Oct 26. PMID: 34271597
- Scuto M, Trovato Salinaro A, Caligiuri I, et al. Redox modulation of vitagenes via plant polyphenols and vitamin D: Novel insights for chemoprevention and therapeutic interventions based on organoid technology. Mech Ageing Dev. 2021 Oct;199:111551. https://doi.org/10.1016/j.mad.2021.111551. Epub 2021 Aug 3. PMID: 34358533 Review
- Shah BR, Xu W, Mráz J. Formulation and characterization of zein/chitosan complex particles stabilized Pickering emulsion with the encapsulation and delivery of vitamin D(3). J Sci Food Agric. 2021 Oct;101(13):5419-5428. https://doi.org/10.1002/jsfa.11190. Epub 2021 Mar 9. PMID: 33647164
- Smith DM, Wright RK, Bonnell H. Vitamin D Insufficiency Versus Deficiency: An Important Distinction. AJR Am J Roentgenol. 2021 Oct;217(4):1021. https://doi.org/10.2214/AJR.21.26188. Epub 2021 Aug 25. PMID: 34432505
- Song P, Zhao X, Xu Y, et al. Morphological Effect of Vitamin D Deficiency on Globular Substances in Mice. Otol Neurotol. 2021 Oct 1;42(9):e1313-e1317. https://doi.org/10.1097/MAO.0000000000003229. PMID: 34121084
- Song Y, Walters EH, Abramson MJ, et al. Protein levels, air pollution and vitamin D deficiency: links with allergy. ERJ Open Res. 2021 Oct 4;7(4):00237-2021. https://doi.org/10.1183/23120541.00237-2021. eCollection 2021 Oct. PMID: 34616834
- Srivastava SB. Vitamin D: Do We Need More Than Sunshine? Am J Lifestyle Med. 2021 Apr 3;15(4):397-401. https://doi.org/10.1177/15598276211005689. eCollection 2021 Jul-Aug. PMID: 34366736
- Strickland JM, Wisnieski L, Mavangira V, et al.Serum Vitamin D Is Associated with Antioxidant Potential in Peri-Parturient Cows. Antioxidants (Basel). 2021 Sep 6;10(9):1420. https://doi.org/10.3390/antiox10091420. PMID: 34573052
- Tashkandi N, Zhao Y, Mitchell-Lee G, et al. Longitudinal assessment of salivary vitamin D binding protein during orthodontic tooth movement. BMC Oral Health. 2021 Jul 5;21(1):332. https://doi.org/10.1186/s12903-021-01689-8. PMID: 34225707
- Vecchiato CG, Delsante C, Galiazzo G, et al. Case Report: A Case Series Linked to Vitamin D Excess in Pet Food: Cholecalciferol (Vitamin D3) Toxicity Observed in Five Cats. Front Vet Sci. 2021 Aug 18;8:707741. https://doi.org/10.3389/fvets.2021.707741. eCollection 2021. PMID: 34490396
- Vieira Junior WG, Centeio Cardoso RV, Fernandes Â, et al. Influence of strains and environmental cultivation conditions on the bioconversion of ergosterol and vitamin D(2) in the sun mushroom. J Sci Food Agric. 2021 Aug 29. https://doi.org/10.1002/jsfa.11510. Online ahead of print. PMID: 34455581
- Wakeman M. A Literature Review of the Potential Impact of Medication on Vitamin D Status. Risk Manag Healthc Policy. 2021 Aug 14;14:3357-3381. https://doi.org/10.2147/RMHP.S316897. eCollection 2021. PMID: 34421316
- Watkins S, Freeborn E, Mushtaq S. A validated FFQ to determine dietary intake of vitamin D. Public Health Nutr. 2021 Sep;24(13):4001-4006. https://doi.org/10.1017/S136898002000453X. Epub 2020 Nov 6. PMID: 33155538
- Weber J, Prusseit J, Staufenbiel R. Effects of calcium supplementation, incomplete milking, and vitamin D(3) injection on serum total calcium concentration during the first 24 hours after parturition in dairy cows fed an anionic diet during late gestation. Am J Vet Res. 2021 Aug;82(8):634-643. https://doi.org/10.2460/ajvr.82.8.634. PMID: 34296942

- Whiting SJ, Calvo MS. Vitamin D: Nutrition Information Brief. Adv Nutr. 2021 Oct 1;12(5):2037-2039. https://doi.org/10.1093/advances/nmab051. PMID: 33942070
- Zgliczyński WS, Rostkowska OM, Sarecka-Hujar B. Vitamin D Knowledge, Attitudes and Practices of Polish Medical Doctors. Nutrients. 2021 Jul 17;13(7):2443. https://doi.org/10.3390/nu13072443. PMID: 34371953
- Zhang C, Liu K, Hou J. Extending the vitamin D pathway to vitamin D(3) and CYP27A1 in periodontal ligament cells. J Periodontol. 2021 Jul;92(7):44-53. https://doi.org/10.1002/JPER.20-0225. Epub 2020 Nov 10. PMID: 33107041
- Zhang J, Zhu Q, Zhang S, et al. Double knockout of vitamin D receptor and its coactivator mediator complex subunit 1 unexpectedly enhances epidermal permeability barrier function in mice. Biochim Biophys Acta Mol Cell Res. 2021 Nov;1868(12):119131. https://doi.org/10.1016/j.bbamcr.2021.119131. Epub 2021 Aug 26. PMID: 34453978
- Zuin M, Brombo G, Capatti E, et al.Orthostatic hypotension and vitamin D deficiency in older adults: systematic review and meta-analysis. Aging Clin Exp Res. 2021 Oct 10. https://doi.org/10.1007/s40520-021-01994-w. Online ahead of print. PMID: 34628636

NEUROLOGIA

- Abdelmaksoud AA, Fahim DFM, Bazeed SES, et al. Relation between vitamin D deficiency and benign paroxysmal positional vertigo. Sci Rep. 2021 Aug 19;11(1):16855. https://doi.org/10.1038/s41598-021-96445-x. PMID: 34413436
- Al-Mendalawi MD. Bone Mineral Density and Serum Vitamin D Status in Parkinson's Disease: Are the Stage and Clinical Features of the Disease Important? Neurol India. 2021 Jul-Aug;69(4):1142. https://doi.org/10.4103/0028-3886.325366. PMID: 34507489
- Arikan S, Kamis F. Effect of vitamin D deficiency on spatial contrast sensitivity function. Clin Exp Optom. 2021 Aug 29:1-7. https://doi.org/10.1080/08164622.2021.1969212. Online ahead of print. PMID: 34459358
- Ashouri R, Fangman M, Brielmaier J, et al. Nutritional Supplementation of Naturally Occurring Vitamin D to Improve Hemorrhagic Stroke Outcomes. Front Neurol. 2021 Jul 30;12:670245. https://doi.org/10.3389/fneur.2021.670245. eCollection 2021. PMID: 34393969
- Bayat M, Kohlmeier KA, Haghani M, et al. Co-treatment of vitamin D supplementation with enriched environment improves synaptic plasticity and spatial learning and memory in aged rats. Psychopharmacology (Berl). 2021 Aug;238(8):2297-2312. https://doi.org/10.1007/s00213-021-05853-4. Epub 2021 May 15. PMID: 33991198
- Boelens M, Croll PH, Voortman T. Response letter to the editor: Associations of vitamin D deficiency with MRI markers of brain health in a community sample. Clin Nutr. 2021 Aug;40(8):5008. https://doi.org/10.1016/j.clnu.2021.07.004. Epub 2021 Jul 13. PMID: 34364240
- Chan YH, Schooling CM, Zhao J, et al. Mendelian Randomization Focused Analysis of Vitamin D on the Secondary Prevention of Ischemic Stroke. Stroke. 2021 Sep 27:STROKEAHA120032634. https://doi.org/10.1161/STROKEAHA.120.032634. Online ahead of print. PMID: 34565175
- Cho EB, Shin JH, Kwon S, et al. Effects of Vitamin D and Dexamethasone on Lymphocyte Proportions and Their Associations With Serum Concentrations of 25-Hydroxyvitamin D(3) In Vitro in Patients With Multiple Sclerosis or Neuromyelitis Optica Spectrum Disorder. Front Immunol. 2021 Jul 29;12:677041. https://doi.org/10.3389/fimmu.2021.677041. eCollection 2021. PMID: 34394078
- Choudhary A, Kumar A, Sharma R, et al. Optimal vitamin D level ameliorates neurological outcome and quality of life after traumatic brain injury: a clinical perspective. Int J Neurosci. 2021 Sep 28:1-9. https://doi.org/10.1080/00207454.2021.1924706. Online ahead of print. PMID: 33930999
- Dai YY, Ba XH. Effects of exogenous vitamin D on endoplasmic reticulum stress-related factors in the vitamin D deficiency rats with cerebral ischemia. Neurosci Lett. 2021 Sep 14;761:136115. https://doi.org/10.1016/j.neulet.2021.136115. Epub 2021 Jul 16. PMID: 34274437
- El-Sawaf ES, Saleh S, Abdallah DM, et al. Vitamin D and rosuvastatin obliterate peripheral neuropathy in a type-2 diabetes model through modulating Notch1, Wnt-10alpha, TGF-beta and NRF-1 crosstalk. Life Sci. 2021 Aug 15;279:119697. https://doi.org/10.1016/j.lfs.2021.119697. Epub 2021 Jun 5. PMID: 34102194
- Fiani B, Barthelmass M, Siddiqi I, et al. Vitamin D as a modifiable risk factor, predictor, and theoretical therapeutic agent for vasospasm in spontaneous subarachnoid hemorrhage. Acta Neurol Belg. 2021 Jul 18. https://doi.org/10.1007/s13760-021-01757-4. Online ahead of print. PMID: 34275126 Review
- Goldschagg N, Teupser D, Feil K, et al. No evidence for a specific vitamin D deficit in benign paroxysmal positional vertigo. Eur J Neurol. 2021 Sep;28(9):3182-3186. https://doi.org/10.1111/ene.14980. Epub 2021 Jul 7. PMID: 34133827
- Hernández-Ledesma AL, Rodríguez-Méndez AJ, Gallardo-Vidal LS, et al.Vitamin D status, proinflammatory cytokines and bone mineral density in Mexican people with multiple sclerosis. Mult Scler Relat Disord. 2021 Sep 15;56:103265. https://doi.org/10.1016/j.msard.2021.103265. Online ahead of print. PMID: 34627004
- Khairy EY, Attia MM. Protective effects of vitamin D on neurophysiologic alterations in brain aging: role of brain-derived neurotrophic factor (BDNF). Nutr Neurosci. 2021 Aug;24(8):650-659. https://doi.org/10.1080/1028415X.2019.1665854. Epub 2019 Sep 16. PMID: 31524100
- Khedr AMB, Shaker OG, Hassan A, et al. MicroRNA-22 Level in Patients with Multiple Sclerosis and Its Relationship with Vitamin D and Vitamin D Receptor Levels. Hussein M, Kamal YS, Azouz TA.Neuroimmunomodulation. 2021 Sep 17:1-7. https://doi.org/10.1159/000519012. Online ahead of print. PMID: 34537762
- Langley CK, Onambélé-Pearson GL, Sims DT, et al. Musculoskeletal Health in Active Ambulatory Men with Cerebral Palsy and the Impact of Vitamin D. Nutrients. 2021 Jul 20;13(7):2481. https://doi.org/10.3390/nu13072481. PMID: 34371988
- Lee C, Seo H, Yoon SY, et al. Clinical significance of vitamin D in idiopathic normal pressure hydrocephalus. Acta Neurochir (Wien). 2021 Jul;163(7):1969-1977. https://doi.org/10.1007/s00701-021-

04849-5. Epub 2021 Apr 21. PMID: 33881606

- Lefèvre-Arbogast S, Dhana K, Aggarwal NT, et al. Vitamin D Intake and Brain Cortical Thickness in Community-Dwelling Overweight Older Adults: A Cross-Sectional Study. J Nutr. 2021 Sep 4;151(9):2760-2767. https://doi.org/10.1093/jn/nxab168. PMID: 34113981
- Li D, Wang K, Yang Z, et al. Vitamin D supplementation in mice with advanced maternal age and cognitive function of the offspring. Am J Transl Res. 2021 Jul 15;13(7):7641-7653. eCollection 2021. PMID: 34377241
- Lincoln MR, Schneider R, Oh J. Vitamin D as disease-modifying therapy for multiple sclerosis? Expert Rev Clin Immunol. 2021 Jul;17(7):691-693. https://doi.org/10.1080/1744666X.2021.1915772. Epub 2021 Apr 15. PMID: 33836645
- Liu W, Zhou C, Wang Y, et al. Vitamin D Deficiency Is Associated with Disrupted Cholesterol Homeostasis in Patients with Mild Cognitive Impairment. J Nutr. 2021 Sep 11:nxab296. https://doi.org/10.1093/jn/nxab296. Online ahead of print. PMID: 34510220
- Lu Y, Li J, Hu T, et al. Serum 25-hydroxy vitamin D level is associated with cognitive impairment in people aged 65 years and older. Ann Palliat Med. 2021 Jul;10(7):7479-7485. https://doi.org/10.21037/apm-21-568. PMID: 34353037
- Mansouri F, Ghanbari H, Marefati N, et al. Protective effects of vitamin D on learning and memory deficit induced by scopolamine in male rats: the roles of brain-derived neurotrophic factor and oxidative stress. Naunyn Schmiedebergs Arch Pharmacol. 2021 Jul;394(7):1451-1466. https://doi.org/10.1007/s00210-021-02062-w. Epub 2021 Mar 2. PMID: 33649977
- Niino M, Fukazawa T, Miyazaki Y, et al. Seasonal fluctuations in serum levels of vitamin D in Japanese patients with multiple sclerosis. J Neuroimmunol. 2021 Aug 15;357:577624. https://doi.org/10.1016/j.jneuroim.2021.577624. Epub 2021 Jun 2. PMID: 34098399
- Nowaczewska M, Osiński S, Marzec M, et al. The role of vitamin D in subjective tinnitus-A case-control study. PLoS One. 2021 Aug 18;16(8):e0255482. https://doi.org/10.1371/journal.pone.0255482. eCollection 2021. PMID: 34407088
- Ozturk EC, Sencan S, Sacaklidir R, et al. The Impact of Vitamin D Deficiency to Treatment Success of Transforaminal Epidural Steroid Injection. Pain Physician. 2021 Aug;24(5):E619-E624. PMID: 34323449
- Pięde l F, Rocka A, Piwek M, et al. Correlation between vitamin D and alterations in MRI among patients with multiple sclerosis. Ann Agric Environ Med. 2021 Sep 16;28(3):372-377. https://doi.org/10.26444/aaem/127062. Epub 2020 Sep 17. PMID: 34558256
- Santos MCQ, Silva TCBD, Silva FBOD, et al. Effects of vitamin D administration on nociception and spinal cord pro-oxidant and antioxidant markers in a rat model of neuropathic pain. Braz J Med Biol Res. 2021 Aug 6;54(10):e11207. https://doi.org/10.1590/1414-431X2021e11207. eCollection 2021. PMID: 34378677
- Seetan K, Albashir S, Jarrar B, et al. Assessment of Serum Vitamin D Levels in the serum of Patients with Postherpetic neuralgia and its correlation to pain severity: A cross-sectional comparative study. Int J Clin Pract. 2021 Aug 24:e14750. https://doi.org/10.1111/ijcp.14750. Online ahead of print. PMID: 34431183
- Sezer E, Can Demirdöğen B, Demirkaya Ş, et al. Association of cholesterol 7alpha-hydroxylase (CYP7A1) promoter polymorphism (rs3808607) and cholesterol 24S-hydroxylase (CYP46A1) intron 2 polymorphism (rs754203) with serum lipids, vitamin D levels, and multiple sclerosis risk in the Turkish population. Neurol Sci. 2021 Sep 21. https://doi.org/10.1007/s10072-021-05597-1. Online ahead of print. PMID: 34546511
- Sioka C, Baldouma A, Papadopoulos A, et al. Co-Existence of Depression, Low Bone Mineral Density, and Vitamin D Deficiency in Patients with Multiple Sclerosis. Psychiatr Danub. 2021 Summer;33(2):201. PMID: 34185750
- Su C, Jin B, Xia H, et al. Association between Vitamin D and Risk of Stroke: A PRISMA-Compliant Systematic Review and Meta-Analysis. Eur Neurol. 2021 Jul 29:1-10. https://doi.org/10.1159/000517584. Online ahead of print. PMID: 34325429
- Tan X, Gao L, Cai X, et al.Vitamin D(3) alleviates cognitive impairment through regulating inflammatory stress in db/db mice. Food Sci Nutr. 2021 Jul 7;9(9):4803-4814. https://doi.org/10.1002/fsn3.2397. eCollection 2021 Sep. PMID: 34531993
- Wang R, Wang W, Hu P, et al. Association of Dietary Vitamin D Intake, Serum 25(OH)D(3), 25(OH)D(2) with Cognitive Performance in the Elderly. Nutrients. 2021 Sep 2;13(9):3089. https://doi.org/10.3390/nu13093089. PMID: 34578965
- Womble PD, Hodges SL, Nolan SO, et al. A vitamin D enriched diet attenuates sex-specific behavioral deficits, increases the lifespan, but does not rescue bone abnormalities in a mouse model of cortical dysplasia. Epilepsy Behav. 2021 Sep 9;124:108297. https://doi.org/10.1016/j.yebeh.2021.108297. Online ahead of print. PMID: 34509882
- Xu Y, Liang L. Vitamin D3/vitamin D receptor signaling mitigates symptoms of post-stroke depression in mice by upregulating hippocampal BDNF expression. Neurosci Res. 2021 Sep;170:306-313. https://doi.org/10.1016/j.neures.2020.08.002. Epub 2020 Sep 1. PMID: 32882254
- Yavuz U, Alaylıoğlu M, Şengül B, et al. Protein disulfide isomerase A3 might be involved in the regulation of 24-dehydrocholesterol reductase via vitamin D equilibrium in primary cortical neurons. In Vitro Cell Dev Biol Anim. 2021 Aug;57(7):704-714. https://doi.org/10.1007/s11626-021-00602-5. Epub 2021 Aug 2. PMID: 34338991
- Zelzer S, Meinitzer A, Herrmann M, et al. A Novel Method for the Determination of Vitamin D Metabolites Assessed at the Blood-Cerebrospinal Fluid Barrier. Biomolecules. 2021 Aug 29;11(9):1288. https://doi.org/10.3390/biom11091288. PMID: 34572501
- Zeng YY, Yuan CX, Wu MX, et al. Low vitamin D levels and the long-term functional outcome of stroke up to 5 years. Brain Behav. 2021 Sep 2:e2244. https://doi.org/10.1002/brb3.2244. Online ahead of print. PMID: 34473410
- Şencan Z, Bayar Muluk N, Şahan MH. Smell Regions in Patients with Vitamin D Deficiency: An MRI Evaluation. J Neurol Surg B Skull Base. 2021 Oct;82(5):593-600. https://

doi.org/10.1055/s-0040-1722227. Epub 2021 Jan 19. PMID: 34513566

NEFROLOGIA

- Arapović A, Vukojević K, Glavina Durdov M, et al. Expression of renal vitamin D receptors and metabolizing enzymes in IgA nephropathy. Acta Histochem. 2021 Jul;123(5):151740. https://doi.org/10.1016/j.acthis.2021.151740. Epub 2021 Jun 8. PMID: 34111685
- Banerjee D, Chitalia N, Ster IC, et al. Impact of vitamin D on cardiac structure and function in chronic kidney disease patients with hypovitaminosis D: a randomized controlled trial and meta-analysis. Eur Heart J Cardiovasc Pharmacother. 2021 Jul 23;7(4):302-311. https://doi.org/10.1093/ehjcvp/pvz080. PMID: 31830258
- Barth K, Sedivy M, Lindner G, et al. Successful treatment with denosumab for two cases with hypercalcemia due to vitamin D intoxication and associated acute kidney injury. CEN Case Rep. 2021 Sep 13. https://doi.org/10.1007/s13730-021-00643-5. Online ahead of print. PMID: 34515963
- Bover J, Gunnarsson J, Csomor P, et al. Impact of nutritional vitamin D supplementation on parathyroid hormone and 25-hydroxyvitamin D levels in non-dialysis chronic kidney disease: a meta-analysis. Clin Kidney J. 2021 Feb 5;14(10):2177-2186. https://doi.org/10.1093/ckj/sfab035. eCollection 2021 Oct. PMID: 34603696
- Chamsuwan S, Angkanaporn K, Dissayabutra T, et al. The association between single nucleotide polymorphism in vitamin D receptor and calcium oxalate urolithiasis in dogs. J Vet Intern Med. 2021 Sep;35(5):2263-2270. https://doi.org/10.1111/jvim.16225. Epub 2021 Jul 28. PMID: 34322901
- Christodoulou M, Aspray TJ, Schoenmakers I. Vitamin D Supplementation for Patients with Chronic Kidney Disease: A Systematic Review and Meta-analyses of Trials Investigating the Response to Supplementation and an Overview of Guidelines. Calcif Tissue Int. 2021 Aug;109(2):157-178. https://doi.org/10.1007/s00223-021-00844-1. Epub 2021 Apr 25. PMID: 33895867
- de Carvalho JF, Churilov LP. Safety of megadose of vitamin D in patients with nephrolithiasis. Nutrition. 2021 Jul-Aug;87-88:111201. https://doi.org/10.1016/j.nut.2021.111201. Epub 2021 Feb 12. PMID: 33744642
- He J, Du J, Yi B, et al. MicroRNA-122 contributes to lipopolysaccharide-induced acute kidney injury via down-regulating the vitamin D receptor in the kidney. Eur J Clin Invest. 2021 Aug;51(8):e13547. https://doi.org/10.1111/eci.13547. Epub 2021 Mar 29. PMID: 33782973
- Kim SH, Brodsky IG, Chatterjee R, et al. Effect of Vitamin D Supplementation on Kidney Function in Adults with Prediabetes: A Secondary Analysis of a Randomized Trial. Clin J Am Soc Nephrol. 2021 Aug;16(8):1201-1209. https://doi.org/10.2215/CJN.00420121. PMID: 34362787
- Kristensen T, Birn H, Ivarsen P. A randomised controlled unblinded multicentre non-inferiority trial with activated vitamin D and prednisolone treatment in patients with minimal change nephropathy (ADAPT-inMCN). Trials. 2021 Jul 12;22(1):442. https://doi.org/10.1186/s13063-021-05393-4. PMID: 34247632
- Krummel T, Ingwiller M, Keller N, et al. Effects of high- vs low-dose native vitamin D on albuminuria and the renin-angiotensin-aldosterone system: a randomized pilot study. Int Urol Nephrol. 2021 Jul 20. https://doi.org/10.1007/s11255-021-02950-3. Online ahead of print. PMID: 34286472
- Lin SY, Chiu YW, Yang HR, et al. Association of vitamin D levels and risk of latent tuberculosis in the hemodialysis population. J Microbiol Immunol Infect. 2021 Aug;54(4):680-686. https://doi.org/10.1016/j.jmii.2020.06.001. Epub 2020 Jun 10. PMID: 32593557
- Li Y, Li W, Jiang H. Vitamin D and hydroxychloroquine reduce renal injury and Ki67 expression in a rat model of IgA nephropathy via TLR4. Chin Med J (Engl). 2021 Sep 1. https://doi.org/10.1097/CM9.0000000000001618. Online ahead of print. PMID: 34475327
- Mahapatra HS, Kumar A, Kulshreshtha B, et al. Effect of Vitamin D on Urinary Angiotensinogen Level in Early Diabetic Nephropathy. Indian J Nephrol. 2021 Jul-Aug;31(4):341-348. https://doi.org/10.4103/ijn.IJN_67_20. Epub 2021 Jan 27. PMID: 34584348
- Mirzakhani M, Mohammadkhani S, Hekmatirad S, et al. The association between vitamin D and acute rejection in human kidney transplantation: A systematic review and meta-analysis study. Transpl Immunol. 2021 Aug;67:101410. https://doi.org/10.1016/j.trim.2021.101410. Epub 2021 May 19. PMID: 34020044
- Nata N, Siricheepchaiyan W, Supasyndh O, et al. Efficacy of high versus conventional dose of ergocalciferol supplementation on serum 25-hydroxyvitamin D and interleukin-6 levels among hemodialysis patients with vitamin D deficiency: A multicenter, randomized, controlled study. Ther Apher Dial. 2021 Aug 11. https://doi.org/10.1111/1744-9987.13722. Online ahead of print. PMID: 34378863
- Obi Y, Ichimaru N, Sakaguchi Y, et al. Correcting anemia and native vitamin D supplementation in kidney transplant recipients: a multicenter, 2 2 factorial, open-label, randomized clinical trial. Transpl Int. 2021 Jul;34(7):1212-1225. https://doi.org/10.1111/tri.13885. Epub 2021 Jun 15. PMID: 33884674 Clinical Trial
- Priyadarshini G, Parameswaran S, Sahoo J, et al. Vitamin D deficiency in chronic kidney disease: Myth or reality? Clin Chim Acta. 2021 Sep 1;523:35-37. https://doi.org/10.1016/j.cca.2021.08.032. Online ahead of print. PMID: 34480954
- Shankar AS, van den Berg SAA, Tejeda Mora H, et al. Vitamin D metabolism in human kidney organoids. Nephrol Dial Transplant. 2021 Sep 17:gfab264. https://doi.org/10.1093/ndt/gfab264. Online ahead of print. PMID: 34534339
- Tavasoli S, Taheri F, Bagheri Amiri F, et al. The Prevalence of Vitamin D Deficiency, Its Predisposing Factors and Association with 24-hour Urine Metabolites Among Iranian Kidney Stone Formers. Iran J Kidney Dis. 2021 Jul;15(4):263-269. PMID: 34278997
- Wagener MG, Helmer C, Kammeyer P, et al. Calcinosis in Alpaca Crias (Vicugna pacos) Due to Vitamin D Intoxication-Clinical, Laboratory and Pathological Findings with a Focus on Kidney Function. Animals (Basel). 2021 Aug 7;11(8):2332. https://doi.org/10.3390/ani11082332. PMID: 34438789
- Wang F, Hu R, Zhang J, et al. High-dose vitamin D3 supplementation ameliorates renal fibrosis by vitamin Dreceptor activation

and inhibiting TGF-beta1/Smad3 signaling pathway in 5/6 nephrectomized rats. Eur J Pharmacol. 2021 Sep 15;907:174271. https://doi.org/10.1016/j.ejphar.2021.174271. Epub 2021 Jun 17. PMID: 34147475

- Yin S, Wang X, Li L, et al. Prevalence of vitamin D deficiency and impact on clinical outcomes after kidney transplantation: a systematic review and meta-analysis. Nutr Rev. 2021 Sep 2:nuab058. https://doi.org/10.1093/nutrit/nuab058. Online ahead of print. PMID: 34472620
- Yuksel E, Aydin E. The relationship between serum vitamin D levels and health-related quality of life in peritoneal dialysis patients. Int Urol Nephrol. 2021 Jul 22. https://doi.org/10.1007/s11255-021-02951-2. Online ahead of print. PMID: 34292490
- Zhang C, Wang J, Xie X, et al. Low serum vitamin D concentration is correlated with anemia, microinflammation, and oxidative stress in patients with peritoneal dialysis. J Transl Med. 2021 Sep 27;19(1):411. https://doi.org/10.1186/s12967-021-03077-w. PMID: 34579742

ONCOLOGIA

- Abu El Maaty MA, Grelet E, Keime C, et al. Single-cell analyses unravel cell type-specific responses to a vitamin D analog in prostatic precancerous lesions. Sci Adv. 2021 Jul 30;7(31):eabg5982. https://doi.org/10.1126/sciadv.abg5982. Print 2021 Jul. PMID: 34330705
- Akutsu T, Kanno K, Okada S, et al. Effect of Vitamin D Supplements on Relapse of Digestive Tract Cancer with Tumor Stromal Immune Response: A Secondary Analysis of the AMATERASU Randomized Clinical Trial. Cancers (Basel). 2021 Sep 20;13(18):4708. https://doi.org/10.3390/cancers13184708. PMID: 34572935
- Aldekwer S, Desiderio A, Farges MC, et al. Vitamin D supplementation associated with physical exercise promotes a tolerogenic immune environment without effect on mammary tumour growth in C57BL/6 mice. Eur J Nutr. 2021 Aug;60(5):2521-2535. https://doi.org/10.1007/s00394-020-02420-z. Epub 2020 Nov 10. PMID: 33169226
- Altieri B, Barrea L, Modica R, et al. Vitamin D deficiency and tumor aggressiveness in gastroenteropancreatic neuroendocrine tumors. Endocrine. 2021 Sep 17. https://doi.org/10.1007/s12020-021-02869-w. Online ahead of print. PMID: 34533768
- Bains A, Mur T, Wallace N, et al. The Role of Vitamin D as a Prognostic Marker in Papillary Thyroid Cancer. Cancers (Basel). 2021 Jul 14;13(14):3516. https://doi.org/10.3390/cancers13143516. PMID: 34298730
- Barber LE, Bertrand KA, Petrick JL, et al.Predicted vitamin D status and colorectal cancer incidence in the Black Women's Health Study. Cancer Epidemiol Biomarkers Prev. 2021 Oct 7:cebp.0675.2021. https://doi.org/10.1158/1055-9965.EPI-21-0675. Online ahead of print. PMID: 34620630
- Bernhardt SM, Borges VF, Schedin P. Vitamin D as a Potential Preventive Agent For Young Women's Breast Cancer. Cancer Prev Res (Phila). 2021 Sep;14(9):825-838. https://doi.org/10.1158/1940-6207.CAPR-21-0114. Epub 2021 Jul 9. PMID: 34244152
- Bhandari R, Teh JB, Herrera C, et al. Prevalence and risk factors for vitamin D deficiency in long-term childhood cancer survivors. Pediatr Blood Cancer. 2021 Jul;68(7):e29048. https://doi.org/10.1002/pbc.29048. Epub 2021 Apr 6. PMID: 33822476
- Campbell RA, Li J, Malone L, et al. Correlative Analysis of Vitamin D and Omega-3 Fatty Acid Intake in Men on Active Surveillance for Prostate Cancer. Urology. 2021 Sep;155:110-116. https://doi.org/10.1016/j.urology.2021.04.050. Epub 2021 Jun 16. PMID: 34144071
- Carlberg C, Velleuer E. Vitamin D and the risk for cancer: A molecular analysis. Biochem Pharmacol. 2021 Aug 16:114735. https://doi.org/10.1016/j.bcp.2021.114735. Online ahead of print. PMID: 34411566
- Chatterjee R, Fuss P, Vickery EM, et al. Vitamin D Supplementation for Prevention of Cancer: The D2d Cancer Outcomes (D2dCA) Ancillary Study. J Clin Endocrinol Metab. 2021 Aug 18;106(9):2767-2778. https://doi.org/10.1210/clinem/dgab153. PMID: 33693713
- Fernandez-Lazaro CI, Romanos-Nanclares A, Sánchez-Bayona R, et al. Dietary calcium, vitamin D, and breast cancer risk in women: findings from the SUN cohort. Eur J Nutr. 2021 Oct;60(7):3783-3797. https://doi.org/10.1007/s00394-021-02549-5. Epub 2021 Apr 5. PMID: 33818633
- Gholamalizadeh M, Mokhtari Z, Doaei S, et al. The association between fat mass and obesity-associated (FTO) genotype and serum vitamin D level in breast cancer patients. J Cell Mol Med. 2021 Sep 6. https://doi.org/10.1111/jcmm.16908. Online ahead of print. PMID: 34490746
- Gnagnarella P, Muzio V, Caini S, et al. Vitamin D Supplementation and Cancer Mortality: Narrative Review of Observational Studies and Clinical Trials. Nutrients. 2021 Sep 21;13(9):3285. https://doi.org/10.3390/nu13093285. PMID: 34579164
- Gregorio BM. Editorial Comment: Dietary and circulating vitamin D and risk of renal cell carcinoma: a meta-analysis of observational studies. Int Braz J Urol. 2021 Jul-Aug;47(4):745-746. https://doi.org/10.1590/S1677-5538.IBJU.2020.0417.1. PMID: 33848066
- Helde Frankling M, Klasson C, Sandberg C, et al. 'Palliative-D'-Vitamin D Supplementation to Palliative Cancer Patients: A Double Blind, Randomized Placebo-Controlled Multicenter Trial. Cancers (Basel). 2021 Jul 23;13(15):3707. https://doi.org/10.3390/cancers13153707. PMID: 34359609
- Hernández-Alonso P, Boughanem H, Canudas S, et al. Circulating vitamin D levels and colorectal cancer risk: A meta-analysis and systematic review of case-control and prospective cohort studies. Crit Rev Food Sci Nutr. 2021 Jul 5:1-17. https://doi.org/10.1080/10408398.2021.1939649. Online ahead of print. PMID: 34224246
- He Y, Zhang X, Timofeeva M, et al. Bidirectional Mendelian randomisation analysis of the relationship between circulating vitamin D concentration and colorectal cancer risk. Int J Cancer. 2021 Aug 27. https://doi.org/10.1002/ijc.33779. Online ahead of print. PMID: 34449871
- Khedmati Zare V, Javadi M, Amani-Shalamzari S, et al. The high dose of vitamin D supplementation combined with yoga training improve the leukocytes cell survival-related gene expression in breast cancer survivors. Nutr Metab (Lond). 2021 Aug 28;18(1):80. https://doi.

org/10.1186/s12986-021-00607-7. PMID: 34454533

- Kim H, Lipsyc-Sharf M, Zong X, et al. Total Vitamin D Intake and Risks of Early-Onset Colorectal Cancer and Precursors. Gastroenterology. 2021 Oct;161(4):1208-1217.e9. https://doi.org/10.1053/j.gastro.2021.07.002. Epub 2021 Jul 7. PMID: 34245763
- Kim J, Baek DW, Baek JH, et al. Clinical Impact of Postoperative Vitamin D Deficiency on the Recurrence of Colon Cancer After Curative Surgical Resection. Anticancer Res. 2021 Jul;41(7):3683-3688. https://doi.org/10.21873/anticanres.15159. PMID: 34230167
- Lee KJ, Wright G, Bryant H, et al. Cytoprotective Effect of Vitamin D on Doxorubicin-Induced Cardiac Toxicity in Triple Negative Breast Cancer. Int J Mol Sci. 2021 Jul 12;22(14):7439. https://doi.org/10.3390/ijms22147439. PMID: 34299059
- Li J, Luco AL, Camirand A, et al. Vitamin D Regulates CXCL12/CXCR4 and Epithelial-to-Mesenchymal Transition in a Model of Breast Cancer Metastasis to Lung. Endocrinology. 2021 Jul 1;162(7):bqab049. https://doi.org/10.1210/endocr/bqab049. PMID: 33693593
- Li Q, Li Y, Jiang H, et al. Vitamin D suppressed gastric cancer cell growth through downregulating CD44 expression in vitro and in vivo. Nutrition. 2021 Jul 15;91-92:111413. https://doi.org/10.1016/j.nut.2021.111413. Online ahead of print. PMID: 34450383
- Lo CS, Kiang KM, Leung GK. Anti-tumor effects of vitamin D in glioblastoma: mechanism and therapeutic implications. Lab Invest. 2021 Sep 9. https://doi.org/10.1038/s41374-021-00673-8. Online ahead of print. PMID: 34504307 Review
- Mai ZM, Ngan RK, Ng WT, et al. Low vitamin D exposure and risk of nasopharyngeal carcinoma: Observational and genetic evidence from a multicenter case-control study. Clin Nutr. 2021 Sep;40(9):5180-5188. https://doi.org/10.1016/j.clnu.2021.07.034. Epub 2021 Aug 8. PMID: 34464857
- Morgado-Águila C, Gil-Fernández G, Dávila-Villalobos OR, et al. Vitamin D serum levels and non-melanoma skin cancer risk. PeerJ. 2021 Sep 24;9:e12234. https://doi.org/10.7717/peerj.12234. eCollection 2021. PMID: 34631325
- Niedermaier T, Gredner T, Kuznia S, et al. Vitamin D supplementation to the older adult population in Germany has the cost-saving potential of preventing almost 30 000 cancer deaths per year. Mol Oncol. 2021 Aug;15(8):1986-1994. https://doi.org/10.1002/1878-0261.12924. Epub 2021 Mar 10. PMID: 33540476
- Palamar M, Onay H. Vitamin D receptor gene polymorphism and ocular surface squamous cell neoplasms. Eur J Ophthalmol. 2021 Jul 16:11206721211032519. https://doi.org/10.1177/11206721211032519. Online ahead of print. PMID: 34269094
- Peila R, Xue X, Cauley JA, et al. A Randomized Trial of Calcium Plus Vitamin D Supplementation and Risk of Ductal Carcinoma In Situ of the Breast. JNCI Cancer Spectr. 2021 Aug 31;5(4):pkab072. https://doi.org/10.1093/jncics/pkab072. eCollection 2021 Aug. PMID: 34476342
- Rinninella E, Mele MC, Raoul P, et al. Vitamin D and colorectal cancer: Chemopreventive perspectives through the gut microbiota and the immune system. Biofactors. 2021 Sep 24. https://doi.org/10.1002/biof.1786. Online ahead of print. PMID: 34559412 Review
- Sinicrope FA, Shi Q, Smyrk TC, et al. Association of Adiponectin and Vitamin D With Tumor Infiltrating Lymphocytes and Survival in Stage III Colon Cancer. JNCI Cancer Spectr. 2021 Jul 23;5(5):pkab070. https://doi.org/10.1093/jncics/pkab070. eCollection 2021 Oct. PMID: 34485815
- Tahir DE, Madiha B, Zia MA. An Ignored Contributing Factor of Vitamin-D Deficiency, despite the Strong Association with Breast Carcinoma among Women in Punjab, Pakistan. Nutr Cancer. 2021 Sep 7:1-4. https://doi.org/10.1080/01635581.2021.1974499. Online ahead of print. PMID: 34490801
- Tokunaga E, Masuda T, Ijichi H, et al. Impact of serum vitamin D on the response and prognosis in breast cancer patients treated with neoadjuvant chemotherapy. Breast Cancer. 2021 Sep 6. https://doi.org/10.1007/s12282-021-01292-3. Online ahead of print. PMID: 34487328
- Uhm SJ, Hall JA, Herrington JD. Severe and prolonged hypocalcemia after a single dose of denosumab for metastatic breast cancer with diffuse bone involvement without prior calcium/vitamin D supplementations. J Oncol Pharm Pract. 2021 Jul;27(5):1287-1290. https://doi.org/10.1177/1078155220964550. Epub 2020 Oct 21. PMID: 33081580
- Vaughan-Shaw PG, Grimes G, Blackmur JP, et al. Oral vitamin D supplementation induces transcriptomic changes in rectal mucosa that are linked to anti-tumour effects. BMC Med. 2021 Aug 3;19(1):174. https://doi.org/10.1186/s12916-021-02044-y. PMID: 34340708
- Viala M, Firmin N, Touraine C, et al. Changes in vitamin D and calcium metabolism markers in patients undergoing adjuvant chemotherapy for breast cancer. BMC Cancer. 2021 Jul 15;21(1):815. https://doi.org/10.1186/s12885-021-08563-4. PMID: 34266398
- Vitti-Ruela BV, Dokkedal-Silva V, Hachul H, et al. Melatonin and vitamin D: complementary therapeutic strategies for breast cancer. Support Care Cancer. 2021 Jul;29(7):3433-3434. https://doi.org/10.1007/s00520-021-06115-x. Epub 2021 Mar 6. PMID: 33677716
- Wilson Westmark NL, Sroussi H, Tamayo I, et al. Vitamin D status in patients with oropharyngeal cancer: Association with HPV status and prognosis. Oral Dis. 2021 Jul 16. https://doi.org/10.1111/odi.13965. Online ahead of print. PMID: 34269501
- Wood ME, Liu H, Storrick E, et al. The Influence of Vitamin D on Mammographic Density: Results from CALGB 70806 (Alliance) a Randomized Clinical Trial. Cancer Prev Res (Phila). 2021 Jul;14(7):753-762. https://doi.org/10.1158/1940-6207.CAPR-20-0581. Epub 2021 Apr 13. PMID: 33849913
- Wu J, Yang N, Yuan M. Dietary and circulating vitamin D and risk of renal cell carcinoma: a meta-analysis of observational studies. Int Braz J Urol. 2021 Jul-Aug;47(4):733-744. https://doi.org/10.1590/S1677-5538.IBJU.2020.0417. PMID: 33146974
- Xue Y, Wang P, Jiang F, et al. A Newly Identified lncBCAS1-4_1 Associated With Vitamin D Signaling and EMT in Ovarian Cancer Cells. Front Oncol. 2021 Aug 5;11:691500. https://doi.org/10.3389/fonc.2021.691500. eCollection 2021. PMID: 34422647

- Xu Y, Qian M, Hong J, et al. The effect of vitamin D on the occurrence and development of colorectal cancer: a systematic review and meta-analysis. Int J Colorectal Dis. 2021 Jul;36(7):1329-1344. https://doi.org/10.1007/s00384-021-03879-w. Epub 2021 Feb 17. PMID: 33598751 Review
- Yang YS, Yang S, Li D, et al. Vitamin D affects the Warburg effect and stemness maintenance of non-small-cell lung cancer cells by regulating PI3K/AKT/mTOR signaling pathway. Curr Cancer Drug Targets. 2021 Jul 28. https://doi.org/10.2174/1568009621666210729100300. Online ahead of print. PMID: 34325639
- Yilmaz E, Azizoglu ZB, Aslan K, et al. Therapeutic effects of vitamin D and IL-22 on methotrexate-induced mucositis in mice. Anticancer Drugs. 2021 Aug 11. https://doi.org/10.1097/CAD.0000000000001128. Online ahead of print. PMID: 34348356
- Yu X, Wang Q, Liu B, et al. Vitamin D Enhances Radiosensitivity of Colorectal Cancer by Reversing Epithelial-Mesenchymal Transition. Front Cell Dev Biol. 2021 Aug 4;9:684855. https://doi.org/10.3389/fcell.2021.684855. eCollection 2021. PMID: 34422809
- Zhou J, Ge X, Fan X, et al. Associations of vitamin D status with colorectal cancer risk and survival. Int J Cancer. 2021 Aug 1;149(3):606-614. https://doi.org/10.1002/ijc.33580. Epub 2021 Apr 9. PMID: 33783821
- Zhu Y, Zhao J, Vallis J, et al. Prediagnostic consumption of vitamin D, calcium and dairy products and colorectal cancer survival: results from the Newfoundland Colorectal Cancer Registry Cohort Study. Br J Nutr. 2021 Aug 26:1-10. https://doi.org/10.1017/S0007114521003299. Online ahead of print. PMID: 34435555

PEDIATRIA

- Abrams SA. Vitamin D and bone minerals in neonates. Early Hum Dev. 2021 Sep 2:105461. https://doi.org/10.1016/j.earlhumdev.2021.105461. Online ahead of print. PMID: 34489134
- Ahmad MS, Farooq H, Fatima R, et al. Granulocyte to Lymphocyte Ratio among Different Categories of Neonatal Sepsis according to their Vitamin D Status. J Coll Physicians Surg Pak. 2021 Jul;30(7):871-872. https://doi.org/10.29271/jcpsp.2021.07.871. PMID: 34271797
- Al-Hussaini AA, Alshehry Z, AlDehaimi A, et al. Vitamin D and iron deficiencies among Saudi children and adolescents: A persistent problem in the 21(st) century. Saudi J Gastroenterol. 2021 Sep 14. https://doi.org/10.4103/sjg.sjg_298_21. Online ahead of print. PMID: 34528520
- Al-Kandari A, Sadeq H, Alfattal R, et al. Vitamin D Intoxication and Nephrocalcinosis in a Young Breastfed Infant. Case Rep Endocrinol. 2021 Jul 30;2021:3286274. https://doi.org/10.1155/2021/3286274. eCollection 2021. PMID: 34373793
- Al-Matary A, AlMalki Y, Khalil S, et al. The potential effects of vitamin D deficiency on respiratory distress syndrome among preterm infants. Clin Nutr ESPEN. 2021 Aug;44:243-246. https://doi.org/10.1016/j.clnesp.2021.06.009. Epub 2021 Jun 29. PMID: 34330473
- Alakaş Y, Celiloğlu C, Tolunay O, et al. The Relationship between Bronchiolitis Severity and Vitamin D Status. J Trop Pediatr. 2021 Aug 27;67(4):fmab081. https://doi.org/10.1093/tropej/fmab081. PMID: 34580716
- Alves AGP, Cruvinel BAC, Schincaglia RM, et al. Vitamin D supplementation reduces serum lipids of children with hypertriacylglycerolemia: A randomized, triple-masked, placebo-controlled crossover trial. Nutrition. 2021 Sep;89:111296. https://doi.org/10.1016/j.nut.2021.111296. Epub 2021 Apr 28. PMID: 34116394 Clinical Trial
- Angelin TC, Bardosono S, Shinta D, et al.Growth, Dietary Intake, and Vitamin D Receptor (VDR) Promoter Genotype in Indonesian School-Age Children. Nutrients. 2021 Aug 24;13(9):2904. https://doi.org/10.3390/nu13092904. PMID: 34578782
- Arman S. What are the effects of oral vitamin D supplementation on linear growth and other health outcomes among children under five years of age? - A Cochrane Review summary with commentary. J Musculoskelet Neuronal Interact. 2021 Sep 1;21(3):447-450. PMID: 34465686
- Asghari G, Yuzbashian E, Wagner CL, et al. Daily vitamin D(3) in overweight and obese children and adolescents: a randomized controlled trial. Eur J Nutr. 2021 Aug;60(5):2831-2840. https://doi.org/10.1007/s00394-020-02406-x. Epub 2021 Jan 11. PMID: 33427961 Clinical Trial
- Aydemir E, Ilhan C, Aydemir GA, et al. Evaluation of Retinal Structure in Pediatric Subjects with Vitamin D Deficiency. Am J Ophthalmol. 2021 Jul 17:S0002-9394(21)00361-5. https://doi.org/10.1016/j.ajo.2021.06.031. Online ahead of print. PMID: 34283984
- Aydemir Y, Erdogan B, Türkeli A. Vitamin D deficiency negatively affects both the intestinal epithelial integrity and bone metabolism in children with Celiac disease. Clin Res Hepatol Gastroenterol. 2021 Jul;45(4):101523. https://doi.org/10.1016/j.clinre.2020.08.002. Epub 2020 Sep 18. PMID: 32952100
- Aziz DA, Fatima SK, Iftikhar H, et al. Vitamin D status and pulmonary exacerbations in children and adolescents with cystic fibrosis: Experience from a tertiary care center. Lung India. 2021 Jul-Aug;38(4):326-329. https://doi.org/10.4103/lungindia.lungindia_589_20. PMID: 34259170
- Beling A, Hresko MT, DeWitt L, et al. Vitamin D levels and pain outcomes in adolescent idiopathic scoliosis patients undergoing spine fusion. Spine Deform. 2021 Jul;9(4):997-1004. https://doi.org/10.1007/s43390-021-00313-7. Epub 2021 Mar 8. PMID: 33683641
- Bhandari R, Aguayo-Hiraldo P, Malvar J, et al. Ultra-High Dose Vitamin D in Pediatric Hematopoietic Stem Cell Transplantation: A Nonrandomized Controlled Trial. Transplant Cell Ther. 2021 Sep 6:S2666-6367(21)01217-3. https://doi.org/10.1016/j.jtct.2021.08.030. Online ahead of print. PMID: 34500127
- Boskabadi H, Moradi A, Zakerihamidi M. Evaluation of Maternal and Infantile Levels of Vitamin D in Preterm Infants. Curr Pediatr Rev. 2021 Oct 6. https://doi.org/10.2174/1573396317666211006153153. Online ahead of print. PMID: 34620066
- Brogan-Hewitt A, Apekey TA, Christian MS, et al. Improving Vitamin D Intake in Young Children-Can an Infographic Help Parents and Carers Understand the Recommendations? Nutrients. 2021 Sep 9;13(9):3140. https://doi.org/10.3390/nu13093140. PMID: 34579017

- Brooks S, Ratnayake WMN, Rondeau I, et al. Inadequate vitamin D status is associated with lower food plus supplemental intake of vitamin D in children of South Asian ethnicity living in the National Capital Region of Canada. Appl Physiol Nutr Metab. 2021 Sep 13. https://doi.org/10.1139/apnm-2021-0203. Online ahead of print. PMID: 34516934
- Cai B, Luo X, Zhang P, et al. Effect of vitamin D supplementation on markers of cardiometabolic risk in children and adolescents: A meta-analysis of randomized clinical trials. Nutr Metab Cardiovasc Dis. 2021 Sep 22;31(10):2800-2814. https://doi.org/10.1016/j.numecd.2021.06.013. Epub 2021 Jun 30. PMID: 34353700
- Calello DP, Jefri M, Yu M, et al. Notes from the Field: Vitamin D-Deficient Rickets and Severe Hypocalcemia in Infants Fed Homemade Alkaline Diet Formula - Three States, August 2020-February 2021. MMWR Morb Mortal Wkly Rep. 2021 Aug 20;70(33):1124-1125. https://doi.org/10.15585/mmwr.mm7033a4. PMID: 34411077
- Chen YS, Mirzakhani H, Lu M, et al. The Association of Prenatal Vitamin D Sufficiency With Aeroallergen Sensitization and Allergic Rhinitis in Early Childhood. J Allergy Clin Immunol Pract. 2021 Oct;9(10):3788-3796.e3. https://doi.org/10.1016/j.jaip.2021.06.009. Epub 2021 Jun 21. PMID: 34166843
- Chen Z, Peng C, Mei J, et al. Vitamin D can safely reduce asthma exacerbations among corticosteroid-using children and adults with asthma: a systematic review and meta-analysis of randomized controlled trials. Nutr Res. 2021 Aug;92:49-61. https://doi.org/10.1016/j.nutres.2021.05.010. Epub 2021 Jun 13. PMID: 34274554 Review
- Chu SH, Huang M, Kelly RS, et al. Circulating levels of maternal vitamin D and risk of ADHD in offspring: results from the Vitamin D Antenatal Asthma Reduction Trial. Int J Epidemiol. 2021 Sep 17:dyab194. https://doi.org/10.1093/ije/dyab194. Online ahead of print. PMID: 34534293
- Constable AM, Vlachopoulos D, Barker AR, et al. The independent and interactive associations of physical activity intensity and vitamin D status with bone mineral density in prepubertal children: the PANIC Study. Osteoporos Int. 2021 Aug;32(8):1609-1620. https://doi.org/10.1007/s00198-021-05872-z. Epub 2021 Feb 5. PMID: 33547487 Clinical Trial
- Darwin AH, Carroll MP, Galvis Noda SD, et al. Calcium and vitamin D intake in allergic versus non-allergic children and corresponding parental attitudes towards dairy products. World Allergy Organ J. 2021 Sep 23;14(9):100579. https://doi.org/10.1016/j.waojou.2021.100579. eCollection 2021 Sep. PMID: 34611472
- Dunlop E, Kiely ME, James AP, et al. Vitamin D Food Fortification and Biofortification Increases Serum 25-Hydroxyvitamin D Concentrations in Adults and Children: An Updated and Extended Systematic Review and Meta-Analysis of Randomized Controlled Trials. J Nutr. 2021 Sep 4;151(9):2622-2635. https://doi.org/10.1093/jn/nxab180. PMID: 34113994
- El Amrousy D, Abdelhai D, Shawky D. Correction to: Vitamin D and nonalcoholic fatty liver disease in children: a randomized controlled clinical trial. Eur J Pediatr. 2021 Sep 24. https://doi.org/10.1007/s00431-021-04262-1. Online ahead of print. PMID: 34561721
- El Amrousy D, Abdelhai D, Shawky D. Vitamin D and nonalcoholic fatty liver disease in children: a randomized controlled clinical trial. Eur J Pediatr. 2021 Aug 30. https://doi.org/10.1007/s00431-021-04243-4. Online ahead of print. PMID: 34459959
- El Amrousy D, El Ashry H, Hodeib H, et al. Vitamin D in Children With Inflammatory Bowel Disease: A Randomized Controlled Clinical Trial. J Clin Gastroenterol. 2021 Oct 1;55(9):815-820. https://doi.org/10.1097/MCG.0000000000001443. PMID: 33060436
- Finch SL, Rosenberg AM, Kusalik AJ, et al. Higher concentrations of vitamin D in Canadian children with juvenile idiopathic arthritis compared to healthy controls are associated with more frequent use of vitamin D supplements and season of birth. Nutr Res. 2021 Aug;92:139-149. https://doi.org/10.1016/j.nutres.2021.05.007. Epub 2021 Jun 13. PMID: 34311227
- Föcker M, Timmesfeld N, Bühlmeier J, et al. Vitamin D Level Trajectories of Adolescent Patients with Anorexia Nervosa at Inpatient Admission, during Treatment, and at One Year Follow Up: Association with Depressive Symptoms. Nutrients. 2021 Jul 9;13(7):2356. https://doi.org/10.3390/nu13072356. PMID: 34371865
- Ge H, Liu W, Li H, et al. The association of vitamin D and vitamin E levels at birth with bronchopulmonary dysplasia in preterm infants. Pediatr Pulmonol. 2021 Jul;56(7):2108-2113. https://doi.org/10.1002/ppul.25414. Epub 2021 Apr 20. PMID: 33878218
- Gharibeh N, Gallo S, Sotunde OF, et al. Patterns of Bone Mineral Accretion and Sex Differences in Healthy Term VitaminD Replete and Breastfed Infants From Montreal, Canada: Bone Mass Reference Data. J Clin Densitom. 2021 Jul 24:S1094-6950(21)00058-5. https://doi.org/10.1016/j.jocd.2021.07.004. Online ahead of print. PMID: 34479797
- Gwasikoti N, Bhalla K, Kaushik JS, et al. Vitamin D, Bone Mineral Density and Serum IGF-1 Level in Non-ambulatory Children With Cerebral Palsy. Indian Pediatr. 2021 Sep 15;58(9):836-838. Epub 2021 Apr 17. PMID: 33864451
- Han YY, Forno E, Bacharier LB, et al. Vitamin D supplementation, lung function, and asthma control in children with asthma and low vitamin D levels. Eur Respir J. 2021 Jul 29:2100989. https://doi.org/10.1183/13993003.00989-2021. Online ahead of print. PMID: 34326185
- Homan KJ, Matthews A, Schmit TL, et al. Insufficient Assessment and Treatment of Vitamin D in the Medical Management of Adolescents with Anorexia Nervosa. J Pediatr Nurs. 2021 Sep-Oct;60:177-180. https://doi.org/10.1016/j.pedn.2021.06.014. Epub 2021 Jun 30. PMID: 34216879
- Jackmann N, Gustafsson J, Harila-Saari A, et al. Prevalence of and factors influencing vitamin D deficiency in paediatric patients diagnosed with cancer at northern latitudes. Acta Paediatr. 2021 Jul;110(7):2252-2258. https://doi.org/10.1111/apa.15788. Epub 2021 Mar 18. PMID: 33528842
- Jacob M, Censani M. 13-Year-Old Boy Presenting with Bilateral Femur Fractures in the Setting of Severe Vitamin D Deficiency. Case Rep Pediatr. 2021 Aug 4;2021:2440999. https://doi.org/10.1155/2021/2440999. eCollection 2021. PMID: 34395009

- Jasielska M, Grzybowska-Chlebowczyk U. Hypocalcemia and Vitamin D Deficiency in Children with Inflammatory Bowel Diseases and Lactose Intolerance. Nutrients. 2021 Jul 28;13(8):2583. https://doi.org/10.3390/nu13082583. PMID: 34444743
- Jenkins DD, Moss HG, Brown TR, et al. NAC and Vitamin D Improve CNS and Plasma Oxidative Stress in Neonatal HIE and Are Associated with Favorable Long-Term Outcomes. Antioxidants (Basel). 2021 Aug 25;10(9):1344. https://doi.org/10.3390/antiox10091344. PMID: 34572976
- Joshi K, Bhowmik E, Singh N, et al. Vitamin D Status of School-Age Children in North India. Indian J Pediatr. 2021 Sep 30. https://doi.org/10.1007/s12098-021-03891-6. Online ahead of print. PMID: 34591272
- Juliaty A, Mutmainnah, Daud D, et al. The potential effects of vitamin D deficiency on respiratory distress syndrome among preterm infants. Correlation between vitamin D deficiency and fasting blood glucose levels in obese children. Clin Nutr ESPEN. 2021 Aug;44:200-203. https://doi.org/10.1016/j.clnesp.2021.06.022. Epub 2021 Jul 2. PMID: 34330466
- Jullien S. Vitamin D prophylaxis in infancy. BMC Pediatr. 2021 Sep 8;21(Suppl 1):319. https://doi.org/10.1186/s12887-021-02776-z. PMID: 34496802
- Juwita F, Gumilang L, Risan NA, et al. The Association of Vitamin D and Neurodevelopmental Status Among 2 Years Old Infants. Glob Pediatr Health. 2021 Jul 20;8:2333794X211034075. https://doi.org/10.1177/2333794X211034075. eCollection 2021. PMID: 34350310
- Kerber AA, Pitlick MM, Kellund AE, et al. Stable Rates of Low Vitamin D Status Among Children Despite Increased Testing: A Population-Based Study. J Pediatr. 2021 Jul 20:S0022-3476(21)00704-6. https://doi.org/10.1016/j.jpeds.2021.07.037. Online ahead of print. PMID: 34293368
- Knihtilä HM, Stubbs BJ, Carey VJ, et al. Low gestational vitamin D level and childhood asthma are related to impaired lung function in high-risk children. J Allergy Clin Immunol. 2021 Jul;148(1):110-119.e9. https://doi.org/10.1016/j.jaci.2020.12.647. Epub 2021 Jan 22. PMID: 33485958
- Kumar D, Singh MV, Yadav RK, et al. Vitamin D levels in paediatric intensive care unit patients and its relation to severity of illness: An Indian experience. Trop Doct. 2021 Jul;51(3):361-365. https://doi.org/10.1177/0049475521992999. Epub 2021 Feb 14. PMID: 33586633
- Lee WS, Wong SY, Wong SY, et al. Prevalence of vitamin D deficiency and insufficiency in Malaysian infants. Ann Acad Med Singap. 2021 Jul;50(7):580-582. https://doi.org/10.47102/annals-acadmedsg.2020586. PMID: 34342340
- Malone Jenkins S, Chan G, Weaver-Lewis K, et al. Vitamin D, bone density, and nephrocalcinosis in preterm infants: a prospective study. Pediatr Nephrol. 2021 Oct 1. https://doi.org/10.1007/s00467-021-05300-8. Online ahead of print. PMID: 34595571
- Martinez L, Ncayiyana JR, Goddard L, et al. Vitamin D concentrations in infancy and the risk of tuberculosis in childhood: A prospective birth cohort in Cape Town, South Africa. Clin Infect Dis. 2021 Aug 26:ciab735. https://doi.org/10.1093/cid/ciab735. Online ahead of print. PMID: 34436538
- Martínez Redondo I, García Romero R, Calmarza P, et al. [Vitamin D insufficiency in a healthy pediatric population. The importance of early prophylaxis]. Nutr Hosp. 2021 Aug 25. https://doi.org/10.20960/nh.03606. Online ahead of print. PMID: 34431303
- Mathilde M, Butin M, Pascal R, et al. Local protocol helped to deliver vitamin D levels more accurately in preterm infants. Acta Paediatr. 2021 Aug 30. https://doi.org/10.1111/apa.16088. Online ahead of print. PMID: 34460964
- McGinn EA, Lyden E, Peeples ES. Reply to: The Severity of Neuronal Damage in Neonatal Hypoxic-Ischemic Encephalopathy: Does Vitamin D Status Matter? Neuropediatrics. 2021 Oct;52(5):419-420. https://doi.org/10.1055/s-0040-1722683. Epub 2021 Jan 28. PMID: 33511592
- Mejía-Rodríguez F, Flores-Aldana ME, Quezada-Sánchez AD, et al. Association between Predictors of Vitamin D Serum Levels and Risk of Retinoblastoma in Children: A Case-Control Study. Nutrients. 2021 Jul 23;13(8):2510. https://doi.org/10.3390/nu13082510. PMID: 34444670
- Mukai M, Yamamoto T, Takeyari S, et al. Alkaline phosphatase in pediatric patients with genu varum caused by vitamin D-deficient rickets. Endocr J. 2021 Jul 28;68(7):807-815. https://doi.org/10.1507/endocrj.EJ20-0622. Epub 2021 Mar 24. PMID: 33762518
- Mustafa A, Shekhar C. Concentration levels of serum 25-Hydroxyvitamin-D and vitamin D deficiency among children and adolescents of India: a descriptive cross-sectional study. BMC Pediatr. 2021 Aug 6;21(1):334. https://doi.org/10.1186/s12887-021-02803-z. PMID: 34362329
- Nadeem S, Tangpricha V, Ziegler TR, et al. Randomized trial of two maintenance doses of vitamin D in children with chronic kidney disease. Pediatr Nephrol. 2021 Aug 15. https://doi.org/10.1007/s00467-021-05228-z. Online ahead of print. PMID: 34392411
- Navarro CLA, Grgic O, Trajanoska K, et al. Associations Between Prenatal, Perinatal, and Early Childhood Vitamin D Status and Risk of Dental Caries at 6 Years. J Nutr. 2021 Jul 1;151(7):1993-2000. https://doi.org/10.1093/jn/nxab075. PMID: 33982112
- Nikooyeh B, Ghodsi D, Neyestani TR. How Much Does Serum 25(OH)D Improve by Vitamin D Supplement and Fortified Food in Children? A Systematic Review and Meta-Analysis. J Pediatr Gastroenterol Nutr. 2021 Sep 13. https://doi.org/10.1097/MPG.0000000000003300. Online ahead of print. PMID: 34520402
- Nowak S, Wang H, Schmidt B, et al. Vitamin D and iron status in children with food allergy. Ann Allergy Asthma Immunol. 2021 Jul;127(1):57-63. https://doi.org/10.1016/j.anai.2021.02.027. Epub 2021 Mar 8. PMID: 33705915
- Ortega-Ramírez AD, Cabrera-Macedo A, Del Toro-Equihua M, et al. Vitamin D and its correlation with blood lipids and intima-media thickness in term infants. Nutr Hosp. 2021 Jul 29;38(4):704-709. https://doi.org/10.20960/nh.03516. PMID: 34024110
- Panda PK, Sharawat IK. The Severity of Neuronal Damage in Neonatal Hypoxic-Ischemic Encephalopathy: Does Vitamin-D Status Matter? Neuropediatrics. 2021 Oct;52(5):417-418. https://doi.org/10.1055/s-0040-1722682. Epub 2021 Jan 28. PMID: 33511593

- Parian-de Los Angeles E, Retoriano K, Arnaldo H, et al. Vitamin D Status of Breastfed Filipino Infants Aged Less Than 6 Months in an Urban Community. Pediatr Gastroenterol Hepatol Nutr. 2021 Jul;24(4):403-412. https://doi.org/10.5223/pghn.2021.24.4.403. Epub 2021 Jul 5. PMID: 34316475
- Qadir S, Memon S, Chohan MN, et al. Frequency of Vitamin-D deficiency in children with Urinary tract infection: A descriptive cross-sectional study. Pak J Med Sci. 2021 Jul-Aug;37(4):1058-1062. https://doi.org/10.12669/pjms.37.4.3896. PMID: 34290783
- Radulović Ž, Zupan ZP, Tomazini A, et al. Vitamin D in pediatric patients with obesity and arterial hypertension. Sci Rep. 2021 Oct 1;11(1):19591. https://doi.org/10.1038/s41598-021-98993-8. PMID: 34599252
- Ran Y, Hu S, Yu X, et al. Association of vitamin D receptor gene polymorphism with type 1 diabetes mellitus risk in children: A protocol for systematic review and meta-analysis. Medicine (Baltimore). 2021 Jul 16;100(28):e26637. https://doi.org/10.1097/MD.0000000000026637. PMID: 34260558
- Reddy JC, Barche A, Andrade SJ, et al. Vitamin D Levels in Neonates With and Without Seizures: A Single Center Cross-Sectional Study. Indian Pediatr. 2021 Sep 15;58(9):839-841. Epub 2021 May 20. PMID: 34016803
- Rock NM, Anghileri E, Cousin VL, et al. Vitamin D Insufficiency Prior to Paediatric Liver Transplantation Is Associated with Early T-Cell Mediated Rejection. Children (Basel). 2021 Jul 20;8(7):612. https://doi.org/10.3390/children8070612. PMID: 34356591
- Rouhani P, Hajhashemy Z, Saneei P. Circulating serum vitamin D levels in relation to metabolic syndrome in children: A systematic review and dose-response meta-analysis of epidemiologic studies. Obes Rev. 2021 Jul 6. https://doi.org/10.1111/obr.13314. Online ahead of print. PMID: 34231300 Review
- Ruangkit C, Suwannachat S, Wantanakorn P, et al. Vitamin D status in full-term exclusively breastfed infants versus full-term breastfed infants receiving vitamin D supplementation in Thailand: a randomized controlled trial. BMC Pediatr. 2021 Sep 1;21(1):378. https://doi.org/10.1186/s12887-021-02849-z. PMID: 34470599
- Rutagarama F, Muganga R, Konrad K, et al. Vitamin D Levels in Mother-Baby Pairs: A Cross-Sectional Prospective Study in a Rwandan Tertiary Hospital. J Trop Pediatr. 2021 Jul 2;67(3):fmab024. https://doi.org/10.1093/tropej/fmab024. PMID: 34213539
- Sacheck JM, Huang Q, Van Rompay MI, et al. Vitamin D supplementation and cardiometabolic risk factors among diverse schoolchildren: a randomized clinical trial. Am J Clin Nutr. 2021 Sep 22:nqab319. https://doi.org/10.1093/ajcn/nqab319. Online ahead of print. PMID: 34550329
- Sadeghzadeh M, Khoshnevisasl P, Motamed N, et al. The serum vitamin D levels in children with urinary tract infection: a case-control study. New Microbes New Infect. 2021 Jul 5;43:100911. https://doi.org/10.1016/j.nmni.2021.100911. eCollection 2021 Sep. PMID: 34381616
- Santiprabhob J, Charoentawornpanich P, Khemaprasit K, et al. Effect of gender, diabetes duration, inflammatory cytokines, and vitamin D level on bone mineral density among Thai children and adolescents with type 1 diabetes. Bone. 2021 Dec;153:116112. https://doi.org/10.1016/j.bone.2021.116112. Epub 2021 Jul 10. PMID: 34252600
- Saraf R, Jensen BP, Camargo CA Jr, et al. Vitamin D status at birth and acute respiratory infection hospitalisation during infancy. Paediatr Perinat Epidemiol. 2021 Sep;35(5):540-548. https://doi.org/10.1111/ppe.12755. Epub 2021 Apr 1. PMID: 33792941
- Sarıdemir H, Surmeli Onay O, Aydemir O, et al. Questioning the adequacy of standardized vitamin D supplementation protocol in very low birth weight infants: a prospective cohort study. J Pediatr Endocrinol Metab. 2021 Aug 20. https://doi.org/10.1515/jpem-2021-0390. Online ahead of print. PMID: 34416104
- Segovia-Ortí R, Barceló Bennasar A, De Sotto-Esteban D, et al. Association between vitamin D status and allergen sensitization in pediatric subjects in the Balearic Islands. Pediatr Allergy Immunol. 2021 Aug;32(6):1183-1189. https://doi.org/10.1111/pai.13513. Epub 2021 Apr 18. PMID: 33811785
- Shliakhtsitsava K, Fisher ES, Trovillion EM, et al. Improving vitamin D testing and supplementation in children with newly diagnosed cancer: A quality improvement initiative at Rady Children's Hospital San Diego. Pediatr Blood Cancer. 2021 Nov;68(11):e29217. https://doi.org/10.1002/pbc.29217. Epub 2021 Jul 19. PMID: 34286891
- Silva ABJD, Carmo TSD, Souza APS, et al. The role of serum levels of vitamin D in children's muscle strength: A systematic review. Clinics (Sao Paulo). 2021 Sep 20;76:e3200. https://doi.org/10.6061/clinics/2021/e3200. eCollection 2021. PMID: 34550211
- Simpson CA, Zhang JH, Vanderschueren D, et al. 25-OHD response to vitamin D supplementation in children: effect of dose but not GC haplotype. Eur J Endocrinol. 2021 Jul 7;185(2):333-342. https://doi.org/10.1530/EJE-21-0349. PMID: 34128826 Clinical Trial
- Stounbjerg NG, Thams L, Hansen M, et al. Effects of vitamin D and high dairy protein intake on bone mineralization and linear growth in 6- to 8-year-old children: the D-pro randomized trial. Am J Clin Nutr. 2021 Sep 28:nqab286. https://doi.org/10.1093/ajcn/nqab286. Online ahead of print. PMID: 34581765
- Surve S, Begum S, Chauhan S, et al. Determinants of Vitamin D Deficiency Among Under-five Children in Urban Slums of Mumbai, India. Indian Pediatr. 2021 Sep 15;58(9):888-889. Epub 2021 May 28. PMID: 34047721
- Suárez-Calleja C, Aza-Morera J, Iglesias-Cabo T, et al. Vitamin D, pregnancy and caries in children in the INMA-Asturias birth cohort. BMC Pediatr. 2021 Sep 3;21(1):380. https://doi.org/10.1186/s12887-021-02857-z. PMID: 34479530
- Tangjittipokin W, Umjai P, Khemaprasit K, et al. Vitamin D pathway gene polymorphisms, vitamin D level, and cytokines in children with type 1 diabetes. Gene. 2021 Jul 30;791:145691. https://doi.org/10.1016/j.gene.2021.145691. Epub 2021 May 5. PMID: 33961971
- Tester AA, Capaldi F. High-dose vitamin D supplementation in pregnancy reduces rates of enamel defects in children. Arch Dis Child Educ Pract Ed. 2021 Oct;106(5):317-318. https://doi.org/10.1136/archdischild-2020-318811. Epub 2020 Feb 12. PMID: 32051163

- Tuovinen S, Räikkönen K, Holmlund-Suila E, et al. Effect of High-Dose vs Standard-Dose Vitamin D Supplementation on Neurodevelopment of Healthy Term Infants: A Randomized Clinical Trial. JAMA Netw Open. 2021 Sep 1;4(9):e2124493. https://doi.org/10.1001/jamanetworkopen.2021.24493. PMID: 34495336

- Uday S, Manaseki-Holland S, Bowie J, et al. The effect of vitamin D supplementation and nutritional intake on skeletal maturity and bone health in socio-economically deprived children. Eur J Nutr. 2021 Sep;60(6):3343-3353. https://doi.org/10.1007/s00394-021-02511-5. Epub 2021 Feb 20. PMID: 33611615

- Usman M, Woloshynowych M, Britto JC, et al. Obesity, oxidative DNA damage and vitamin D as predictors of genomic instability in children and adolescents. Int J Obes (Lond). 2021 Sep;45(9):2095-2107. https://doi.org/10.1038/s41366-021-00879-2. Epub 2021 Jun 22. PMID: 34158611

- van Atteveld JE, Verhagen IE, van den Heuvel-Eibrink MM, et al. Vitamin D supplementation for children with cancer: A systematic review and consensus recommendations. Cancer Med. 2021 Jul;10(13):4177-4194. https://doi.org/10.1002/cam4.4013. Epub 2021 Jun 8. PMID: 34100559

- Vijayakumar M, Bk A, George B, et al. Vitamin D Status in Children on Anticonvulsant Therapy. Indian J Pediatr. 2021 Jul 28. https://doi.org/10.1007/s12098-021-03853-y. Online ahead of print. PMID: 34318406

- Wang L, Guo H, Li J, et al. Adenovirus is prevalent in juvenile polyps and correlates with low vitamin Dreceptor expression. Pediatr Res. 2021 Aug 16:1-6. https://doi.org/10.1038/s41390-021-01697-y. Online ahead of print. PMID: 34400787

- Wang Q, Ying Q, Zhu W, et al. Vitamin D and asthma occurrence in children: A systematic review and meta-analysis. J Pediatr Nurs. 2021 Aug 5:S0882-5963(21)00209-8. https://doi.org/10.1016/j.pedn.2021.07.005. Online ahead of print. PMID: 34366195 Review

- Wang Y, Jiang L. Role of vitamin D-vitamin D receptor signaling on hyperoxia-induced bronchopulmonary dysplasia in neonatal rats. Pediatr Pulmonol. 2021 Jul;56(7):2335-2344. https://doi.org/10.1002/ppul.25418. Epub 2021 Apr 20. PMID: 33878208

- Warner LA, Sewell RL, Ma NS. Vitamin D Update in the Pediatric Population. Adv Pediatr. 2021 Aug;68:171-194. https://doi.org/10.1016/j.yapd.2021.05.008. Epub 2021 Jun 16. PMID: 34243851 Review.

- Weiler HA, Vanstone CA, Razaghi M, et al. Disparities in vitamin D status of newborn infants from a diverse sociodemographic population in Montreal, Canada. J Nutr. 2021 Oct 6:nxab344. https://doi.org/10.1093/jn/nxab344. Online ahead of print. PMID: 34612495

- Ye X, Dong S, Deng Y, et al. Preoperative Vitamin D Deficiency Is Associated With Higher Vasoactive-Inotropic Scores Following Pediatric Cardiac Surgery in Chinese Children. Front Pediatr. 2021 Jul 28;9:671289. https://doi.org/10.3389/fped.2021.671289. eCollection 2021. PMID: 34395337

- Zacharioudaki M, Messaritakis I, Galanakis E. Vitamin D receptor, vitamin D binding protein and CYP27B1 single nucleotide polymorphisms and susceptibility to viral infections in infants. Sci Rep. 2021 Jul 5;11(1):13835. https://doi.org/10.1038/s41598-021-93243-3. PMID: 34226633

- Zandieh N, Rezaei Hemami M, Darvishi A, et al. The cost-effectiveness analysis of a nationwide vitamin D supplementation program among Iranian adolescents for adulthood cardiovascular diseases prevention. Public Health. 2021 Sep;198:340-347. https://doi.org/10.1016/j.puhe.2021.07.019. Epub 2021 Sep 9. PMID: 34509859

- Zhang J, Gao R, Jiang Y, et al. Novel serological biomarker models composed of bone turnover markers, vitamin D, and estradiol and their auxiliary diagnostic value in girls with idiopathic central precocious puberty. Bone. 2021 Sep 30;154:116221. https://doi.org/10.1016/j.bone.2021.116221. Online ahead of print. PMID: 34600161

- Zhao Y, Qin R, Hong H, et al. Vitamin D status and its dietary and lifestyle factors in children during the first 5 years of life: A cross-sectional multicentre Jiangsu bone study. J Hum Nutr Diet. 2021 Oct;34(5):792-806. https://doi.org/10.1111/jhn.12883. Epub 2021 Apr 9. PMID: 33751685

- Zheng C, Li H, Rong S, et al. Vitamin D level and fractures in children and adolescents: a systematic review and meta-analysis. J Bone Miner Metab. 2021 Sep;39(5):851-857. https://doi.org/10.1007/s00774-021-01238-x. Epub 2021 Jun 11. PMID: 34115219

- Zou R, Wang S, Cai H, et al. Vitamin D Deficiency in Children With Vasovagal Syncope Is Associated With Impaired Circadian Rhythm of Blood Pressure.Front Neurosci. 2021 Aug 12;15:712462. https://doi.org/10.3389/fnins.2021.712462. eCollection 2021. PMID: 34456677

- Çelik N, Doğan HO, Zararsiz G. Different threshold levels of circulating total and free 25-hydroxyvitamin D for the diagnosis of vitamin D deficiency in obese adolescents. Eur J Pediatr. 2021 Aug;180(8):2619-2627. https://doi.org/10.1007/s00431-021-04137-5. Epub 2021 Jun 11. PMID: 34117551

PNEUMOLOGIA

- Al-Thagfan SS, Ahmed S, Emara MM, et al. Impacts of deficiency in vitamin D derivatives on disease severity in adult bronchial asthma patients. Pulm Pharmacol Ther. 2021 Aug 18:102073. https://doi.org/10.1016/j.pupt.2021.102073. Online ahead of print. PMID: 34418538

- Andújar-Espinosa R, Aparicio-Vicente M, Ruiz-López FJ, et al. Influence of vitamin D supplementation on the quality of life of asthma patients: Findings from ACVID randomised clinical trial. Respir Med. 2021 Aug-Sep;185:106484. https://doi.org/10.1016/j.rmed.2021.106484. Epub 2021 May 31. PMID: 34089969

- Bhatt SP, Guleria R. Polymorphisms in vitamin D receptor and parathyroid hormone genes in the development and progression of obstructive sleep apnea in Asian Indians. Nutrition. 2021 Sep;89:111237. https://doi.org/10.1016/j.nut.2021.111237. Epub 2021 Mar 7. PMID: 33895557

- Callejo M, Blanco I, Barberá JA, et al. Vitamin D deficiency, a potential cause for insufficient response to sildenafil in pulmonary arterial hypertension. Eur Respir J. 2021 Aug 12:2101204. https://doi.org/10.1183/13993003.01204-2021. Online ahead of print. PMID: 34385273

- Chang J, Nie H, Ge X, et al. Vitamin D suppresses bleomycin-induced pulmonary fibrosis by targeting the local renin-angiotensin system in the lung. Sci Rep. 2021 Aug 16;11(1):16525. https://doi.org/10.1038/s41598-021-96152-7. PMID: 34400742

- Eigenmann P. Comments on vitamin D and sensitization, asthma treatment, and lung function development. Pediatr Allergy Immunol. 2021 Aug;32(6):1137-1140. https://doi.org/10.1111/pai.13575. PMID: 34333802

- Ganmaa D, Enkhmaa D, Nasantogtokh E, et al. Vitamin D, respiratory infections, and chronic disease: Review of meta-analyses and randomized clinical trials. J Intern Med. 2021 Sep 19. https://doi.org/10.1111/joim.13399. Online ahead of print. PMID: 34537990 Review

- Harrison SE, Oliver SJ, Kashi DS, et al. Influence of Vitamin D Supplementation by Simulated Sunlight or Oral D3 on Respiratory Infection during Military Training. Med Sci Sports Exerc. 2021 Jul 1;53(7):1505-1516. https://doi.org/10.1249/MSS.0000000000002604. PMID: 33481482

- Juhász MF, Varannai O, Németh D, et al. Vitamin D supplementation in patients with cystic fibrosis: A systematic review and meta-analysis. J Cyst Fibros. 2021 Sep;20(5):729-736. https://doi.org/10.1016/j.jcf.2020.12.008. Epub 2020 Dec 19. PMID: 33349585

- Kilavuz A, Celikhisar H, Dasdemir Ilkhan G. The Association of Serum 25(OH) Vitamin D Level with Severity of Obstructive Sleep Apnea Syndrome in Patients with Syndrome Z (the Interaction of Obstructive Sleep Apnea with Metabolic Syndrome). Metab Syndr Relat Disord. 2021 Sep 9. https://doi.org/10.1089/met.2021.0066. Online ahead of print. PMID: 34515542

- Knihtilä HM, Kelly RS, Brustad N, et al. Maternal 17q21 genotype influences prenatal vitamin D effects on offspring asthma/recurrent wheeze. Eur Respir J. 2021 Sep 23;58(3):2002012. https://doi.org/10.1183/13993003.02012-2020. Print 2021 Sep. PMID: 33653805

- Kwon BS, Lee K, Kim ES, et al. A Prospective Cohort Study of Bioavailable 25-Hydroxyvitamin D Levels as a Marker of Vitamin D Status in Nontuberculous Mycobacterial Pulmonary Disease. Nutrients. 2021 Jul 23;13(8):2524. https://doi.org/10.3390/nu13082524. PMID: 34444684

- Nikniaz L, Ghojazadeh M, Nateghian H, et al. The interaction effect of aerobic exercise and vitamin D supplementation on inflammatory factors, anti-inflammatory proteins, and lung function in male smokers: a randomized controlled trial. BMC Sports Sci Med Rehabil. 2021 Aug 30;13(1):102. https://doi.org/10.1186/s13102-021-00333-w. PMID: 34461991

- Ogeyingbo OD, Ahmed R, Gyawali M, et al. The Relationship Between Vitamin D and Asthma Exacerbation. Cureus. 2021 Aug 18;13(8):e17279. https://doi.org/10.7759/cureus.17279. eCollection 2021 Aug. PMID: 34462708

- Oktaria V, Triasih R, Graham SM, et al. Vitamin D deficiency and severity of pneumonia in Indonesian children. PLoS One. 2021 Jul 9;16(7):e0254488. https://doi.org/10.1371/journal.pone.0254488. eCollection 2021. PMID: 34242372

- Orysiak J, Fitzgerald JS, Malczewska-Lenczowska J, et al. Vitamin D and upper respiratory tract infections in young active males exposed to cold environments. Ann Agric Environ Med. 2021 Sep 16;28(3):446-451. https://doi.org/10.26444/aaem/127530. Epub 2020 Oct 30. PMID: 34558268

- Sanders EC, Burkes RM, Mock JR, et al. Bronchoalveolar Lavage and Plasma Cathelicidin Response to 25-Hydroxy Vitamin D Supplementation: A Pilot Study. Chronic Obstr Pulm Dis. 2021 Jul 28;8(3):371-381. https://doi.org/10.15326/jcopdf.2021.0220. PMID: 34044475

- Sarıoglu N, Yalcın AD, Sahin F, et al. Does vitamin D deficiency in asthma affect clinical and functional parameters? A Turkish multicenter study. Allergy Asthma Proc. 2021 Sep 1;42(5):e152-e158. https://doi.org/10.2500/aap.2021.42.210056. PMID: 34474718

- Vaghari-Tabari M, Mohammadzadeh I, Qujeq D, et al. Vitamin D in respiratory viral infections: a key immune modulator? Crit Rev Food Sci Nutr. 2021 Sep 2:1-16. https://doi.org/10.1080/10408398.2021.1972407. Online ahead of print. PMID: 34470511

- Xu S, Xie X, Jiao L, et al. Association analysis of pulmonary tuberculosis and vitamin D Receptor Gene Polymorphisms of Han population in Western China. Microb Pathog. 2021 Oct 4:105190. https://doi.org/10.1016/j.micpath.2021.105190. Online ahead of print. PMID: 34619312

PSICHIATRIA

- Abdul-Razzak KK, Alkhatatbeh MJ. Nightmares and bad dreams among individuals with musculoskeletal pain: a link to vitamin D and calcium. Res Psychother. 2021 Aug 24;24(2):533. https://doi.org/10.4081/ripppo.2021.533. eCollection 2021 Aug 12. PMID: 34568104

- Abiri B, Sarbakhsh P, Vafa M. Randomized study of the effects of vitamin D and/or magnesium supplementation on mood, serum levels of BDNF, inflammation, and SIRT1 in obese women with mild to moderate depressive symptoms. Nutr Neurosci. 2021 Jul 2:1-13. https://doi.org/10.1080/1028415X.2021.1945859. Online ahead of print. PMID: 34210242

- Al-Wardat M, Alwardat N, Lou De Santis G, et al. The association between serum vitamin D and mood disorders in a cohort of lipedema patients. Horm Mol Biol Clin Investig. 2021 Jul 29. https://doi.org/10.1515/hmbci-2021-0027. Online ahead of print. PMID: 34323062

- Albiñana C, Boelt SG, Cohen AS, et al. Developmental exposure to vitamin D deficiency and subsequent risk of schizophrenia. Schizophr Res. 2021 Jul 8:S0920-9964(21)00216-4. https://doi.org/10.1016/j.schres.2021.06.004. Online ahead of print. PMID: 34247885

- Libuda L, Naaresh R, Ludwig C, et al. A mendelian randomization study on causal effects of 25(OH)vitamin D levels on attention deficit/hyperactivity disorder. Eur J Nutr. 2021 Aug;60(5):2581-2591. https://doi.org/10.1007/s00394-020-02439-2. Epub 2020 Nov 27. PMID: 33245439

- Marazziti D, Barberi FM, Fontenelle L, et al. Decreased Vitamin D levels in OCD patients. CNS Spectr. 2021 Sep 23:1-24. https://doi.org/10.1017/S1092852921000821. Online ahead of print. PMID: 34551844

- Qiongwen Z, Ying H. Bipolar disorder cured by vitamin D supplementation in a 15-year-old boy: a case report. Bipolar Disord. 2021 Oct 8. https://doi.org/10.1111/bdi.13143. Online ahead of print. PMID: 34624166

- Qiu Y, Sessler DI, Chen L, et al. Preoperative Vitamin D Deficiency Is Associated With Postoperative Delirium in Critically Ill Patients. J Intensive Care Med. 2021 Jul 1:8850666211021330. https://doi.org/10.1177/08850666211021330. Online ahead of print. PMID: 34196246

- Rajabi-Naeeni M, Dolatian M, Qorbani M, et al. Effect of omega-3 and vitamin D co-supplementation on psychological distress in reproductive-aged women with pre-diabetes and hypovitaminosis D: A randomized controlled trial. Brain Behav. 2021 Sep 2:e2342. https://doi.org/10.1002/brb3.2342. Online ahead of print. PMID: 34473420

- Sourander A, Upadhyaya S, Surcel HM, et al. Maternal Vitamin D Levels During Pregnancy and Offspring Autism Spectrum Disorder. Biol Psychiatry. 2021 Jul 21:S0006-3223(21)01463-3. https://doi.org/10.1016/j.biopsych.2021.07.012. Online ahead of print. PMID: 34602240

- Terock J, Hannemann A, Weihs A, et al. Alexithymia is associated with reduced vitamin D levels, but not polymorphisms of the vitamin D binding-protein gene. Psychiatr Genet. 2021 Aug 1;31(4):126-134. https://doi.org/10.1097/YPG.0000000000000283. PMID: 34074948

- Trivedi C, Mansuri Z, Jain S. Maternal Vitamin D Level and Attention-Deficit/Hyperactivity Disorder in Offspring: Getting the Most Out of the Data. J Am Acad Child Adolesc Psychiatry. 2021 Oct;60(10):1167. https://doi.org/10.1016/j.jaac.2021.03.022. Epub 2021 May 5. PMID: 33961988

- Tsiglopoulos J, Pearson N, Mifsud N, et al. The association between vitamin D and symptom domains in psychotic disorders: A systematic review. Schizophr Res. 2021 Sep 8;237:79-92. https://doi.org/10.1016/j.schres.2021.08.001. Online ahead of print. PMID: 34509104 Review

- van den Berg KS, Hegeman JM, van den Brink RHS, et al. A prospective study into change of vitamin D levels, depression and frailty among depressed older persons. Int J Geriatr Psychiatry. 2021 Jul;36(7):1029-1036. https://doi.org/10.1002/gps.5507. Epub 2021 Feb 25. PMID: 33559131

- van den Berg KS, Marijnissen RM, van den Brink RHS, et al. Adverse health outcomes in vitamin D supplementation trials for depression: A systematic review. Ageing Res Rev. 2021 Nov;71:101442. https://doi.org/10.1016/j.arr.2021.101442. Epub 2021 Aug 12. PMID: 34390851

- Wei YX, Liu BP, Qiu HM, et al. Effects of vitamin D-related gene polymorphisms on attempted suicide. Psychiatr Genet. 2021 Aug 17. https://doi.org/10.1097/YPG.0000000000000295. Online ahead of print. PMID: 34412081

- Zech LD, Scherf-Clavel M, Daniels C, et al. Patients with higher vitamin D levels show stronger improvement of self-reported depressive symptoms in psychogeriatric day-care setting. J Neural Transm (Vienna). 2021 Aug;128(8):1233-1238. https://doi.org/10.1007/s00702-021-02385-1. Epub 2021 Jul 25. PMID: 34304320

REUMATOLOGIA

- Ajime TT, Serré J, Wüst RCI, et al. The combination of smoking with vitamin D deficiency impairs skeletal muscle fiber hypertrophy in response to overload in mice. J Appl Physiol (1985). 2021 Jul 1;131(1):339-351. https://doi.org/10.1152/japplphysiol.00733.2020. Epub 2021 Jun 3. PMID: 34080919

- Alesh MB, Barlak Keti D, Paç Kisaarslan A, et al. Hidden threat in familial Mediterranean fever: subclinical inflammation, oxidative stress and their relationship with vitamin D status. Turk J Med Sci. 2021 Sep 21. https://doi.org/10.3906/sag-2103-235. Online ahead of print. PMID: 34544219

- Alliband KH, Kozhevnikova SV, Parr T, et al. In vitro Effects of Biologically Active Vitamin D on Myogenesis: A Systematic Review. Front Physiol. 2021 Sep 9;12:736708. https://doi.org/10.3389/fphys.2021.736708. eCollection 2021. PMID: 34566700

- Anusitviwat C, Suwanno P, Suwannaphisit S. The effects of vitamin D supplementation in carpal tunnel syndrome treatment outcomes: a systematic review. J Exp Orthop. 2021 Sep 7;8(1):73. https://doi.org/10.1186/s40634-021-00393-4. PMID: 34490545

- Belluscio V, Orejel Bustos AS, Camomilla V, et al. Experimental study protocol of the project "MOtor function and VItamin D: Toolkit for motor performance and risk Assessment (MOVIDA)". PLoS One. 2021 Jul 22;16(7):e0254878. https://doi.org/10.1371/journal.pone.0254878. eCollection 2021. PMID: 34293019

- Bergink AP, Trajanoska K, Uitterlinden AG, et al. Mendelian randomization study on vitamin D levels and osteoarthritis risk: a concise report. Rheumatology (Oxford). 2021 Jul 1;60(7):3409-3412. https://doi.org/10.1093/rheumatology/keaa697. PMID: 33463692

- Bislev LS, Grove-Laugesen D, Rejnmark L. Vitamin D and Muscle Health: A Systematic Review and Meta-analysis of Randomized Placebo-Controlled Trials. J Bone Miner Res. 2021 Sep;36(9):1651-1660. https://doi.org/10.1002/jbmr.4412. Epub 2021 Aug 17. PMID: 34405916

- Bolland MJ, Avenell A, Grey A. Prevalence of biochemical osteomalacia in adults undergoing vitamin D testing. Clin Endocrinol (Oxf). 2021 Jul;95(1):74-83. https://doi.org/10.1111/cen.14483. Epub 2021 Apr 25. PMID: 33866594

- Boucher BJ. About adverse effects of high-dose vitamin D supplementation on volumetric bone density. J Bone Miner Res. 2021 Jul;36(7):1416. https://doi.org/10.1002/jbmr.4252. Epub 2021 Feb 10. PMID: 33566382

- Bouillon R. Nutritional rickets: calcium or vitamin D deficiency? Am J Clin Nutr. 2021 Jul 1;114(1):3-4. https://doi.org/10.1093/ajcn/nqab121. PMID: 33876199

- Bouillon R. Vitamin D: good or bad for muscle strength? J Bone Miner Res. 2021 Sep;36(9):1649-1650. https://doi.org/10.1002/jbmr.4390. Epub 2021 Jul 7. PMID: 34131947

- Burt LA, Billington EO, Rose MS, et al. Reply to Burt LA, et al.: Adverse Effects of High-Dose Vitamin D Supplementation on Volumetric Bone Density Are Greater in Females Than Males. J Bone Miner Res. 2021 Jul;36(7):1417-1418. https://doi.org/10.1002/jbmr.4251. Epub 2021 Feb 3. PMID: 33534168

- Caballero-García A, Córdova-Martínez A, Vicente-Salar N, et al. Vitamin D, Its Role in Recovery after Muscular Damage Following Exercise. Nutrients. 2021 Jul 8;13(7):2336. https://doi.org/10.3390/nu13072336. PMID: 34371846

- Chew C, Reynolds JA, Lertratanakul A, et al. Lower vitamin D is associated with metabolic syndrome and insulin resistance in systemic lupus: data from an international inception cohort. Rheumatology (Oxford). 2021 Oct 2;60(10):4737-4747. https://doi.org/10.1093/rheumatology/keab090. PMID: 33555325
- Chiruvolu NV, Safarpour Y, Sandhu VK. Vitamin D and Lupus: Are we doing enough? J Community Hosp Intern Med Perspect. 2021 Sep 20;11(5):624-628. https://doi.org/10.1080/20009666.2021.1956049. eCollection 2021. PMID: 34567452
- Colombini A, De Luca P, Cangelosi D, et al. High-Throughput Gene and Protein Analysis Revealed the Response of Disc Cells to Vitamin D, Depending on the VDR FokI Variants. Int J Mol Sci. 2021 Sep 4;22(17):9603. https://doi.org/10.3390/ijms22179603. PMID: 34502510
- Correa-Rodríguez M, Pocovi-Gerardino G, Callejas-Rubio JL, et al. Vitamin D Levels are Associated with Disease Activity and Damage Accrual in Systemic Lupus Erythematosus Patients. Biol Res Nurs. 2021 Jul;23(3):455-463. https://doi.org/10.1177/1099800420983596. Epub 2020 Dec 30. PMID: 33380211
- Daga N, Joseph F. Republished: Denosumab-induced severe hypocalcaemia in a patient with vitamin D deficiency. Drug Ther Bull. 2021 Sep;59(9):139-143. https://doi.org/10.1136/dtb.2021.234508rep. Epub 2021 Feb 9. PMID: 33563651
- Dodamani MH, Sehemby M, Memon SS, et al. Genotype and phenotypic spectrum of vitamin D dependent rickets type 1A: our experience and systematic review. J Pediatr Endocrinol Metab. 2021 Sep 7. https://doi.org/10.1515/jpem-2021-0403. Online ahead of print. PMID: 34492747
- El Gharbawy NH, Sheha DS, Bawady SA, et al. Vascular endothelial growth factor profile and Vitamin D level in Systemic Sclerosis Egyptian patients. Egypt J Immunol. 2021 Jul;28(3):168-175. PMID: 34453788
- Feehan J, Degabrielle E, Tripodi N, et al. The effect of vitamin D supplementation on circulating osteoprogenitor cells: A pilot randomized controlled trial. Exp Gerontol. 2021 Jul 15;150:111399. https://doi.org/10.1016/j.exger.2021.111399. Epub 2021 May 7. PMID: 33971278 Clinical Trial
- Fogarty MJ, Losbanos LL, Craig TA, et al. Muscle-specific deletion of the vitamin D receptor in mice is associated with diaphragm muscle weakness. J Appl Physiol (1985). 2021 Jul 1;131(1):95-106. https://doi.org/10.1152/japplphysiol.00194.2021. Epub 2021 May 20. PMID: 34013750
- Fonseca Santos RK, Santos CB, Reis AR, et al. Role of food fortification with vitamin D and calcium in the bone remodeling process in postmenopausal women: a systematic review of randomized controlled trials. Nutr Rev. 2021 Aug 9:nuab055. https://doi.org/10.1093/nutrit/nuab055. Online ahead of print. PMID: 34368851
- Freire de Carvalho J, Vicente Matias MF, Carvalho Bastos LM, et al. Vitamin D insufficiency is very frequent and linked to inflammatory biomarkers in relapsing polychondritis. Eur Rev Med Pharmacol Sci. 2021 Sep;25(18):5581-5583. https://doi.org/10.26355/eurrev_202109_26777. PMID: 34604950
- Gaballah K, Kenz S, Anis R, et al. Can Vitamin D Therapy Contribute to the Conservative Resolution of Osteolytic Lesions of the Jaws? Case Rep Dent. 2021 Jul 17;2021:5510724. https://doi.org/10.1155/2021/5510724. eCollection 2021. PMID: 34336304
- Gilic B, Kosor J, Jimenez-Pavon D, et al. Associations of Vitamin D Levels with Physical Fitness and Motor Performance; A Cross-Sectional Study in Youth Soccer Players from Southern Croatia. Biology (Basel). 2021 Aug 5;10(8):751. https://doi.org/10.3390/biology10080751. PMID: 34439983
- Ginsberg C, Hoofnagle AN, Katz R, et al. The Vitamin D Metabolite Ratio Is Associated With Changes in Bone Density and Fracture Risk in Older Adults. J Bone Miner Res. 2021 Aug 23. https://doi.org/10.1002/jbmr.4426. Online ahead of print. PMID: 34423858
- Guler E, Baripoglu YE, Alenezi H, et al. Vitamin D(3)/vitamin K(2)/magnesium-loaded polylactic acid/tricalcium phosphate/polycaprolactone composite nanofibers demonstrated osteoinductive effect by increasing Runx2 via Wnt/beta-catenin pathway. Int J Biol Macromol. 2021 Sep 4;190:244-258. https://doi.org/10.1016/j.ijbiomac.2021.08.196. Online ahead of print. PMID: 34492244
- Gupta R, Singhal A, Kapoor A, et al. Vitamin D deficiency in athletes and its impact on outcome of Anterior Cruciate Ligament surgery. Eur J Orthop Surg Traumatol. 2021 Aug;31(6):1193-1197. https://doi.org/10.1007/s00590-020-02870-5. Epub 2021 Jan 8. PMID: 33417046
- Hassan MH, Elsadek AAM, Mahmoud MA, et al. Vitamin D Receptor Gene Polymorphisms and Risk of Knee Osteoarthritis: Possible Correlations with TNF-alpha, Macrophage Migration Inhibitory Factor, and 25-Hydroxycholecalciferol Status. Biochem Genet. 2021 Aug 9. https://doi.org/10.1007/s10528-021-10116-0. Online ahead of print. PMID: 34370118
- Hassan NE, El-Masry SA, Zarouk WA, et al. Narrative role of vitamin D receptor with osteoporosis and obesity in a sample of Egyptian females: a pilot study. J Genet Eng Biotechnol. 2021 Aug 5;19(1):115. https://doi.org/10.1186/s43141-021-00216-0. PMID: 34351532
- Hatano M, Kitajima I, Nakamura M, et al. Vitamin D-resistant osteomalacia after 10 years of hemodialysis in a patient with rheumatoid arthritis. Rheumatology (Oxford). 2021 Aug 24:keab660. https://doi.org/10.1093/rheumatology/keab660. Online ahead of print. PMID: 34427629
- Hershkovitz A, Maydan G, Ben Joseph R, et al. Vitamin D levels in post-acute hip fractured patients and their association with rehabilitation outcomes. Disabil Rehabil. 2021 Sep 20:1-8. https://doi.org/10.1080/09638288.2021.1971304. Online ahead of print. PMID: 34543157
- Heyer FL, de Jong JJ, Willems PC, et al. The Effect of Bolus Vitamin D(3) Supplementation on Distal Radius Fracture Healing: A Randomized Controlled Trial Using HR-pQCT. J Bone Miner Res. 2021 Aug;36(8):1492-1501. https://doi.org/10.1002/jbmr.4311. Epub 2021 Jun 3. PMID: 33877707
- Honda Y, Arima K, Nishimura T, et al. Association between vitamin D and bone mineral density in Japanese adults: the Unzen study. Arch Osteoporos. 2021 Sep 8;16(1):127. https://doi.org/10.1007/s11657-021-00984-9. PMID: 34495399
- Huang J, An Q, Ju BM, et al. Role of vitamin D/VDR nuclear translocation in down-regulation of NF-kappaB/NLRP3/caspase-1 axis in lupus nephritis. Int Immunopharmacol. 2021 Sep 15;100:108131. https://doi.

org/10.1016/j.intimp.2021.108131. Online ahead of print. PMID: 34536747

- Jiang J, Shao M, Wu X. Vitamin D and risk of ankylosing spondylitis: A two-sample mendelian randomization study. Hum Immunol. 2021 Sep 11:S0198-8859(21)00223-8. https://doi.org/10.1016/j.humimm.2021.09.003. Online ahead of print. PMID: 34521568
- Kheyruri F, Sarrafzadeh J, Hosseini AF, et al. Randomized Study of the Effects of Vitamin D and Magnesium Co-Supplementation on Muscle Strength and Function, Body Composition, and Inflammation in Vitamin D-Deficient Middle-Aged Women. Biol Trace Elem Res. 2021 Jul;199(7):2523-2534. https://doi.org/10.1007/s12011-020-02387-2. Epub 2020 Sep 21. PMID: 32955720 Clinical Trial
- Ko S, Jun C, Nam J. Effects of vitamin D supplementation on the functional outcome in patients with osteoporotic vertebral compression fracture and vitamin D deficiency. J Orthop Surg Res. 2021 Sep 24;16(1):571. https://doi.org/10.1186/s13018-021-02717-7. PMID: 34560907
- Koutalos AA, Chalatsis GI, Varsanis G, et al. The effect of zoledronic acid and high-dose vitamin D on function after hip fractures. A prospective cohort study. Eur J Orthop Surg Traumatol. 2021 Aug 13. https://doi.org/10.1007/s00590-021-03092-z. Online ahead of print. PMID: 34387721
- Krasniqi E, Boshnjaku A, Wagner KH, et al. Association between Polymorphisms in Vitamin D Pathway-Related Genes, Vitamin D Status, Muscle Mass and Function: A Systematic Review. Nutrients. 2021 Sep 4;13(9):3109. https://doi.org/10.3390/nu13093109. PMID: 34578986
- Law SPL, Gatt PN, Schibeci SD, et al. Expression of CYP24A1 and other multiple sclerosis risk genes in peripheral blood indicates response to vitamin D in homeostatic and inflammatory conditions. Genes Immun. 2021 Aug;22(4):227-233. https://doi.org/10.1038/s41435-021-00144-6. Epub 2021 Jun 23. PMID: 34163021
- Li WX, Qin XH, Poon CC, et al. Vitamin D/Vitamin D Receptor Signaling Attenuates Skeletal Muscle Atrophy by Suppressing Renin-Angiotensin System. J Bone Miner Res. 2021 Sep 7. https://doi.org/10.1002/jbmr.4441. Online ahead of print. PMID: 34490953
- Li Y, Huang J, Wang J, et al. Lactoferrin Is a Potential Activator of the Vitamin D Receptor in Its Regulation of Osteogenic Activities in C57BL/6J Mice and MC3T3-E1 Cells. J Nutr. 2021 Aug 7;151(8):2105-2113. https://doi.org/10.1093/jn/nxab105. PMID: 33982113
- Lozano-Plata LI, Vega-Morales D, Esquivel-Valerio JA, et al. Efficacy and safety of weekly vitamin D(3) in patients with fibromyalgia: 12-week, double-blind, randomized, controlled placebo trial. Clin Rheumatol. 2021 Aug;40(8):3257-3264. https://doi.org/10.1007/s10067-021-05640-8. Epub 2021 Feb 10. PMID: 33570701 Clinical Trial
- Maniar RN, Maniar AR, Jain D, et al. Vitamin D Trajectory after Total Knee Arthroplasty: A Method for Quick Correction in Deficient Patients. Clin Orthop Surg. 2021 Sep;13(3):336-343. https://doi.org/10.4055/cios20147. Epub 2021 Mar 9. PMID: 34484626
- Moonen L, Gorter E, Schipper I. The importance of vitamin D in treatment of fracture non-union: A case report. Nutrition. 2021 Jul-Aug;87-88:111192. https://doi.org/10.1016/j.nut.2021.111192. Epub 2021 Feb 10. PMID: 33761443
- Moschonis G, van den Heuvel EG, Mavrogianni C, et al. Effect of Vitamin D-Enriched Gouda-Type Cheese Consumption on Biochemical Markers of Bone Metabolism in Postmenopausal Women in Greece. Nutrients. 2021 Aug 27;13(9):2985. https://doi.org/10.3390/nu13092985. PMID: 34578863
- Nakayama M, Furuya T, Inoue E, et al. Vitamin D deficiency is a risk factor for new fractures in Japanese postmenopausal women with rheumatoid arthritis: results from the IORRA cohort study. Arch Osteoporos. 2021 Aug 3;16(1):119. https://doi.org/10.1007/s11657-021-00982-x. PMID: 34342724
- Ozsoy-Unubol T, Candan Z, Atar E, et al. The effect of vitamin D and exercise on balance and fall risk in postmenopausal women: A randomised controlled study. Int J Clin Pract. 2021 Sep 13:e14851. https://doi.org/10.1111/ijcp.14851. Online ahead of print. PMID: 34516033
- Pan SL, Li CC, Cui HW, et al. Evaluation of the efficiency of calcium and vitamin D in treating adults with corticosteroid-induced osteoporosis: A protocol for systematic review and meta-analysis. Medicine (Baltimore). 2021 Oct 1;100(39):e27197. https://doi.org/10.1097/MD.0000000000027197. PMID: 34596117
- Park H, Park CY. Risk of Osteoarthritis is Positively Associated with Vitamin D Status, but Not Bone Mineral Density, in Older Adults in the United States. J Am Coll Nutr. 2021 Aug;40(6):562-570. https://doi.org/10.1080/07315724.2020.1787907. Epub 2021 May 25. PMID: 34032559
- Puangthong C, Sukhong P, Saengnual P, et al. A single bout of high-intensity exercise modulates the expression of vitamin Dreceptor and vitamin D-metabolising enzymes in horse skeletal muscle. Equine Vet J. 2021 Jul;53(4):796-805. https://doi.org/10.1111/evj.13346. Epub 2020 Sep 28. PMID: 32902017
- Rivera-Paredez B, Quezada-Sánchez AD, Denova-Gutiérrez E, et al. Diet Modulates the Effects of Genetic Variants on the Vitamin D Metabolic Pathway and Bone Mineral Density in Mexican Postmenopausal Women. J Nutr. 2021 Jul 1;151(7):1726-1735. https://doi.org/10.1093/jn/nxab067. PMID: 33847345
- Savolainen L, Timpmann S, Mooses M, et al. Vitamin D supplementation does not enhance resistance training-induced gains in muscle strength and lean body mass in vitamin D deficient young men. Eur J Appl Physiol. 2021 Jul;121(7):2077-2090. https://doi.org/10.1007/s00421-021-04674-9. Epub 2021 Apr 5. PMID: 33821332
- Segheto KJ, Pereira M, Silva DCGD, et al. Vitamin D and bone health in adults: a systematic review and meta-analysis. Cien Saude Colet. 2021 Aug;26(8):3221-3244. https://doi.org/10.1590/1413-81232021268.15012020. Epub 2020 May 28. PMID: 34378711
- Shim BJ, Lee MH, Lim JY, et al. A longitudinal histologic evaluation of vitamin D receptor expression in the skeletal muscles of patients with a distal radius fracture. Osteoporos Int. 2021 Jul;32(7):1387-1393. https://doi.org/10.1007/s00198-020-05809-y. Epub 2021 Jan 16. PMID: 33452895
- Sim M, Zhu K, Lewis JR, et al. Association between vitamin D status and long-term falls-related hospitalization risk in older women. J Am Geriatr Soc. 2021 Sep 10. https://doi.org/10.1111/jgs.17442. Online ahead of print. PMID: 34505706

- Sinha NK, Sinha RK. Vitamin D in Ankle Fractures. Malays Orthop J. 2021 Jul;15(2):174-175. https://doi.org/10.5704/MOJ.2107.027. PMID: 34429841
- Sirufo MM, Ginaldi L, De Martinis M. The IL-33/ST2 axis and vitamin D as a possible emerging therapeutic target in osteoarthritis. Rheumatology (Oxford). 2021 Aug 2;60(8):e300. https://doi.org/10.1093/rheumatology/keab292. PMID: 33752232
- Skuladottir SS, Ramel A, Eymundsdottir H, et al. Serum 25-hydroxy-vitamin D status and incident hip fractures in elderly adults: Looking beyond bone mineral density. J Bone Miner Res. 2021 Sep 29. https://doi.org/10.1002/jbmr.4450. Online ahead of print. PMID: 34585782
- Stojanović E, Jakovljević V, Scanlan AT, et al. Vitamin D(3) supplementation reduces serum markers of bone resorption and muscle damage in female basketball players with vitamin D inadequacy. Eur J Sport Sci. 2021 Jul 25:1-11. https://doi.org/10.1080/17461391.2021.1953153. Online ahead of print. PMID: 34240659
- Sunuwar N, Gautam S, Twayana A, et al. Hereditary Vitamin-D Dependent Rickets Type II: A Case Report. JNMA J Nepal Med Assoc. 2021 Jul 1;59(238):597-600. https://doi.org/10.31729/jnma.6411. PMID: 34508408
- Thompson M, Aitken D, Balogun S, et al. Population Vitamin D Stores Are Increasing in Tasmania, and This Is Associated With Less BMD Loss Over 10 Years. J Clin Endocrinol Metab. 2021 Jul 13;106(8):e2995-e3004. https://doi.org/10.1210/clinem/dgab197. PMID: 33782704
- Thorpe DL, Beeson WL, Knutsen R, et al. Dietary patterns and hip fracture in the Adventist Health Study 2: combined vitamin D and calcium supplementation mitigate increased hip fracture risk among vegans. Am J Clin Nutr. 2021 Aug 2;114(2):488-495. https://doi.org/10.1093/ajcn/nqab095. PMID: 33964850
- Wanigatunga AA, Sternberg AL, Blackford AL, et al. The effects of vitamin D supplementation on types of falls. J Am Geriatr Soc. 2021 Oct;69(10):2851-2864. https://doi.org/10.1111/jgs.17290. Epub 2021 Jun 12. PMID: 34118059
- Waterhouse M, Sanguineti E, Baxter C, et al. Vitamin D supplementation and risk of falling: outcomes from the randomized, placebo-controlled D-Health Trial. J Cachexia Sarcopenia Muscle. 2021 Aug 1. https://doi.org/10.1002/jcsm.12759. Online ahead of print. PMID: 34337905
- Ye Q, Wang G, Huang Y, et al. Mycophenolic Acid Exposure Optimization Based on Vitamin D Status in Children with Systemic Lupus Erythematosus: A Single-Center Retrospective Study. Rheumatol Ther. 2021 Sep;8(3):1143-1157. https://doi.org/10.1007/s40744-021-00324-w. Epub 2021 Jun 17. PMID: 34142344
- Yoo JI, Chung HJ, Kim BG, et al. Comparative analysis of the association between various serum vitamin Dbiomarkers and sarcopenia. J Clin Lab Anal. 2021 Sep;35(9):e23946. https://doi.org/10.1002/jcla.23946. Epub 2021 Aug 5. PMID: 34350631
- Youssry S, Hussein A, Moaaz M. The immunoregulatory axis (programmed death-1/programmed death ligand-1) on CD4+ T cells in lupus nephritis: association with vitamin D and chemokine C-X-C motif ligand 12. Microbiol Immunol. 2021 Sep;65(9):392-399. https://doi.org/10.1111/1348-0421.12923. Epub 2021 Jul 16. PMID: 34081342
- Zhao ZX, He Y, Peng LH, et al. Does vitamin D improve symptomatic and structural outcomes in knee osteoarthritis? A systematic review and meta-analysis. Aging Clin Exp Res. 2021 Sep;33(9):2393-2403. https://doi.org/10.1007/s40520-020-01778-8. Epub 2021 Mar 30. PMID: 33783714 Review
- Şenışık S, Köyağasıoğlu O, Denerel N. Vitamin D levels on sports injuries in outdoor and indoor athletes: a cross-sectional study. Phys Sportsmed. 2021 Aug 23:1-7. https://doi.org/10.1080/00913847.2021.1969217. Online ahead of print. PMID: 34402729