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DECIDE THE RECURRENCE AND HAZARD FACTORS FOR VITAMIN D INSUFFICIENCY AMONG PATIENT ATTENDING OUT PATIENTS DIVISION

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Abstract:

Background: *Vitamin D lack is currently archived as pandemic. It has been evaluated that 1 billion individuals worldwide have vitamin D inadequacy or deficiency and Pakistan, isn't a special case.*

Objective: *The objective of present investigation was to decide the recurrence and hazard factors for Vitamin D insufficiency among patient attending out patients' division.*

Patients and Methods: *This was a cross sectional examination, led from May, 2018 to October, 2018 in the outpatient branch of Mayo Hospital Lahore. An aggregate of 140 continuous ladies with grumbling of summed up body throbs, of 15 years or more age, who have given verbal assent, were incorporated into the examination. The information was gathered on a predesigned and pretested survey which included factors on age, residence(rural/urban), number of rooms in house, introduction to daylight, kind of clothing (full sleeve/half sleeve) dietary admission if vitamin D, for example, milk and sustenance supplement. Serum vitamin D (25 OH vitamin D) level ≥30ng/dl, was taken as should be expected, 21-29ng/dl as inadequate and 11-20ng/dl as lacking. Chi square test was connected for looking at gatherings for dangers factors relationship, with p estimation of <0.05 as huge. The information was entered and investigated in SPSS form 16.0.*

Results: *A sum of 150 ladies of 15 years or more were incorporated into study, with 73% having vitamin D3 dimension of <30 ng/dl. The mean dimension of serum vitamin D level was 19±2.1 ng/dl, with least 4 ng/dl to limit of 43.7 ng/dl. Urban living arrangement, absence of education, poor lodging, absence of sun presentation, wearing cover, absence of milk, meat and vitamin D supplement consumption as huge (p esteem <0.05) chance variables.*

Conclusion: *Our discoveries uncovered that there is a high weight of vitamin D insufficiency among females of our district. Urban residence, lack of sun exposure, illiteracy, wearing veil, poor housing, lack of milk, meat and vitamin D supplement intake as significant risk factors of low serum vitamin D levels.*

Keywords: *women, vitamin D deficiency, risk factors.*

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INTRODUCTION:

Vitamin D deficiency is now documented as a prevalent over a whole country or the world.[1] It has been assessed that 1 billion individuals worldwide have Vitamin D inadequacy or deficiency and Pakistan, isn't an exception.[2,3] The real reason for Vitamin D insufficiency is the absence of sufficient sun introduction for generally people. Not many nourishment normally contains Vitamin D, and sustenances that are invigorated with Vitamin D are frequently sufficient to fulfill either a tyke's or a grown-up's Vitamin D requirement.[4] Vitamin D inadequacy causes development impediment and rickets in youngsters and will prompt osteopenia, osteoporosis, cracks in grown-ups and impacts on maternal and fetal health.[5] Vitamin D insufficiency has been related with expanded danger of basic malignant growths, immune system maladies, diabetes mellitus, hypertension, and irresistible diseases.[6,7] Muscle shortcoming has for quite some time been related with Vitamin D lack. Vitamin D receptor are available in skeletal muscle and Vitamin D insufficiency has been related with proximal muscle shortcoming, increment in body influence, and an expanded danger of falling.[8,9] Vitamin D inadequacy in grown-ups can likewise cause a skeletal mineralization imperfection. The unmineralized osteoid gives minimal auxiliary help to the periosteal covering. Accordingly, patients with osteomalacia regularly grumble of confined or worldwide bone uneasiness alongside a throbbing painfulness in their joints and muscles.[10] Although the explanation behind the expansion in Vitamin D inadequacy is vague, changes in way of life are probably going to be imperative, for example, utilization of sunscreens, reception of secured clothing because of social standards, weight and worldwide ecological contamination might be causative.[11] As the essential wellspring of Vitamin D is endogenous sythesis in the skin after introduction to bright beams of daylight; the eating regimen is an auxiliary wellspring of Vitamin D.[4]

As there are reports demonstrating high predominance of vitamin D lack in the Pakistani populace, parturient and their infants, [3,12] so present investigation was wanted to scan for conceivable hazard factors for vitamin D inadequacy, with goal to propose intercessions for a version of this reparable defeciency ailment. The goal of present investigation was to decide the recurrence and hazard factors for vitamin D lack among patient going to Out Patient office, Shiekh Zayed Medical College/Hospital Rahim Yaar Khan.

PATIENTS AND METHODS:

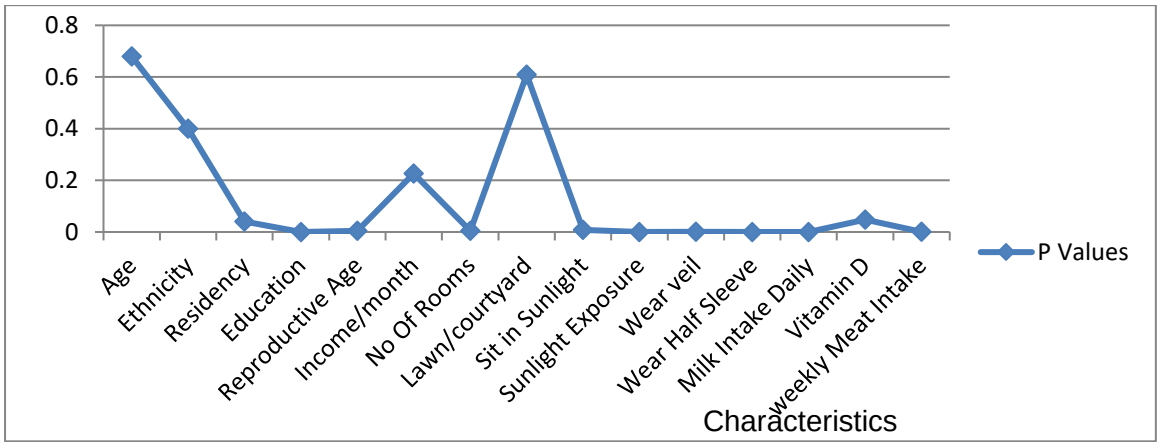
This was a cross sectional investigation, directed from May, 2018 to November, 2018 in the outpatient branch of Mayo Hospital Lahore. An aggregate of 140 sequential ladies with objection of summed up body hurts, of 15 years or more age, who has given verbal assent, was incorporated into the examination. Moral endorsement was looked for from Institutional Review Board. Ladies having some other ail/8ment, for example, Diabetes mellitus, coronary illness, Renal or hepatic hindrance, Anemia, Typhoid, Tuberculosis and subjects with not as much as Rs. 15000/month pay were prohibited. Routine examinations, for example, x-beam chest, blood CP, pee D/R, BSR, S.creatinine, HBsAg, Anti HCV, Widal test and malarial parasite were finished. The information was gathered on a predesigned and pretested survey which included factors on age, home (provincial/urban), number of rooms in house, introduction to daylight, sort of dress (full sleeve/half sleeve) dietary admission of vitamin D, for example, milk and nourishment supplement. Blood test was taken for serum 25 OH vitamin D level estimation and sent to pathology division of Mayo Hospital Lahore. Serum vitamin D level ≥30ng/dl, was taken as should be expected, 21-29 ng/dl as inadequate and 11-20 ng/dl as lacking. [13,14] We arranged inadequacy and lack as low vitamin D level. Ethnicity was depicted as pilgrims (Punjabi, Pashto and Urdu talking) and local people (Seraiki talking). Month to month salary was ordered as gathering 1, Rs. 15000-30000/month and gathering 2, as Rs. 31000+/month. Frequencies and rates were determined for downright information, mean and standard deviation for numerical information. Chi square test was connected for looking at gatherings for hazard factors relationship, with p estimation of <0.05 taken as noteworthy. The information was entered and examined in SPSS form 16.0.

RESULTS:

An aggregate of 140 ladies of 15 years or more were incorporated into study, with 73% having serum vitamin D3 dimension of <30ng/dl (figure 1). The mean dimension of serum vitamin D level was 19±2.1 ng/dl, with least 4 ng/dl to most extreme 43.7 ng/dl. Mean period of study subjects was 38±12 years. It was noticed that 37% ladies were beneath 30 years old, 93% having a place with rustic territories, 81% were hitched, 70% having ≥3 kids, 46% lactating their youngsters, 18% were ignorant, 26% having family salary of <30000 Rs/month. Our outcomes demonstrated that lion's share (86%) have ≤3 rooms in house, 63% announced a grass or patio in house.

Table 1: Risk factors for vitamin D insufficiency and deficiency

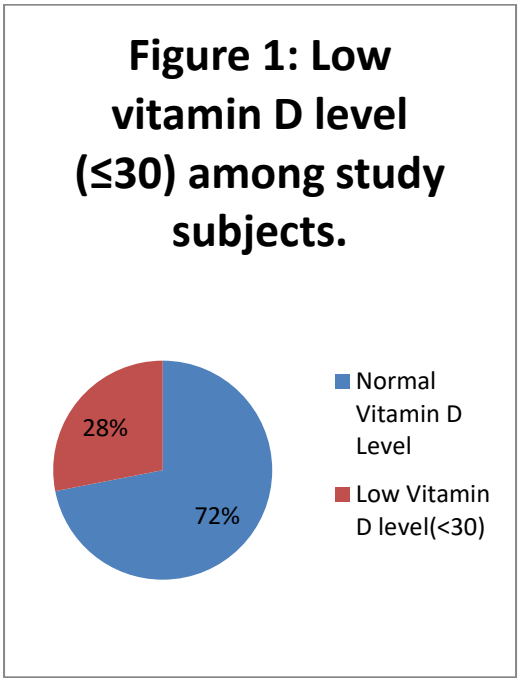
Characteristics	Groups	Low serum vitamin D <30ng/dl(%)	P.values
Age	≤30 years	71%	0.68
	>30 years	74%	
Ethnicity	Settlers	74%	0.4
	Locals	66%	
Residency	Rural	71%	0.04
	Urban	100%	
Education	Illiterate	100%	0.000
	Literate	67.2%	
Reproductive age	Yes	65.2%	0.005
	No	86.2%	
Income (Rs)/month	≤30000	80%	0.226
	>30000	70.9%	
Number of rooms in house	≤3 rooms	69.2%	0.004
	>3 rooms	100%	
Lawn/courtyard in house	Yes	74.7%	0.609
	No	70.9%	
Sit in sunlight	Yes	66%	0.008
	No	85.7%	
Sunlight exposure in your house/office	Yes	89.5%	0.000
	No	56.8%	
Wear veil	Yes	87.1%	0.001
	No	63.6%	
Wear half sleeve	Half sleeve	100%	0.00
	Full sleeve	71%	
Milk intake daily	Yes	71%	0.00
	No	100%	
Take any vitamin D	Yes	61.9%	0.048
	No	77.8%	
Weekly meat intake	Yes	68.3%	0.001
	No	100%	



In our examination, 41% announced wearing cover, though, just 8% wore half sleeve garments, 92% detailed day by day admission of milk, 28% revealed admission of any vitamin D arrangement, 51% announced daylight presentation in home or work environment and 84% revealed week after week meat consumption.

At the point when trial of importance was connected it was noticed that, 71% of ≤30 year's age were having vitamin D level beneath 30 ng/dl, when contrasted with 74% in >30 years age gathering. (P=0.68). Our examination demonstrated that among pilgrims, (Punjabi, Pashto and Urdu talking) 74% have vitamin D level beneath 30 as thought about 66% in local people (Seraiki speaking) (P=0.4).

S No	Domain	Percentage
1	Normal Vitamin D level	72%
2	Low Vitamin D level(<30)	28%



It was noticed that 71% among country when contrasted with 100% among urban populace, vitamin D level was ≤30 ng/dl (P=0.04). 73% wedded when contrasted with 71% unmarried have low vitamin D level. (P=0.8). 77% among ladies having ≤3 youngsters have low vitamin D level. (P=0.07). 100% of uneducated, though, 67% of proficient ladies have low vitamin D level. (P=0.00). 80% of ladies underneath Rs. 30000/month of family salary when contrasted with 73% above Rs. 30000/month family salary were having low vitamin D level. 69% of ladies with ≤3 rooms in house when contrasted with 100% of ladies with >3 rooms in house have low vitamin D (P=0.04). our outcomes demonstrated that 74% having grass/yard, when contrasted with 73% having no garden/patio in house were having low vitamin D (P=0.6). 66% of the individuals who gave history of sitting in daylight, when contrasted with 85% who gave no history, were having low vitamin D (P=0.00). 87% of ladies who cloak, when contrasted with 63% not veiling, were having low vitamin D (P=0.001). The majority of the ladies who wear half sleeve, though, 71% of ladies who utilize full sleeve have low vitamin D (P=0.02). 71% having every day milk admission when contrasted with 100% with no day by day milk admission were having low vitamin D (P=0.01). 61% of ladies with history of vitamin D admission as medication, when contrasted with 78% with no history, were having low vitamin D (P=0.04). 65% of conceptive age when contrasted with 86% of above regenerative age were having low vitamin D (P=0.00). 68% of ladies with history of week by week meat admission when contrasted with 100% with no history, were having low vitamin D (P=0.00)

DISCUSSION:

This investigation was led to survey vitamin D level and hazard factors for its insufficiency among ladies of Lahore. Our outcomes demonstrated that 73% of our female examination subjects have either inadequacy or lack of vitamin D. A past report demonstrated that lion's share of the females was vitamin D inadequate (91.50%) with mean vitamin D

dimensions of 21.77±21.66nm/L. Mean vitamin D levels were essentially extraordinary among females dwelling in downtown and rural areas. High recurrence of vitamin D inadequacy was seen in females staying in downtown (Saddar). As per the aftereffects of various direct relapse examination, determinants of VD levels were age, town of living arrangement, and lodging structure [15]. Our investigation demonstrated that age was not a critical hazard factor for low vitamin D levels, notwithstanding, urban home and houses having >3 rooms were fundamentally connected with it. In another examination, in general, 90.5% of females had vitamin D lack with 42.6 and 23.3% having auxiliary hyperparathyroidism and high bone turn over separately. Predominance of vitamin D insufficiency, optional hyperparathyroidism, and high bone turnover was fundamentally unique among towns. Mean vitamin D levels were altogether low and iPTH levels essentially high in females with high bone turnover [16]. Calcium admission was not fundamentally unique among females with typical, high, and low bone turnover. Our investigation demonstrated that absence of admission vitamin D enhancements and milk was essentially connected with low vitamin D levels.

A past report that less than stellar eating routine, religious and social practices of the area and neediness were a portion of the imperative explanations behind vitamin D deficiency [17]. This is practically identical to our examination where progressively moderate, wearing shroud have low dimension of vitamin D, correspondingly low admission of milk, meat was additionally connected with low vitamin D levels. An examination in india, revealed comparative outcomes and demonstrated that expanded hours spent working inside, contamination and restricted sun introduction has decreased vitamin D combination and eventually poor vitamin D status if not repaid by dietary admission. Dietary vitamin D admission was extremely low in india in view of low utilization of vitamin D rich nourishments, nonattendance of stronghold and low utilization of supplements [18].

Ladies devouring ≥ 12.5 µg vitamin D/d from sustenance in addition to supplements had a 37% lower danger of hip crack (RR=0.63; 95% CI: 0.42, 0.94) than did ladies expending <3.5 µg/d. Complete calcium admission was not related with hip crack hazard, anyway in our investigation absence of admission of vitamin D or calcium supplement demonstrated low vitamin D levels.[19] Milk utilization was likewise not related with a lower danger of hip break (P for trend=0.21). This is as opposed to our examination where low milk admission was related with low vitamin D level. Another investigation revealed hazard variables can be partitioned into non-modifiable hazard factors, for example, age and skin shading, modifiable hazard factors, for example, sunscreen use and low vitamin D admission and it practically identical to our study.[20] An examination directed by Kumar J and partners found that more seasoned age, female sex, non-white ethnicity, weight, less incessant milk drinking, and looking out for 4 hours of TV, video or PC every day were related with 25(OH)D dimensions underneath 15 ng/ml. Vitamin D supplement use was related with a lower danger of deficiency.[21] As far as, low milk admission and vitamin D supplements are concerned it is similar to our outcomes. An examination with comparative discoveries with our outcomes, from Japan uncovered that constrained introduction to daylight and a restricted eating regimen were the essential drivers among 31 affirmed instances of rickets.[22]. The impediment of our examination was that we included just patients having month to month family pay of Rs. > 15000 and have missed weight of infection and hazard factors among lower class of network.

CONCLUSION:

Our discoveries uncovered that there is a high weight of vitamin D insufficiency among females of our locale. Urban living arrangement, absence of education, poor lodging, absence of sun presentation, wearing cloak, absence of milk, meat and vitamin D supplement admission are huge hazard variables of low serum vitamin D levels. Further investigations are recommended that incorporate the overall public in test with the goal that weight of illness might be surveyed among low pay bunches too.

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