DOI: https://doi.org/10.54393/pbmj.v5i6.508

PAKISTAN BIOMEDICAL JOURNAL

https://www.pakistanbmj.com/journal/index.php/pbmj/index

Volume 5, Issue 6 (Jun 2022)

Original Article

Knowledge, Attitude and Practices about Vitamin D among Females suffering from vitamin D deficiency

Marwa Zulfiqar[1], Raima Mariam[1], Barira Waseem[1], Ayesha Zafar[1], Fatima Sheraz[1], Amsa Fatima[1], Misbah Arshad[1*]

[1]The University of Lahore, Lahore, Pakistan

ARTICLE INFO

Key Words:

Knowledge, Attitude, Vitamin D, Females, Deficiency, Foods

How to Cite:

Zulfiqar, M. ., Mariam, R. ., Waseem, B. ., Zafar, A., Sheraz, F. ., Fatima, A. ., & Arshad, M. . (2022). Knowledge, Attitude and Practices about Vitamin D among Females suffering from vitamin D deficiency : Vitamin D among Females suffering from vitamin D deficiency. Pakistan BioMedical Journal, 5(6). https://doi.org/10.54393/pbmj.v5i6.508

***Corresponding Author:**

Misbah Arshad
The University of Lahore, Lahore, Pakistan
Fatimamisbah10@gmail.com

Received Date: 26th May, 2022
Acceptance Date: 20th June, 2022
Published Date: 30th June, 2022

ABSTRACT

Vitamin D is essential for supporting women's health throughout their lifespan. A fundamental function of Vitamin D is to regulate the metabolism and absorption of our bone health. Vitamin D deficiency can occur in young women, especially those who are pregnant, and the risk of this increases with age. **Objective:** To highlight the growing preponderance, attitude and beliefs of women regarding Vitamin D. **Methods:** At the Jinnah Hospital in Lahore a comparative cross-sectional study was conducted. A non-probability convenient sampling strategy was used to select 100 ladies. A pre-tested questionnaire was used to evaluate the participants. The data were analyzed using SPSS version 20.0. All females aged between 20 to 90 years suffering from Vitamin D deficiency admitted in Jinnah Hospital, Lahore were included. **Results:** Out of 100 patients 56 of them answered that they were consuming vitamin D supplements <1- 2 times in a month, 33 of them said 2-3 times in a month while the remaining 11 said 4-6 times in a month. **Conclusions:** Women were greatly affected by the it's deficiency. Vitamin D deficiency was more prevalent in early ages as in the older age. The women significantly lacked knowledge about the foods to be consumed and the right nutrition intake for Vitamin d deficiency.

INTRODUCTION

Vitamin D is essential for supporting women's health throughout their lifespan. A fundamental function of Vitamin d is to regulate the metabolism and absorption of our bone health. Vitamin D deficiency can occur in young women, especially those who are pregnant, and the risk of this increases with age [1]. Vitamin D is naturally present in food sources which include mackerel, salmon and sardines, egg yolk, liver, red meat, and fortified foods such as cereals and margarine are naturally rich food origins of vitamin D [2,3]. Vitamin D is noticed to play a combination of roles in the development of bone. It is also known to be linked to various diseases and mortality [4]. Its drawback in girls will cause growth retardation [5]. During pregnancy, the placenta becomes the main site for extrarenal activation of vitamins. Pregnant women particularly need to secure their requirement for vitamin D is encountered and that their baby is born with adequate vitamin D for timely infancy [6,7]. The primary origin of vitamin D is sunlight but various women around the world are vitamin D deficient due to the lack of acknowledgment to sunlight [8]. Pregnant women and breastfeeding mothers require 400 mcg per day [9]. The same amount of vitamin D is recommended for women older than 60 years and those who spend more time indoors instead of taking it from the sun. It has been detected that women who have PCOS possess a low level of vitamin D [10]. Women with poor vitamin D grades are more inclined to endure postpartum depression. Despite having abundant sunshine, many

DOI: https://doi.org/10.54393/pbmj.v5i6.508

pregnant women have low vitamin D serum levels [11]. This deficiency can lead to low estrogen levels and osteoporosis. Further, 85% of women aged 60 years or older retained low to deficient levels of Vitamin D as of due to this, it lessened their trait of life and gained the hazard of acquiring a disease called Alzheimer's disease and dementia [12-15]. Vitamin D deficiency in women can be inspected using the 25-hydroxyvitamin D radioimmunoassay in guidance of the accurate clinical approach [16]. This particular nutrient can lead us to range the impact of major health problems that affect women, extra than men [17,19]. This study was aimed to highlight the growing preponderance of Vitamin D and educate the women about the significance of Vitamin D in the area of Lahore. This also highlights the attitude and beliefs of women regarding Vitamin D.

METHODS

At the Jinnah Hospital in Lahore a comparative cross-sectional study was conducted. A non-probability convenient sampling strategy was used to select 100 ladies. A pre-tested questionnaire was used to evaluate the participants. The data were analyzed using SPSS version 20.0. Females who did not have Vitamin D deficiency were excluded and if they were under the age of 20 or over the age of 90. In inclusion criteria, all females aged between 20 to 90 years suffering from Vitamin D deficiency admitted in Jinnah Hospital, Lahore were selected.

RESULTS

Out of 100 people, 40 people were below 30 years of age, 39 people were between 30-50 years, 14 people were between 51-70 years of age whereas 7 fell between 71-90 years of age. One was underweight according to the BMI. 65 people maintained healthy body BMI. 24 people were falling in the category of overweight while 10 were obese according to their BMI. Out of 100 people, 36 people were single, 45 people were married. Out of 100 people, 19 people belonged to the lower middle class, 61 people were from middle class and 20 people belonged to Upper class families. When talking about the residential location, 78 people out of 100 lived in urban areas while 22 people came from rural areas, Table 1.

Sr No.	Age				
	<30	30-50	51-70	71-90	Total
1	40	39	14	7	100
	BMI				
	Underweight	Healthy Weight	Overweight	Obese	Total
2	1	65	24	10	100
	Marital Status				
	Single	Married	Widowed		Total
3	36	45	19		100
Sr No.	Socio-economic Status				
	Lower Middle Class	Middle Class	Upper Class		Total
4	19	61	20		100
	Residential Location				
	Urban	Rural			Total
5	78	22			100

Table 1: Demographic Data

Table 2 shows participant's knowledge about Vitamin D and its deficiency

Sr No.	Heard of vitamin D			
	Yes	No		Total
1.	80	20		100
	Any source of vitamin D			
	Yes	No		Total
2.	77	23		100
	Vitamin D good for bone health			
	Yes	No		Total
3.	72	28		100
	Sunlight can give vitamin D			
	Yes	No		Total
4.	70	30		100
	More than recommendation vitamin D is harmful			
	Yes	No	I don't know	Total
5.	53	24	23	100
	Elderly people are at high risk of vitamin D deficiency			
	Yes	No	I don't know	Total
6.	64	15	21	100
Inappropriate dietary intakes are related to vitamin D deficiency				
	Yes	No	I don't know	Total
7.	45	32	23	100
Required vitamin D is produced with direct contact with the sun				
	Yes	No	I don't know	Total
8.	47	27	26	100
Vitamin D deficiency most important health issue				
	Yes	No	I don't know	Total
9.	42	23	35	100
Bone pain and fatigue are among the vitamin D deficiency symptoms.				
	Yes	No	I don't know	Total
10.	42	23	35	100

Table 2: Knowledge regarding Vitamin D and its deficiency

Out of 100 participants 3 of them strongly disagreed with urbanization, 1 with shortage of public place, 1 with full time indoor occupation, 1 with inefficient education, 1 with supplement intake, 1 with recommended by physician and 2 with unwillingness to take vitamin D test, Table 3.

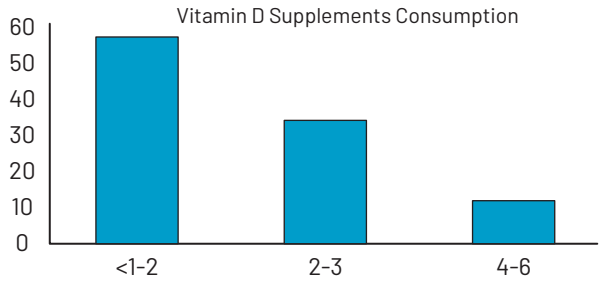
Attitude						
Attitude towards	Strongly agree	Agree	No idea	Disagree	Strongly Disagree	Total
Urbanization	38	34	21	4	3	100
Shortage of public places	24	39	31	5	1	100
Full time indoor occupation	26	36	29	8	1	100
Inefficient education	22	43	21	13	1	100

DOI: https://doi.org/10.54393/pbmj.v5i6.508

Attitude						
Attitude towards	Strongly agree	Agree	No idea	Disagree	Strongly Disagree	Total
Supplement intake	19	26	37	17	1	100
Recommended by physician	18	27	28	24	3	100
Unwillingness to take vitamin D	31	40	19	8	2	100

Table 3: Attitude regarding Vitamin D deficiency

Out of 100 patients 56 of them answered that they were consuming vitamin D supplements <1- 2 times in a month, 33 of them said 2-3 times in a month while the remaining 11 said 4-6 times in a month, Figure 1.



DISCUSSION

A study was conducted to find out Vitamin D deficiency in the females. The patients were selected through non-probability convenient sampling technique. 80 out of 100 people heard of vitamin D before while 20 people were those who never heard of vitamin D tests before. Amina et al., (2020) conducted a similar study in which 72% participants have never been tested for vitamin D deficiency [20]. Participants had limited knowledge about vitamin D, despite being identified as high-risk population. Another study was conducted by Haq et al., 2017 in which Vitamin D and its effects on the body were well-understood by 72% of those polled. In our study, 66 persons had direct sun exposure on a daily basis, while 34 people did not have direct sun contact on a daily basis. In a similar study, Haq et al., (2017) found that students' attitudes toward sunlight exposure were poor, with 65.2% of students avoiding being in the sun, 62.5% believing that sunlight exposure was harmful to skin, and 65.4% assuming that their Vitamin D levels were sufficient without having their laboratory tests done. When it comes to home location, 78 out of 100 respondents in our research resided in cities, while 22 lived in rural areas. Haq et al., 2017 conducted a similar survey in which the bulk of the respondents, 73 (70.2%), lived in rural areas while only 31(29.8%) lived in urban areas [21].

CONCLUSION

The study concluded that vitamin D is an essential nutrient for the proper functioning of body. Women are greatly affected by the it's deficiency. Vitamin D deficiency was more prevalent in early ages as in the older age. The women significantly lacked knowledge about the foods to be consumed and the right nutrition intake for Vitamin D deficiency.

REFERENCES

[1] Prentice A. Vitamin D deficiency: a global perspective. Nutrition reviews. 2008 Oct 1;66 (suppl_2): S153-64. doi.org/10.1111/j.1753-4887.2008.00100.x

[2] Holick MF, Chen TC. Vitamin D deficiency: a worldwide problem with health consequences. The American journal of clinical nutrition. 2008 Apr 1;87(4):1080S-6S. doi.org/10.1093/ajcn/87.4.1080S

[3] Zemb P, Bergman P, Camargo CA, Cavalier E, Cormier C, Courbebaisse M, et al. Vitamin D deficiency and the COVID-19 pandemic. J Glob Antimicrob Resist. 2020 Sep 1; 22: 133-4. doi.org/10.1016/j.jgar.2020.05.006

[4] Lips P DT, Oleksik A, Black D, Cummings S, Cox D, Nickelsen T. A global study of vitamin D status and parathyroid function in postmenopausal women with osteoporosis: baseline data from the multiple outcomes of raloxifene evaluation clinical trial. The Journal of Clinical Endocrinology & Metabolism 2001 Mar; 86(3): 1212. doi.org/10.1210/jcem.86.3.7327

[5] Anagnostis P, Karras S, Goulis DG. Vitamin D in human reproduction: a narrative review. International journal of clinical practice 2013 Mar; 67(3): 225-35. doi.org/10.1111/ijcp.12031

[6] Lips P. Vitamin D deficiency and secondary hyperparathyroidism in the elderly: consequences for bone loss and fractures and therapeutic implications. Endocrine reviews 2001 Aug; 22(4): 477-501. doi.org/10.1210/edrv.22.4.0437

[7] Baker S, Devine A, Miller M, Dare J. A multiliteracies approach to adolescent nutrition education. Asia Pac Food Nutr Collab Behav Nutr Newsletter 2017 May; 4 (1): 1-2.

[8] Health NIf, Excellence C. Vitamin D: supplement use in specific population groups: National Institute for Health and Care Excellence NICE. 2017; 2(1): 3-7.

[9] Holick MF. Resurrection of vitamin D deficiency and rickets. The Journal of clinical investigation 2006 Aug; 116(8): 62-72. doi.org/10.1172/JCI29449

[10] Bischoff-Ferrari HA, Willett WC, Wong JB, Stuck AE, Staehelin HB, Orav EJ, et al. Prevention of nonvertebral fractures with oral vitamin D and dose dependency: a meta-analysis of randomized

DOI: https://doi.org/10.54393/pbmj.v5i6.508

controlled trials. Archives of internal medicine 2009 Mar; 169(6): 551-61. doi.org/10.1001/archinternmed.2008.600

[11] Holick MF. The vitamin D deficiency pandemic: a forgotten hormone important for health. Public health reviews 2010 Jun; 32(1): 267-83. doi.org/10.1007/BF03391602

[12] Ahmed F, Khosravi-Boroujeni H, Khan MR, Roy AK, Raqib R. Prevalence and Predictors of Vitamin D Deficiency and Insufficiency among Pregnant Rural Women in Bangladesh. Nutrients. 2021 Feb;13(2):449. doi.org/10.3390/nu13020449

[13] Elsammak MY, Al-Wossaibi AA, Al-Howeish A, Alsaeed J. High prevalence of vitamin D deficiency in the sunny Eastern region of Saudi Arabia: a hospital-based study. East Mediterr Health J. 2011 Apr;17 (4):317-22. doi.org/10.26719/2011.17.4.317

[14] Moy FM, Hoe VC, Hairi NN, Vethakkan SR, Bulgiba A. Vitamin D deficiency and depression among women from an urban community in a tropical country. Public health nutrition 2017 Jul; 20(10): 44-50. doi.org/10.1017/S1368980016000811

[15] O'Connor C, Glatt D, White L, Revuelta Iniesta R. Knowledge, attitudes and perceptions towards vitamin D in a UK adult population: a cross-sectional study. International journal of environmental research and public health 2018 Nov; 15(11): 23- 87. doi.org/10.3390/ijerph15112387

[16] Shamsi U, Azam I, Shamsi A, Shamsi D, Callen D. Frequency and determinants of vitamin D deficiency among premenopausal and postmenopausal women in Karachi Pakistan. BMC women's health 2021 Dec; 21(1): 1-8. doi.org/10.1186/s12905-021-01339-9

[17] Mustafa G, Asadi MA, Iqbal I, Bashir N. Low vitamin D status in nursing Pakistani mothers in an environment of ample sunshine: a cross-sectional study. BMC pregnancy and childbirth 2018 Dec; 18(1): 1-7. doi.org/10.1186/s12884-018-2062-0

[18] Özdemir AA, Gündemir YE, Küçük M, Sarıcı DY, Elgörmüş Y, Çağ Y, et al. Vitamin D deficiency in pregnant women and their infants. Journal of clinical research in pediatric endocrinology 2018 Mar; 10(1): 40-44. doi.org/10.4274/jcrpe.4706

[19] Jarvis G, Geraghty S. Importance of vitamin D during the antenatal period for maternal well-being. British Journal of Midwifery 2020 Jun; 28(6): 8-253. doi.org/10.12968/bjom.2020.28.6.353

[20] Tariq A, Khan SR, Basharat A. Assessment of knowledge, attitudes and practice towards Vitamin D among university students in Pakistan. BMC public health 2020 Dec; 20(1): 1-10. doi.org/10.1186/s12889-020-8453-y

[21] Haq F, Khan R, Mustehsan ZH. Assessment of knowledge, attitude and practices regarding vitamin D among students of Saidu medical college, Swat. Pakistan Journal of Public Health 2017 Jun; 7(1): 1-4. doi.org/10.32413/pjph. v7i1.17