adverse outcome. Modify risk factors which lead to low maternal Vitamin-D such as exposure to sun light which is the main source of Vitamin-D, exercise and weight loss for obese women and regular Vitamin-D supplementation.

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- Conflict of interest: None declared.

Ethical Approval:

The study was approved by the ethical committee of the Faculty of Postgraduate Childhood Studies, Ain Shams University and the National Research Center (NRC).

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maternal educational levels, decreased sun exposure and low maternal serum25 (OH) Vitamin-D level. Also, the study done by Wen et.al, (2018), there were a statistically significant differences according to increased maternal BMI and low maternal serum 25(OH)Vitamin-D concentrations (p value< 0.001).

Noamam and Abdulla (2021), showed a highly a statistically significant association between pregnant women of younger age and Vitamin-D3 insufficiency (p< 0.001), as 96.8% of pregnant women with Vitamin-D3 insufficiency were aged (20- 29) years.

Disagreeing with our study, a prospective subcohort investigation conducted by Li, et.al (2021) among 72 dichorionic, diamniotic twin-pregnant mothers and their twin offspring from the longitudinal twin study. There was no significant difference between sufficiency and insufficiency groups as regard maternal age, Pre- pregnancy BMI.

Also, prospective cross- sectional case control study conducted by Albahlol et.al (2020) on 322 participants were classified into 2 groups; control group of 110 women who had normal feto- maternal pregnancy, and, complicated pregnancy group comprising 212 participants, The authors reported that maternal age, BMI, and serum 25-hydroxy Vitamin-D levels were non significantly different among all groups.

In our study there was no a statistically significant association between low maternal 25(OH) Vitamin-D and parity and maternal Vitamin-D supplementation (p=0.410, 0.305) respectively.

In contrast to our results, Özdemir et.al, 2018 showed that insufficient maternal Vitamin-D supplementation was associated with neonatal Vitamin-D deficiency. This result is in keeping with those of previous studies found that maternal Vitamin-D supplementation less than 600 IU/day could lead to neonatal Vitamin-D deficiency in cord blood.

In our study there was statistically significant positive correlation between maternal Vitamin-D and neonatal Vitamin-D level (p= 0.001, r= 0.933).

This went in agreement with, Al- Sattam et.al, 2022. Who reported a statistically significant association between maternal Vitamin-D3 and neonatal Vitamin-D3 levels (P= 0.001) by a cross- sectional study conducted 100 pregnant Iraqi mothers and their neonates. Also, Ghafarzadeh et.al. (2021) found a strong association between maternal serum 25 (OH) Vitamin-D concentration and neonatal cord Vitamin-D. The source of Vitamin-D in infants and newborns depends on the storage of maternal Vitamin-D. Therefore, deficiency of maternal Vitamin-D can lead to Vitamin-D deficiency in neonates.

The metabolism of 25(OH)D by the placenta and the fetal kidneys, and the relationship between 25(OH)D and the Vitamin-D binding protein, may have a role in the Vitamin-D kinetics and levels measured in both the pregnant mother and the fetus (Ashley et.al, 2022).

In contrast to our study, Esmeraldo et.al (2019). found in a cross-sectional study carried out on 225 mothers and their term newborns that the mean neonatal 25(OH)Vitamin-D concentrations was 48.7± 15.2 ng/mL vs. 26.0± 6.7 ng/ml their mothers, this means that low level of maternal Vitamin-D didn't affect neonatal level.

The current study showed that there was a statistically significant association between control and patient groups neonates as regrade low neonatal 25 (OH) Vitamin-D levels, birth weight, length and head circumference (p= 0.001).

These results went in agreement with Tao et.al, 2018 who had reported that Vitamin-D deficiency/ insufficiency during pregnancy would seriously affect the growth and development of fetal bones, thereby affecting the abdominal circumference, head circumference.

Also, a study done by Sathish et.a. l, 2016, showed a statistically significant positive correlation between cord Vitamin-D levels and neonatal anthropometric measures.

Disagreeing with these results, Eggemoen et.al, 2017 stated that in a multiethnic cohort study of pregnant women with high prevalence of Vitamin-D deficiency, no independent relation between maternal Vitamin-D levels and any of the neonatal anthropometric measures (P <0.05). Also, in the observational study done by Laird et.al, 2017, no reported association between maternal 25(OH)Vitamin-D with neonatal anthropometric measurements, this may be attributed to different population studied, different environmental and social factors.

In the current study the cut off point of maternal 25 (OH) Vitamin-D level to differentiate between patients group and control group was found to be ≤22.6 (ng/ml) with sensitivity of 91.25%, specificity of 90.0% and area under curve of 94.8% while the cut off point of neonatal 25 (OH) Vitamin-D level to differentiate between patients group and control group was found to be ≤21.5(ng/ml) with sensitivity of 96.25%, specificity of 80% and area under curve of 93.9%.

There is no consensus in defining hypovitaminosis D in pregnancy and cutoff serum value range from 10 to 32 ng/ml. According to American College of Obstetrics and Gynecology (ACOG), serum 25(OH) D concentration of at least 20 ng/mL is needed to avoid bone problems and Vitamin-D deficiency should be defined as circulating 25(OH) D levels less than 32 ng/ml (Arora et.al, 2018).

According to Canadian Pediatric Society, serum 25(OH) D concentration below 10 ng/ml is used as a cutoff for deficiency and between 10 and 30 ng/ml as a cutoff for insufficiency (Arora et.al, 2018).

Limitation of the study: Measurement of maternal serum Vitamin-D levels during different trimesters, measurement of Vitamin-D binding protein (VDP) and small sample size of this study.

Conclusion: Maternal Vitamin-D levels strongly positively correlated with neonatal levels. low neonatal Vitamin-D levels adversely affected neonatal anthropometric measures; hence, neonatal and maternal 25(OH) Vitamin-D serum levels could be sensitive early predictors for early detection of neonatal complications.

Recommendations:

Evaluation of serum 25-hydroxy Vitamin-D level may be recommended as a routine investigation in pregnant women. Appropriate Vitamin-D supplementation to the pregnant women to prevent neonatal

		Maternal 25(OH)Vitamin-D (ng/ml)		Test Value	P-Value	Sig.
		Mean± SD	Range			
Maternal Vitamin-D Supplementation	Irregular	20.06± 1.75	15.1- 23	-1.034•	0.305	NS
	Regular	20.77± 1.58	17.9- 22.7			
Educational Level	Illiterate	19.84± 1.64	17.5- 23	4.055##	0.038	S
	Elementary	20.39± 1.74	15.1- 23			
	Secondary	19.88± 2.2	16- 21.6			
Sun Exposure	Irregular	19.73± 1.72	15.1- 23	- 4.121•	0.001	HS
	Regular	21.48±0.95	20- 23			
Fish Intake	Once/Wk.	20.55± 1.22	17.9- 22.7	3.284≠	0.040	S
	> Once/Wk.	19.16± 2.43	15.1- 22.9			
	None	19.97± 1.88	15.6- 23			
Dairy Products	Once/Wk.	20.25± 1.59	17- 23	3.358≠	0.040	S
	> Once/Wk.	19.21± 2.18	15.1- 23			
	None	20.53± 1.45	16- 22.7			
Maternal Age(Year)	Mean	26.2± 3.9	20- 36	-2.259•	0.027	S

P- value >0.05: Non- significant; P- value <0.05: Significant; P- value <0.01: Highly significant, •: Independent t- test; ≠: One Way ANOVA test.

This study found a statistically significant positive correlation between maternal and neonatal Vitamin-D level (p= 0.001, r= 0.933) table (4)& figure (1).

Table (4): Correlation between maternal and neonatal Vitamin-D level.

	Maternal 25(OH) vit D (ng/ml)		Neonatal 25(OH) vit D (ng/ml)	
	r	P- Value	r	P- Value
Maternal 25(OH)vit D (ng/ml)	-	-	0.933**	0.001
Neonatal 25(OH)vit D (ng/ml)	0.933**	0.001	-	-

P- value >0.05: Non- significant; P- value <0.05: Significant; P- value <0.01: Highly significant, Spearman Correlation Coefficient.

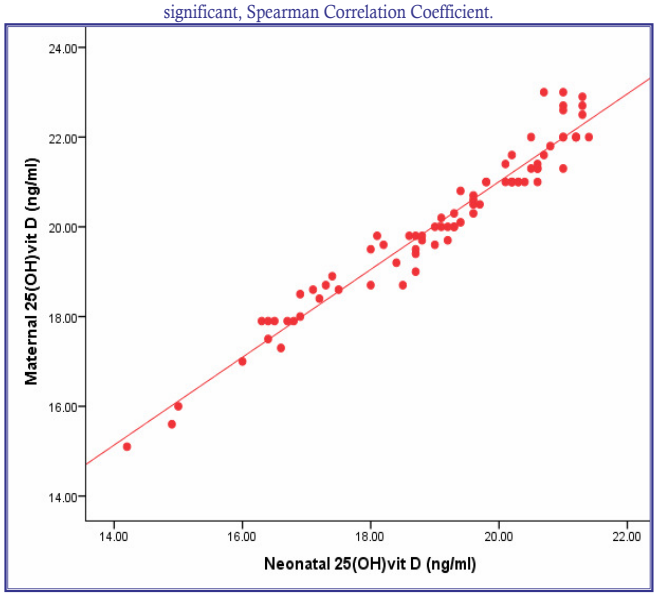

Figure (1) Scatter plot shows positive Correlation for maternal and neonatal 25(OH) Vitamin-D among the studied patients.

There was a statistically significant association between control and patient neonates as regrade neonatal 25(OH) Vitamin-D level, birth weight, head circumference and length (P= 0.001) table (5).

Table (5) Comparison between control group and patients groups regarding neonatal 25(OH)Vitamin-D level and neonatal anthropometric measurements

		Control	Patient	Test Value	P-Value	Sig.
		No. = 20	No. = 80			
Neonatal 25(OH) vit D (ng/ml)	Mean± SD	31.77± 3.18	18.45± 1.72	148.353•	0.001	HS
	Range	25.9- 37.4	15- 21			
Birth Weight (Kg)	Mean± SD	3.27±0.30	2.27±0.26	25.515•	0.001	HS
	Range	2.75- 3.8	1.7- 2.6			
H. C (cm)	Mean± SD	33.74±0.80	29.95±0.90	38.057•	0.001	HS
	Range	32.4- 35	28.7- 31.7			
Length (Cm)	Mean± SD	48.71± 1.13	40.67± 2.09	22.996•	0.001	HS
	Range	47- 51	37.2- 45			

P- value> 0.05 Non- significant (NS); P- value< 0.05 Significant (S); P- value< 0.01 Highly significant (HS), * Chi- square test; • One Way ANOVA test; ≠ Kruskal- Wallis test, HC Head Circumference

The cut off point of maternal 25 (OH) Vitamin-D level to differentiate between patients group and control group was found to be ≤ 22.6 (ng/ml) with sensitivity of 91.25%, specificity of 90.0% and area under curve of 94.8% while the cut off point of neonatal 25 (OH) Vitamin-D level to differentiate between patients group and control group was found to be ≤ 21.5ng/ml with sensitivity of 96.25%, specificity of 80% and area under curve of 93.9% table (6)& figure (2).

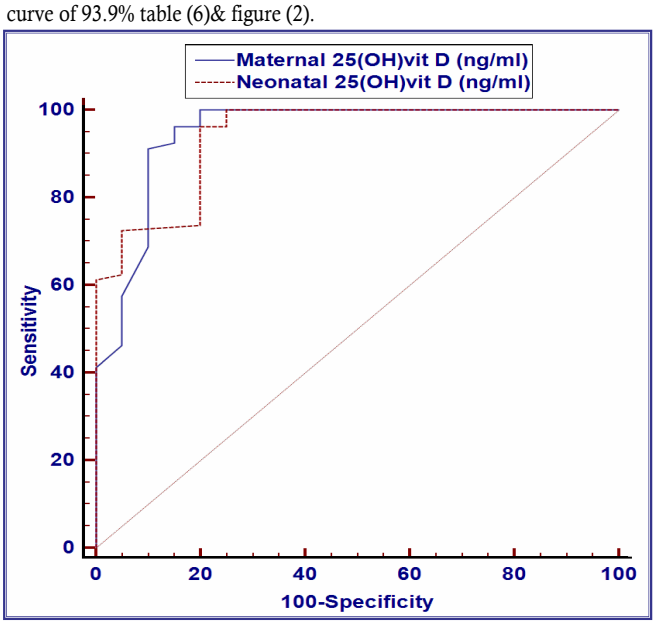

Figure (2) Receiver operating characteristic curve (ROC) for Maternal 25(OH)Vitamin-D (ng/ml) and Neonatal 25(OH)Vitamin-D level (ng/ml) to differentiate between patients group and control group.

Table (6) Maternal and neonatal 25(OH) Vitamin-D level cut off point.

	Cut Off Point	AUC	Sensitivity	Specificity	+Pv	- Pv
Maternal 25(OH)vit D (ng/ml)	≤ 22.6	0.948	91.25	90.00	97.3	72.0
Neonatal 25(OH)vit D (ng/ml)	≤ 21.5	0.939	96.25	80.00	95.1	84.2

Discussion:

In our study there was a statistically significant association between low maternal 25(OH) Vitamin-D levels with the increased maternal BMI (P= 0.003), irregular sun exposure (P= 0.001), low maternal fish and dairy products intake (P= 0.040), low educational level (p= 0.038), and younger maternal age (P= 0.027).

These findings were in agreement with Prasad et.al, (2018) who reported that there were a statistically significant differences between low

proportions between two qualitative parameters. Spearman's rank correlation coefficient (r) was used to assess the degree of association between two sets of variables if one or both of them was skewed. P- value was considered significant when p< 0.05 and was considered highly significant when p< 0.001.

Results:

This study enrolling 100 pregnant women and their newborns divided into (case group 80 and control group 20). in control group mothers the mean age 28.95± 3.85 years, 90% were delivered by Cs and 10% normal vaginal delivery, p arity distribution in PG, P1, P2, P3 is 30%, 45%, 20%, 5% respectively, BMI is normal in 60%, over weight in 30% and obese in 2%, maternal Vitamin-D supplementation is irregular in 30% and regular in 70%, educational level mostly high in 90%and mostly regular sun exposure in 75% and mean maternal 25(OH) Vitamin-D level is 31.75± 5.36 ng/ml(table 1). In patient group mothers the mean age is 25.51± 3.62 years, cesarian section is 88.8% were delivered by Cs and 11.2% normal vaginal delivery, parity distribution in PG, P1, P2, P3 is 8.8%, 31.2%, 42.5%, 17.5% respectively, BMI is normal in 15%, overweight in 46% and obese in 21%, maternal Vitamin-D supplementation is irregular in 73%and regular in 7%, educational level mostly low in 92.4% and mostly irregular sun exposure in 62% and mean maternal 25(OH) Vitamin-D level is 20.42± 2.42ng/ml table (1).

Table (1) Demographic data of maternal control and patient group.

		Control Group	Patients Group
		No. = 20	No. = 80
Maternal Age (Year)	Mean± SD	28.95± 3.85	25.51± 3.62
	Range	23-38	20-36
Parity	PG	6 (30.0%)	7 (8.8%)
	P1	9 (45.0%)	25 (31.2%)
	P2	4 (20.0%)	34 (42.5%)
	P3	1 (5.0%)	14 (17.5%)
BMI (kg/m2)	Mean± SD	23.75± 3.64	27.73± 2.98
	Range	19- 32	17- 32
BMI (kg/m2)	Below normal (< 18.5)	0 (0.0%)	1 (1.2%)
	Normal (18.5- 24.9)	12 (60.0%)	12 (15.0%)
	Over weight (25- 29.9)	6 (30.0%)	46 (57.5%)
	Obese (>= 30)	2 (10.0%)	21 (26.2%)
Maternal Vit D Supplementation	Irregular	6 (30.0%)	73 (91.2%)
	Regular	14 (70.0%)	7 (8.8%)
Educational Level	Illiterate	1 (5.0%)	33 (41.2%)
	Elementary	1 (5.0%)	41 (51.2%)
	Secondary	10 (50.0%)	6 (7.5%)
	University Or Higher	8 (40.0%)	0 (0.0%)
Sun Exposure	Irregular	5 (25.0%)	62 (77.5%)
	Regular	15 (75.0%)	18 (22.5%)
Maternal 25(OH) vit D (ng/ml)	Mean± SD	31.75± 5.36	20.42± 2.42
	Range	20- 38.5	15.1- 29.8
Mode Of Delivery	CS	18 (90.0%)	71 (88.8%)
	NVD	2 (10.0%)	9 (11.2%)

P- value> 0.05: Non- significant (NS); P- value< 0.05: Significant (S); P- value< 0.01: Highly significant (HS). *: Chi- square test; •: Independent t- test. CS cesarian section NVD normal vaginal delivery, PG primigravida P1 para one P2 para two P3 para three. BMI Body Mass Index

In control group neonates the mean neonatal 25(OH) Vitamin-D level is 30.32± 5.57 ng/ml, regarding gender is 55% male and 45% female, 90% were delivered by Cs and 10% NVD, with mean gestational age 35.18± 2.66wk. and mean birth weight 3.27± 0.30kg, mean length 48.71± 1.13cm, mean head circumference 33.74± 0.80cm, Apgar score at 1 min 5- 8 and 9- 9 at 5min table (2). In the patient group neonates, the mean neonatal 25(OH) Vitamin-D 19.46± 2.57ng/ml, regarding gender 53.8% male and 46.2% female, 88.8% were delivered by Cs and 11.2% NVD, with mean gestational age 38.30± 0.73wk. and mean birth weight 2.32± 0.48kg, mean length 42.34± 4.13cm, mean head circumference 30.56± 1.60cm, Apgar score at 1min 3- 7 and 6- 9 at 5min table (2).

Table (2) Descriptive data of control and patient neonates.

		Control Group	Patients Group
		No. = 20	No. = 80
Neonatal 25(OH)vit D (ng/ml)	Mean± SD	30.32± 5.57	19.46± 2.57
	Range	20.1- 37.4	14.2- 29
Gender	Male	11 (55.0%)	43 (53.8%)
	Female	9 (45.0%)	37 (46.2%)
Mode Of Delivery	CS	18 (90.0%)	71 (88.8%)
	NVD	2 (10.0%)	9 (11.2%)
Gestational Age (Wks.)	Mean± SD	38.30±0.73	35.18± 2.66
	Range	37- 40	30- 39
Birth Weight (Kg)	Mean± SD	3.27±0.30	2.32±0.48
	Range	2.75- 3.8	1.2- 3.4
H.C (cm)	Mean± SD	33.74±0.80	30.56± 1.60
	Range	32.4- 35	27.7- 35
Length (Cm)	Mean± SD	48.71± 1.13	42.34± 4.13
	Range	47- 51	36- 52
APGAR Score 1min	Median (IQR)	6 (6- 7)	5 (4- 5)
	Range	5- 8	3- 7
APGAR Score 5min	Median (IQR)	9 (9- 9)	7 (7- 8)
	Range	9- 9	6- 9

P- value >0.05: Non- significant (NS); P- value <0.05: Significant (S); P- value <0.01: Highly significant (HS), *: Chi- square test; •: Independent t- test; ≠: Mann- Whitney test. Cs cesarian section NVD normal vaginal delivery HC head circumference.

The present study found a statistically significant association between low maternal 25(OH) Vitamin-D levels with the increased maternal BMI (P value= 0.003), irregular sun exposure (P value= 0.001), low maternal fish and dairy products intake (P value= 0.040), low educational level (p- value= 0.038), and younger maternal age (P value= 0.027), while no statistically significant relation with parity and maternal Vitamin-D supplementation (p- value= 0.410, 0.305) respectively table (3).

Table (3) Risk factors distribution among low maternal 25(OH)Vitamin-D (ng/ml) level

		Maternal 25(OH)Vitamin-D (ng/ml)		Test Value	P- Value	Sig.
		Mean± SD	Range			
Parity	PG	21.14±0.99	19.7- 22.5	0.972≠	0.410	NS
	P1	20.17± 1.81	15.1- 23			
	P2	19.98± 1.69	15.6- 23			
	P3	19.89± 1.98	16- 22.9			
BMI (kg/m^2)	Below normal (< 18.5)	22±0	22- 22	5.053≠	0.003	HS
	Normal (18.5- 24.9)	21.23± 1.21	18.7- 23			
	Over weight (25- 29.9)	20.25± 1.5	17.5- 23			
	Obese (>= 30)	19.13± 2.02	15.1- 21.8			

Introduction:

Vitamin-D is a fat- soluble steroid hormone known for its classical functions, such as skeletal health and bone metabolism. Recently, there has been considerable recognition of the importance of its role in modifying the immune system and regulating cell proliferation and cell differentiation. (Charoenngam& Holick, 2020)

Vitamin-D blood saturation in the neonate is dependent on their maternal Vitamin-D levels. As Vitamin-D can cross the placenta to the fetus blood stream with a half- life of 25(OH) Vitamin-D is 2-3 weeks and can be reflected as the body vitamin status. It was reported that maternal Vitamin-D deficiency is considered an important biomarker which can change the glucocorticoid- related parameters in placenta. Maternal Vitamin-D deficiency induces the placental and fetal glucocorticoid exposure thus leads to the adverse outcome of the neonate eventually. (Lo et.al, 2019)

Serum levels of 25-hydroxyVitamin-D are considered the best circulating biomarker of Vitamin-D metabolic status and reflect contributions from all sources of Vitamin-D i.e., diet and sun exposure. (Ramasamy, 2020)

Severe Vitamin-D deficiency is defined as a serum 25-hydroxy Vitamin-D concentration (<10 ng/ml), deficiency (10- 20 ng/ml), insufficiency >(20- 30) ng/ml and optimal Vitamin-D concentration (>30 ng/ml). (Amrein et.al, 2020)

Maternal and neonatal Vitamin-D deficiency is alarmingly high in Arabs and significantly associated with each other. One study showed that almost 85% of Arab pregnant women and 88% of their neonates had Vitamin-D deficiency or insufficiency. (Fouda et.al, 2017)

Aim of The Study:

1. To correlate Vitamin-D level in Egyptian mothers and its effect on neonatal anthropometric measures.
2. To determine the risk factors related to maternal Vitamin-D deficiency.

Patients And Methods:

A case control study was carried out at delivery room and Neonatal Intensive Care Unit of Gynecology and Obstetrics Hospital of Ain Shams University during the period from February 2021 till March 2022. A Witten informed consents were obtained from parents of the neonates enrolled in the study after explanation of the nature, aims of the study, benefits for their neonates and for all community and expected risks for their participated neonates in the study.

- Inclusion criteria: Patient group were 80 neonates with intrauterine growth restriction (IUGR) and low birth weight neonates: birthweight below the 10th percentile of the recommended gender- specific birthweight for gestational age reference curves (WHO, 2006) and their respective mothers. Control group were 20 healthy neonates with appropriate for gestational age and their respective mothers.
- Exclusion criteria were neonates with major congenital anomalies and with hepatic or renal disorders.
- Ethical Issue: The protocol was accepted by the ethical committee of the Faculty of Postgraduate Childhood Studies, Ain Shams University and the National Research Center (NRC).

Procedures:

A detailed history was obtained from each mothers including age, parity weight and height for calculation of BMI, clothing style (veiled or not), diet (especially eggs, dairy products and fish), educational status and Vitamin-D supplementation.

The neonates included in this study were subjected to:

1. Assessment of general condition at birth using APGAR score.
2. Assessment of gestational age by Ballard score.
3. Detailed Systemic Examination.
4. Anthropometric measures, birth weight in grams (g), length in centimeters (cm) and head circumference in centimeters (cm), and they plotted to according to anthropometry centiles report of WHO, (1995).
5. Routine investigations relevant to the diagnosis, Measurement of 25(OH)Vitamin-D level using Enzyme- linked immunosorbent assay (ELISA). the kit was supplied from My BioSource, Inc. (P. O. Box 153308, San Diego, CA 92195- 3308, USA).

Sample Collection and Storage:

Venous blood was obtained from the mothers at the time of delivery, and from their newborns within 6 hours of delivery.

Fresh collected blood should be centrifuged within one hour. Vitamin-D is an inert substance. Serum samples can be stored at room temperature. However, serum storage at 2- 8°C is recommended when the analysis is performed within 24hrs after collection. Otherwise, serum samples must be stored at -20°C until analyzed. Repeated freeze- thaw cycles were avoided. Severely hemolytic or lipemic serum samples should not be used and the kit was supplied from My BioSource, Inc. (P. O. Box 153308, San Diego, CA 92195- 3308, USA).

Ethical Considerations:

The study ran in concordance with international ethical standards and applicable local regulatory guidelines. The study did not have any physical, psychological, social, legal, economic, or any other anticipated risks to study's participants. The study conserved participants' privacy. Investigators were responsible for keeping the security of the data. We also confirmed that the participants' data were not used for any other purpose outside this study. Personal data (e.g., Name, contact information) were not entered in our data entry software to conserve the participants' privacy, however, each subject got a unique identifier code.

Statistical Analysis:

Data were analyzed using Statistical Program for Social Science (SPSS) version 18.0. Quantitative data were expressed as mean± standard deviation (SD). Qualitative data were expressed as frequency and percentage. Independent- samples t- test of significance was used in parametric data when comparing two means. Mann Whitney U test: for two- group comparisons in nonparametric data.

Chi- square (X^2) test of significance was used in order to compare

Serum 25- Hydroxy Vitamin D Levels in Egyptian Mothers and its Relation to Neonatal Anthropometric Measurements

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Summary

Aim: To correlate 25(OH) hydroxy vitamin-D level in Egyptian mothers and its effect on neonatal anthropometric measures, and determine risk factors related to maternal vitamin-D deficiency.

Methodology: A case control study was carried out at delivery room and Neonatal Intensive Care Unit of Gynecology and Obstetrics Hospital of Ain Shams University.

Sampling: Serum 25(OH) vitamin-D levels were measured by enzyme- linked immunosorbent assay in 100 mother and their babies with gestational age ranging 30wk to 40wk.

Results: The maternal and neonatal levels of serum 25(OH) vitamin-D were 31.75± 5.36 ng/ml and 30.32± 5.57ng/ml (control groups) respectively. In patient groups were 20.42± 2.42 ng/ml and 19.46± 2.57 ng/ml respectively. The study showed that there was a statistically significant positive correlation between maternal and neonatal vitamin-D levels (p= 0.001, r= 0.978). There was a statistically significant association between low maternal 25(OH) vitamin-D levels with the increased maternal BMI (P= 0.003), irregular sun exposure (P= 0.001), low maternal fish and dairy products intake (P= 0.040), low educational level (p=0.0 38), and younger maternal age (P= 0.027), while no statistically significant association between low maternal 25(OH) vitamin-D levels with parity and maternal vitamin-D supplementation (p= 0.410, 0.305) respectively. On the other hand, there was a statistically significant association found between control group and patient group neonates as regards birth weight, length and head circumference (p= 0.001).

Conclusion: Neonatal and maternal 25(OH) vitamin-D serum levels showed a statistically positive correlation. It was found that low neonatal vitamin-D levels adversely affected neonatal anthropometric measures, hence, neonatal and maternal 25(OH) vitamin-D serum levels could be sensitive early predictors for early detection of neonatal complications.

Keywords: Mothers; neonatal anthropometry; vitamin-D.

مستويات ٢٥ هيدروكسي فيتامين (د) بالدم لدى الأمهات المصريات
وعلاقتها بالقياسات الانثروبومترية للاطفال حديثي الولادة

الهدف: ربط مستوى ٢٥ هيدروكسي فيتامين (د) لدى الأمهات المصريات وتأثيره على القياسات الانثروبومترية عند الأطفال حديثي الولادة، ودراسة عوامل الخطر المحتملة من نقص فيتامين (د) لدى الأمهات.

المرضى وطرق البحث: دراسة مقارنة تم اجرائها بوحدة رعاية الأطفال حديثي الولادة بمستشفى أمراض النساء والولادة بجامعة عين شمس.

العينة: قياس مستويات ٢٥ هيدروكس فيتامين (د) بواسطة مقايسة الانزيم المرتبط المناعى لدى ١٠٠ ام واطفالها حديثى الولادة الذى يتراوح أعمارهم الرحمية ما بين ٣٠ حتى ٤٠ أسبوعا.

النتائج: كانت مستويات ٢٥ هيدروكسى فيتامين (د) للامهات والاطفال حديثى الولادة ٣١,٧٥± ٥,٣٦ نانوغرام /مل و٣٠,٣٢± ٥,٥٧ نانوغرام /مل (مجموعة التحكم). فى مجموعة المرضى كانت ٢٠,٤٢± ٢,٤٢ و١٩,٤٦± ٢,٥٧. أظهرت الدراسة أن هناك علاقة إيجابية بين مستوى فيتامين (د) للامهات ومستوى فيتامين (د) لدى اطفالهم حديثى الولادة. وأظهرت ايضا علاقة ذات دلالة إحصائية بين نقص مستوى فيتامين (د) لدى الامهات وعمر الأم، مؤشر كتلة الجسم للامهات، تناول الاسماك ومنتجات الالبان والمستوى التعليمى. ولم تظهر الدراسة أي علاقة ذات دلالة إحصائية فيما يتعلق بعدد الولادات السابقة، تناول الام لفيتامين (د). كما توجد علاقة ذات دلالة إحصائية يتعلق بنقص مستوى ٢٥ هيدروكسى فيتامين (د) للاطفال حديثي الولادة والوزن والطول ومحيط الرأس.

الخلاصة: يوجدعلاقة ذات دلالة احصائية ايجابية بين مستوى ٢٥ هيدروكسى فيتامين (د) لدى الامهات واطفالهم حديثى الولادة. وقد وجد أن انخفاض مستوى فيتامين (د) لحديثي الولادة يؤثر سلبا على مقاييس الجسم البشري، لذلك يمكن أن يكون مستوي ٢٥ هيدروكسى فيتامين (د) للامهات واطفالهم حديى الولادة منبئات مبكرة للكشف المبكر عن مضاعفات حديثي الولادة.

الكلمات الدالة: أمهات؛ القياسات الأنثروبومترية للاطفال لحديثي الولادة. فيتامين (د).

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