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Nutritional Status of Children Under 5 years in Sheikh - Omar center in Baghdad city.

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ABSTRACT

Malnutrition is still a big health problem in our country. Malnutrition is any disorders of nutrition. It may result from an unbalanced, insufficient, or excessive diet or from impaired absorption of food. To get a measure of malnutrition in a population, young children and infant, they can be weighed and measured and the results are compared with references to known if they have grown well. Measuring weight and height is the most common way of assessing malnutrition in a population. The aim of this study is to assess the prevalence of malnutrition on and to explore it's contributing factors among children under 5 years of age in Baghdad governorate in 2016. Samples were collected from primary health care centers of Sheikh - Omar center in Baghdad city. The total number of samples was (248) that were chosen from Sheikh - Omar center. The nutritional status was assessed by measuring weight for age. Prevalence of malnutrition has been found to be higher among male children with age of less than one year. Prevalence of malnutrition has been found to be higher among crowding index of 5 or more person per room, age of less than one year at adding supplementary foods. Finally, the malnutrition was higher among children with artificial feeding during the first six months of age.

INTRODUCTION

Child malnutrition is the most widely spread disorder in tropical and subtropical areas ^[1]. It is not a simple matter of whether one has satisfied one's appetite or not since a child who eats enough to satisfy immediate hunger can still be malnourished ^{[2].} Malnutrition has been recognized as a consequence of poverty and is known to cause a great deal of both physical and emotional human suffering while it is viewed in the context of violation of child's human rights ^{[2,3].}

Nutritional status of children is determined by: age, gender, household characteristics, dietary intake and health status. These are influenced by underling determinants such as food security and community infrastructure including sanitation, safe water and local market conditions. Other factors include prices of related health inputs and available household resources ^[4]. Malnutrition which is poor nutritional status, can lead to disability, illness and death and jeopardize future economic growth by reducing the intellectual and physical potential of the entire population ^[5]. Globally malnutrition is estimated to con- tribute to over 50% of child deaths and 40 million are affected by vitamin A deficiency ^[6]. It is estimated that 190 million under-five year old children in developing countries are chronically malnourished and in Africa, 38.6% are stunted with 7.2% wasted ^[7].

In Kenya chronic and acute malnutrition, micronutrient deficiencies and infectious diseases are prevalent, particularly among the rural populations and urban poor ^[8]. The Kenya government studies of 2008/2009, 2005/ 2006 compared to 2003 show percent increase in stunting (35:33:30), and wasting (7:6.1:6) ^[9].

Prevalence of severe malnutrition in Kenya at 7% is above the WHO/ UNICEF 2.3% acceptable rate expected in a healthy child population for developing countries. The Kenyan under-five mortality rate (U5MR) shifted from97/1000 in 1990 to 120/1000 in 2005 indicating vitamin A deficiency ^[10].Cassava, (*Manihotesculenta*, Crantz) is very important in the diets of populations in Sub Saharan Africa and is the second staple after maize in western Kenya food



systems ^[11]. Busia district ranked cassava first in both consumption and monetary value ^[12] and, high levels of malnutrition had been attributed to use of cassava, millet and sorghum ^[13]. Cassava contributes to calories, lacks vitamin A and has the lowest protein energy ratio (P:E), approximately 2% compared to other staple crops ^[14].

Aim of the Study:

Assessment of malnutrition among children under 5 years of age in Sheikh - Omar center in Baghdad city.

Materials of methods :

A descriptive Cross- sectional study to identify the malnutrition stats among children under 5 years of age. Data collections carry out through direct interview with the mothers by using specific questionnaire design to this study. The data collected from mothers had children under five years attending the Chie -homer health center .The Sample type was Purposive sample and the Sample size was 248 child .

Statistical analysis:

For presentation data and analysis using SPSS Vr.18.Using chi-square test and MCP (Monte Carlo test) at 5% &1% level of significant. For determent the levels body mass index(BMI)^[27] as :

-Under weight	(16-18.5)
- Normal weight	(18.8-25)
- Over weight	(25-30)
- Obese	(≥40)

RESUITS

Malnutrition is any disorders of nutrition. It may result from an unbalanced, insufficient, or excessive diet or from impaired absorption of food. ^[16] Malnutrition is usually the result of a combination of inadequate dietary intake and infection. ^[18]

Table (1) represents distribution of sample according to age group and gender. the highest percentage of malnutrition was (29.8%) with age (<1) while the lowest percentage was (2.4%) in age group (3-3.11) among male children.

$\Lambda a a a coups (yours)$		G	ender		
Age gro	ups(years)	Male	Female	Total	
(<1)	No.	74	67	141	
	%	29.8%	27.0%	56.9%	
(1-1.9)	No.	36	34	70	
	%	14.5%	13.7%	28.2%	
(2-2.9)	No.	6	7	13	
	%	2.4%	2.8%	5.2%	
(3-3.9)	No.	3	6	9	
	%	1.2%	2.4%	3.6%	
(4-4.9)	No.	8	7	15	
	%	3.2%	2.8%	6.0%	
Total	No.	127	121	248	
	%	51.2%	48.8%	100.0%	

Table(1):Distribution of sample according to age groups(years) by Gender



Table(2) show the distribution sample according to birth order. The higher percentage of malnutrition was (27.4%) among children with birth order (2) while the lower percentage was (1.2%) among children with birth order (8).

Birth order	No.	%
1 ^{rst}	41	16.5%
2^{nd}	68	27.4%
3^{rd}	33	13.3%
4^{th}	28	11.3%
5^{th}	27	10.9%
6 th	40	16.1%
7th	8	3.2%
8th	3	1.2%
Total	248	100.0%

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Iable(2):Distribution of	sample according	to Birth	order of ch	ildren

Table(3) represents distribution of sample according to BMI levels and age groups. The highest percentage of malnutrition for children with age group (<1) was (34.3%) had underweight of BMI levels and the lowest percentage was (2.0%) in age group (2-2.11) and (3-3.11) in normal and underweight respectively.

		BMI Levels			
Age groups (yea	Age groups (years)		Normal	Overweight	Total
(<1)	No.	85	40	16	141
	%	34.3%	16.1%	6.5%	56.9%
(1-1.9)	No.	41	24	5	70
	%	16.5%	9.7%	2.0%	28.2%
(2-2.9)	No.	6	5	2	13
	%	2.4%	2.0%	.8%	5.2%
(3-3.9)	No.	5	2	2	9
	%	2.0%	.8%	.8%	3.6%
(4-4.9)	No.	13	1	1	15
	%	5.2%	.4%	.4%	6.0%
Total	No.	150	72	26	248
	%	60.5%	29.0%	10.5%	100.0%

Table(3): Distribution of sample according to BMI levels by age groups (years)

Table (4)show distribution of sample according to BMI levels and gender. The highest percentage of malnutrition for male children was (30.6%) in underweight of BMI levels and the lowest percentage was (4.0%) in overweight of BMI levels.



Condor		BMI Levels			
Genue		Underweight	Normal	Overweight	Total
Male	No.	76	35	16	127
	%	30.6%	14.1%	6.5%	51.2%
Female	No.	74	37	10	121
	%	29.8%	14.9%	4.0%	48.8%
Total	No.	150	72	26	248
	%	60.5%	29.0%	10.5%	100.0%

Table(4): Distribution of sample according to BMI levels by gender

Table(5) represents distribution of sample according to BMI levels and weaning of the child. The highest percentage of malnutrition was (35.2%) in underweight and weaning children while the lowest percentage was (3.6%) in overweight and non-weaning children.

BMI level Total Weaning Underweight Overweight Normal 9 87 Weaning No. 62 16 % 35.2% 6.5% 6.9% 48.6% Non-Weaning No. 87 56 17 160 51.4% % 25.1% 22.7% 3.6% No. 149 72 26 247 Total % 60.3% 29.1% 10.5% 100.0%

Table(5): Distribution of sample according to BMI levels by weaning

 $X^2 = 8.002 P < 0.05 (S)$

In table(6) represents distribution of sample according to BMI levels and type of feeding. The highest percentage of malnutrition was (27.0%) in overweight children with artificial feeding while the lowest percentage was (2.1%) in underweight children with mixed feeding.

Table(6): Distribution of sam	nple according to BMI	levels byType of feeding

Type of feeding					
		Underweight	Normal	Overweight	Total
Natural	No.	60	45	120	120
	%	24.2%	18.1%	48.4%	48.4%
Mixed	No.	67	15	88	88
	%	2.1%	6.0%	10.5%	10.5%
Artificial	No.	23	12	38	38
	%	9.3%	4.8%	41.1%	41.1%
Total	No.	150	72	248	248
	%	35.6%	29.0%	?????	100.0%



The table(7) represents distribution of sample according to BMI levels and vaccinations . The highest percentage of malnutrition was (52.0%) in underweight and non- complete vaccination children while the lowest percentage was (1.6%) in overweight and complete vaccination children.

Vaccinations					
v acciliations	Underweight	Normal	Overweight	Total	
Complete	No.	21	7	4	32
	%	8.5%	2.8%	1.6%	12.9%
Non-complete	No.	129	65	22	216
	%	52.0%	26.2%	8.9%	87.1%
Total	No.	No.	72	26	248
	%	60.5%	29.0%	10.5%	100.0%

Table(7): Distribution of sample according to BMI levels and vaccinations

In table (8) showdistribution of sample according to BMI levels by Birth order. The highest percentage of malnutrition was (18.5%) in underweight children with birth order (2) while the lowest percentage was (0.0%) in normal children with birth order (8).

Birth order					
		Underweight	Normal	Overweight	Total
1	No.	23	14	4	41
	%	9.3%	5.6%	1.6%	16.5%
2	No.	46	18	4	68
	%	18.5%	7.3%	1.6%	27.4%
3	No.	18	6	9	33
	%	7.3%	2.4%	3.6%	13.3%
4	No.	17	8	3	28
	%	6.9%	3.2%	1.2%	11.3%
5	No.	17	9	1	27
	%	6.9%	3.6%	0.4%	10.9%
6	No.	20	16	4	40
	%	8.1%	6.5%	1.6%	16.1%
7	No.	6	1	1	8
	%	2.4%	0.4%	0.4%	3.2%
8	No.	3	0	0	3
	%	1.2%	0.0%	0.1%	1.2%
Total	No.	150	72	26	248
	%	60.5%	29.0%	10.5%	100.0%

Table(8): Distribution of sample according to BMI levels by Birth order

MCP>0.05 (NS)

DISCUSSION

The present study in table 1 shows that age group less than one year have the greatest percentage of malnutrition while age group (3-3.11) have the lowest percentage of malnutrition because the high prevalence of breast feeding during infancy period which has been found in



this study. Breast milk is well known to have a protective effect against malnutrition during such period ^[27]

And this finding is in agreement with ^[28] who found that in India a statistically significant relationship was found between different age groups and nutritional status of under 5 years children and malnutrition was more prevalent under 1 years of age, while this result disagreement to ^[29] who found that malnutrition in Turkey was more prevalent in age of 4 years (51%).

Malnutrition was a little more prevalent in males than in females. It is probably because attention are paid more for males than females in developing countries. And this result disagrees with,^[30] who mentioned that in Bihar in India malnutrition was more prevalent in girls than in boys (urban 34% vs. 16% and in rural 35% vs. 18%), and^[28] who found that malnutrition was more prevalent in females than in males in India.

This finding is in agreement with^[31] who found that malnutrition was less prevalent in girls than in boys in Lao PDR, and ^[32] who found that prevalence of malnutrition was differ substantially between Dresden (girls 9.1 %, boys12.5%) and Munich (17% both).

There is a highly significant association (P value < 0.001) between malnutrition and infant feeding during the first six months of age. Malnutrition was more prevalent in underweight children with artificial feeding and less prevalent among overweight children with mixed feeding. It is because the breast milk is ideal food for growth and development of infant. It is generally believed that human breast milk is adequate for the first 6 months of an infant life ^[34]. Bottle feeding is usually given especially in the developing countries in diluted formula and prepared under un hygienic way and associated with more incidence of diarrhea which cause malnutrition ^[34]. And this result agrees with,^[28] who found that practice of exclusive breast feeding reduce malnutrition of under 5 years children in India,^[27] who found that malnutrition was lower with breast feeding in Pakistan , and ^[31] (2011) who found that malnutrition was more prevalent among breast feeding than non–breast feeding children in Dresden and munch.

age of child at adding supplementary foods in urban areas. Malnutrition was more prevalent in age of (<1) months in urban areas. It is because adding of the supplementary foods at right time is very important to child health because breast milk after the age of six months are inadequate for growth and development of child ^[34]. And this result agrees with, ^[28] who found that years children in India, and ^[29]who mentioned that early introduction of supplementary foods is important conditioning factor in nutritional status of preschool children in Turkey.

There is a significant association $X^2=8.00 \text{ P}<0.05$ (S) between malnutrition and BMI of child at weaning in urban areas. Malnutrition was more prevalent in underweight and weaning children while it is less prevalent in overweight and non-weaning children. It is because continuing with breast feeding for child that is very important for child health .And this result agrees withwho mentioned that malnutrition was less prevalent in non-children with BMI levels in Pakistan^[27].

CONCLUSION

From the results of current study we concluded that malnutrition was more prevalent in male than female and so on in age group less than one year. So children with artificial feeding were found among first six months of age. The age group less than one year had adding supplementary foods. The underweight and weaning children. Also malnutrition was in underweight group with children had non- complete vaccination and the (18.5%) of children had underweight with birth order (2).

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RECOMMENDATIONS

1-More activity on food programmer implementation PHC centers.

- 2.Follow up of child and monitoring nutritional status by regular attendance to PHC centers.
- 3-Proper care to lactating women by attending P.H.C centers and good regular nutrition.
- 4- Educational courses must be given for the society by the ministry of health in cooperation with specialized professors as well as with humanitarian organizations for the following goals:
 - -Encourage of breast feeding.

-Encourage of adding supplementary foods at proper time.

5-More studies and researches about this problem will be of a great help in resolution of this problem.

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