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### RESEARCH ARTICLE

#### PREVALENCE OF MALNUTRITION AND ASSOCIATED RISK FACTORS IN CHILDREN IN KINGDOM OF SAUDI ARABIA

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#### Manuscript Info

#### Abstract

##### Manuscript History

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#### Introduction:-

Malnutrition is a condition that results from eating a diet in which one or more nutrients are either not enough or are too much such that the diet causes health problems. It may involve calories, protein, carbohydrates, vitamins or minerals.

Maybe one of the important causes of the malnutrition is psychological causes and another important cause associated with a good health of baby is breast feeding.

#### Rationale:

The prevalence of malnutrition in pre-school children poses a significant risk to a child's healthy life, which can lead to complications at the same time or complications in adulthood. It is important to know this so that it becomes clear what matters related to this problem and to treat it.

#### Literature review :

##### According to the other previous study like:

The study: Prevalence of malnutrition in Saudi children: A community-based study. (El Mouzan et al., 2010) The objective of this study was to establish the prevalence data, and the conclusion was prevalence rates are still higher than other countries with less economic resources, indicating that more efforts are needed to improve the nutritional status of children. (El Mouzan et al., 2010)

This study completely match with our study by age group and very accurate and one of its advantages is that it focused on the prevalence rate in particular and accurate.

#### Research question:

Questionnaire.

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**Aim:**

To determine Prevalence of malnutrition in preschool age children.

**The Sub- Objectives:-**

1. The prevalence of malnutrition is high in either sex.
2. Age group most affected by malnutrition.
3. The relationship between financial income and malnutrition
4. The relationship between non breast feeding and malnutrition
5. The most common complications.

**Method and Design:-**

**Study design:**

Cross sectional study.

**Study area:**

This study will be conducted in kingdom of saudia Arabia.

**Study setting:**

The study will be carried out by questionnaire.

**Study population:**

IP and OP.

**Inclusion criteria:**

Preschool age children

**Exclusion criteria:**

School age children

**Data Collection Methods:-**

**Data collection tool:**

Self-administered questionnaire partially constructed by the researcher with reference to already made questionnaire in another study .Validity will be checked by at consultant.

**Data collection technique:**

The researcher will distribute the questionnaire.

**Study sample and technique:**

**Sample size:**

More than 400

**Sample technique:**

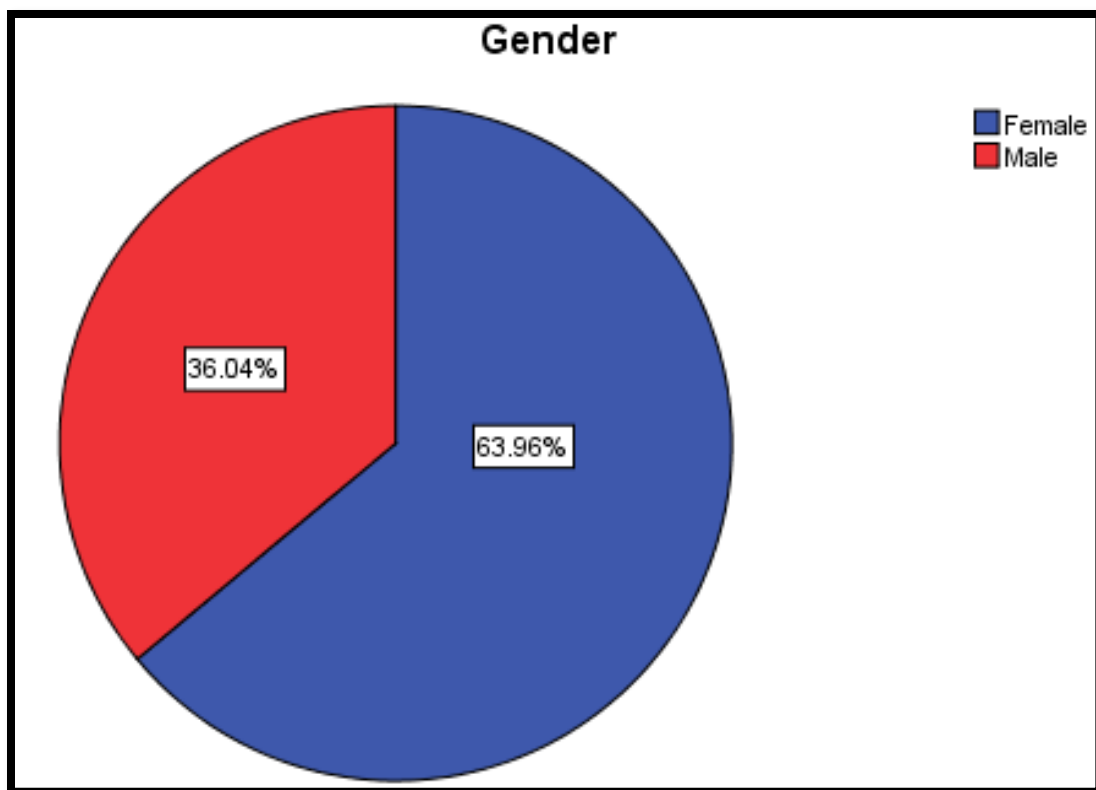
Questionnaire.

**Data entry and statistical analysis:**

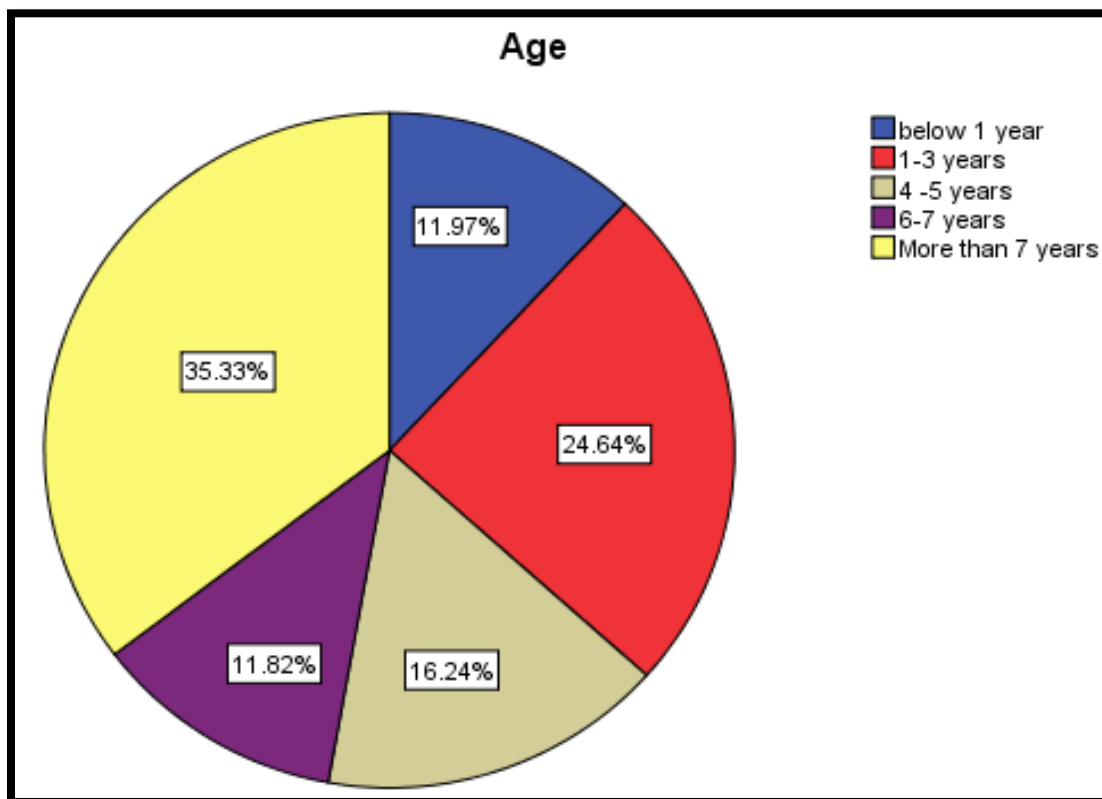
The data will be entered into a personal computer and it will be analyzed using Statistical Package for the Social Sciences(SPSS).

**Results:-**

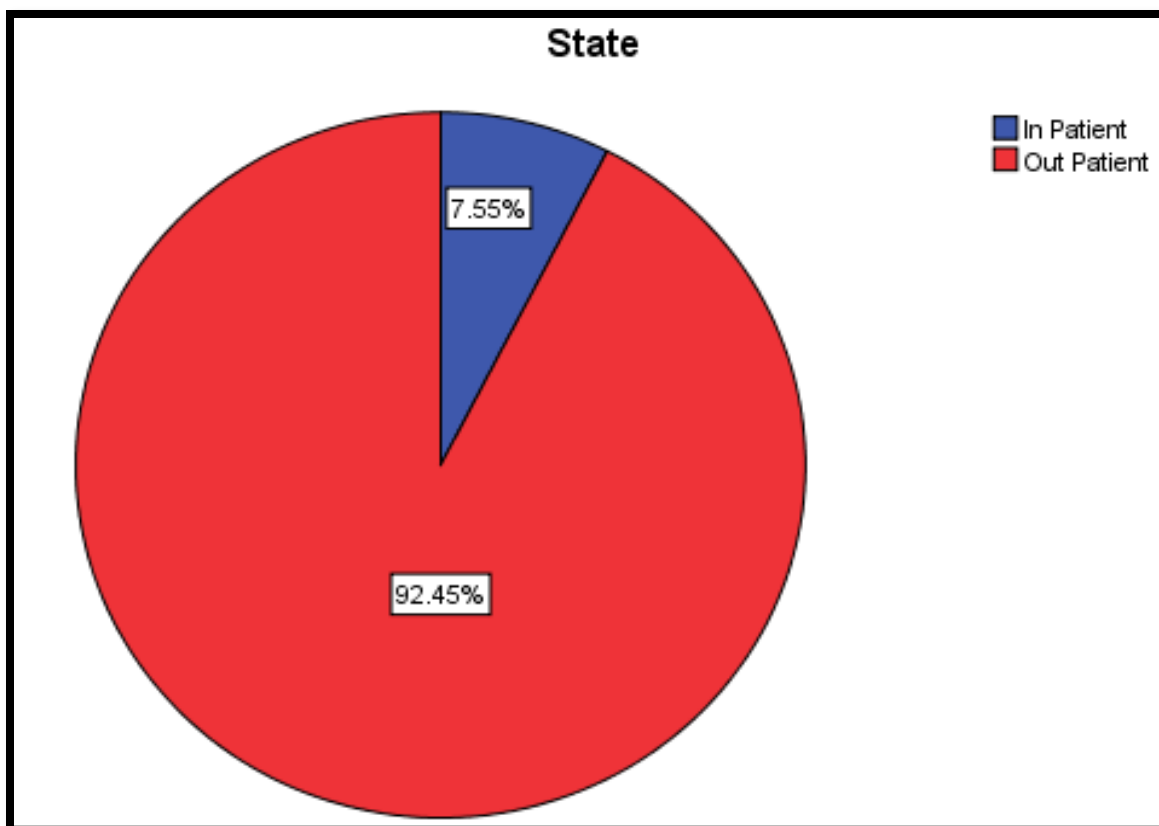
Questionnaire Prevalence of malnutrition in preschool age children.702 responses were collected showing the following results and conclusion:



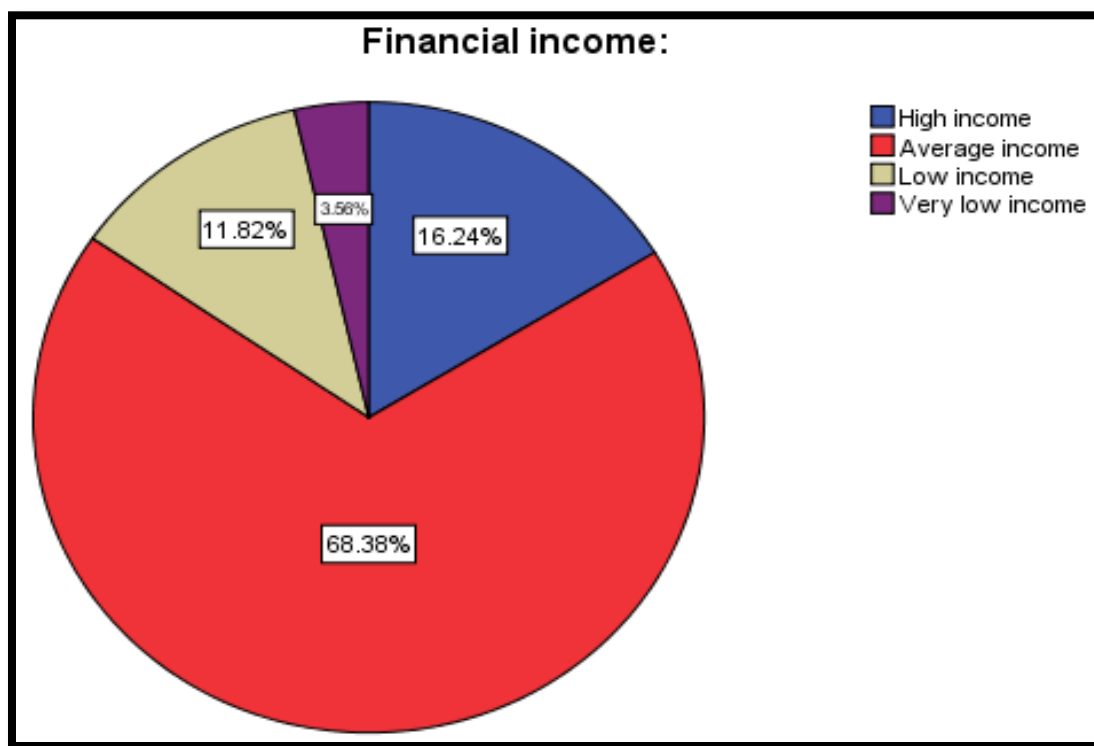
The results show that most of the respondents are Females.



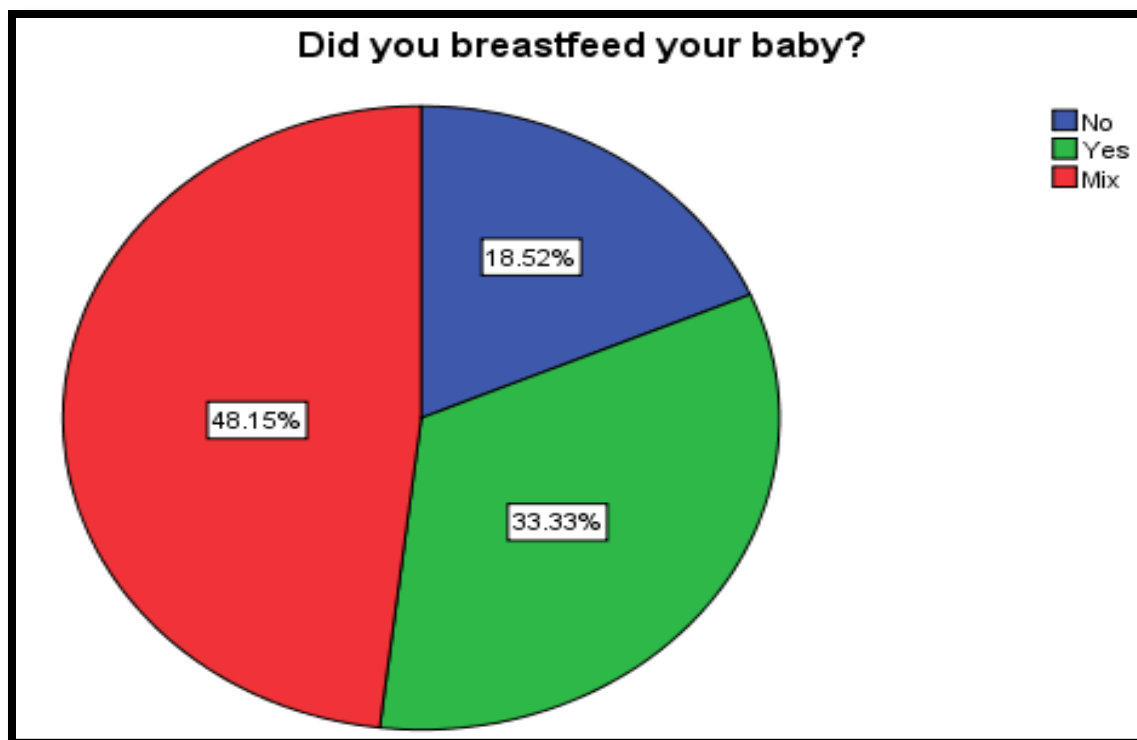
The results show that most of the respondents are more than 7 years old.



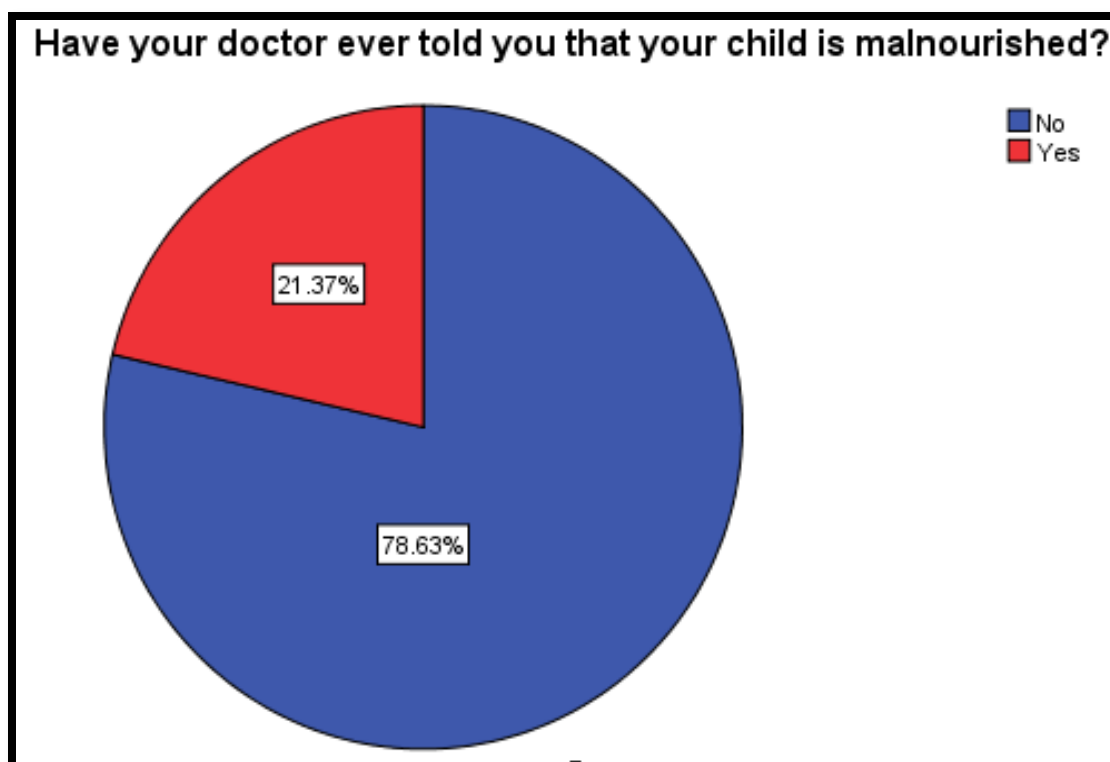
The results show that most of the respondents are out patients.



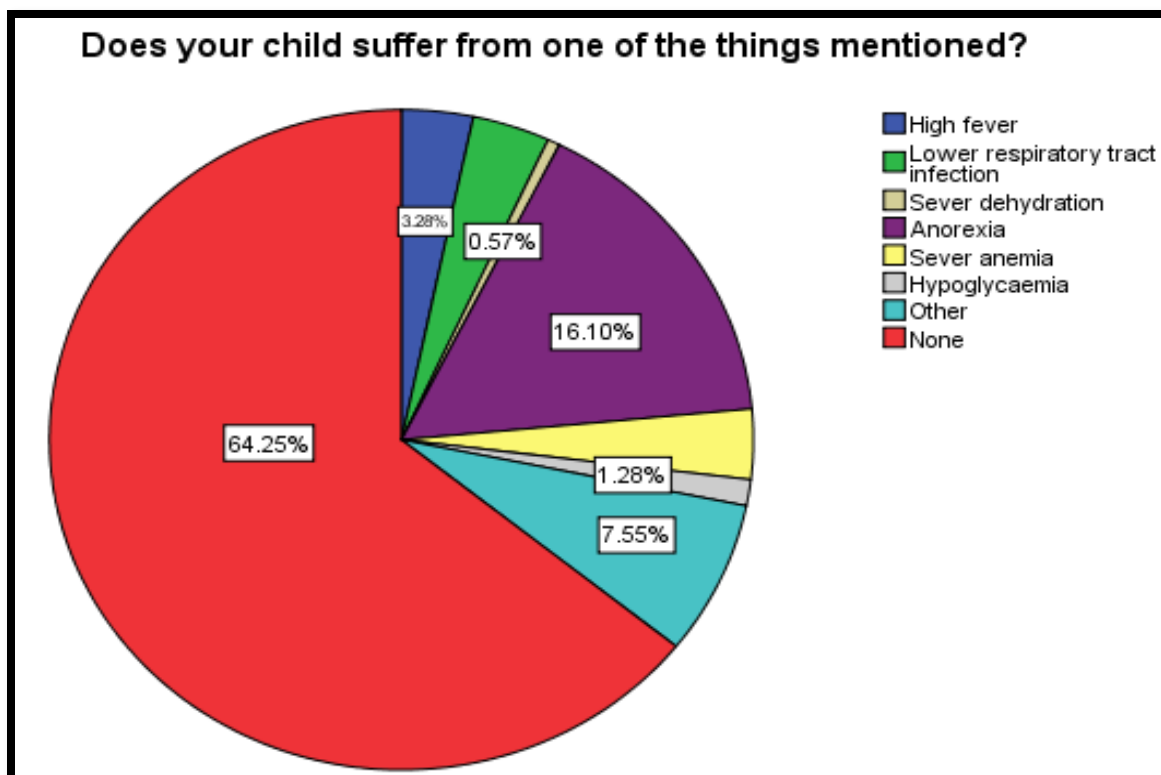
The results show that most of the respondents have average income.



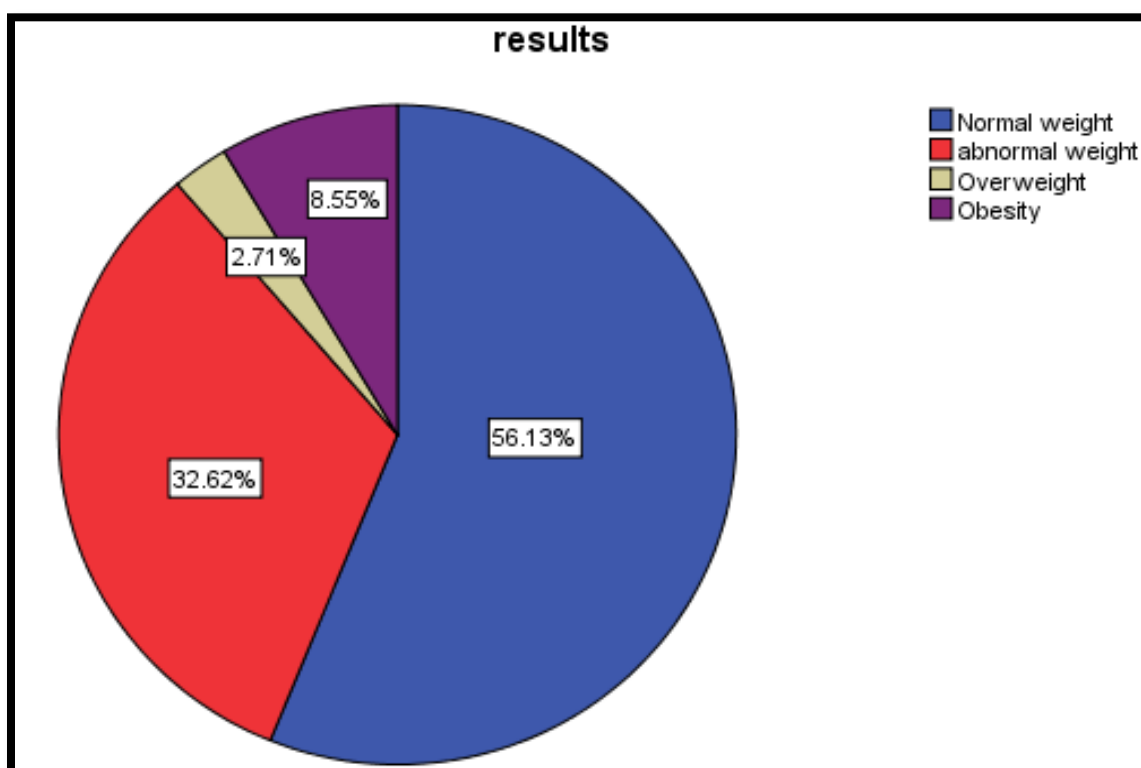
The results show that most of the respondents did a mixture of breastfeeding and bottle feeding to feed their children.



The doctor of most of the respondents didn't tell them that their kids are malnourished.



16.10% of the children suffer from anorexia.



56.13% of the respondents have normal weight.

**Correlations:**

<b>Correlations</b>			
		Did you breastfeed your baby?	Does your child suffer from one of the things mentioned?
Did you breastfeed your baby?	Pearson Correlation	1	.078*
	Sig. (2-tailed)		.039
	N	702	702
Does your child suffer from one of the things mentioned?	Pearson Correlation	.078*	1
	Sig. (2-tailed)	.039	
	N	702	702

\*. Correlation is significant at the 0.05 level (2-tailed).

P value is 0.039 which means there is a strong relationship between breastfeeding the child and suffering from the diseases.

<b>Correlations</b>			
		Have your doctor ever told you that your child is malnourished ?	Does your child suffer from one of the things mentioned?
Have your doctor ever told you that your child is malnourished?	Pearson Correlation	1	-.330**
	Sig. (2-tailed)		.000
	N	702	702
Does your child suffer from one of the things mentioned?	Pearson Correlation	-.330**	1
	Sig. (2-tailed)	.000	
	N	702	702

\*\* . Correlation is significant at the 0.01 level (2-tailed).

P value is 0.000 which means there is a strong relationship between suffering from the diseases and being malnourished.

Correlations			
		Financial income:	Does your child suffer from one of the things mentioned?
Financial income:	Pearson Correlation	1	-.118 <sup>**</sup>
	Sig. (2-tailed)		.002
	N	702	702
Does your child suffer from one of the things mentioned?	Pearson Correlation	-.118 <sup>**</sup>	1
	Sig. (2-tailed)	.002	
	N	702	702

<sup>\*\*</sup>. Correlation is significant at the 0.01 level (2-tailed).

P value is 0.002 which means there is a strong relationship between financial income and suffering from the diseases

Correlations			
		results	Gender
results	Pearson Correlation	1	.089 <sup>*</sup>
	Sig. (2-tailed)		.018
	N	702	702
Gender	Pearson Correlation	.089 <sup>*</sup>	1
	Sig. (2-tailed)	.018	
	N	702	702

<sup>\*</sup>. Correlation is significant at the 0.05 level (2-tailed).

P value is 0.018 which means there is a strong relationship between the results and the gender.



Correlations			
		results	Does your child suffer from one of the things mentioned?
results	Pearson Correlation	1	-.084 <sup>*</sup>
	Sig. (2-tailed)		.026
	N	702	702
Does your child suffer from one of the things mentioned?	Pearson Correlation	-.084 <sup>*</sup>	1
	Sig. (2-tailed)	.026	
	N	702	702

\*. Correlation is significant at the 0.05 level (2-tailed).

P value is 0.026 which means there is a strong relationship between the results and suffering from the diseases.

Correlations			
		Have your doctor ever told you that your child is malnourished ?	Financial income:
Have your doctor ever told you that your child is malnourished?	Pearson Correlation	1	.085 <sup>*</sup>
	Sig. (2-tailed)		.024
	N	702	702
Financial income:	Pearson Correlation	.085 <sup>*</sup>	1
	Sig. (2-tailed)	.024	
	N	702	702

\*. Correlation is significant at the 0.05 level (2-tailed).

P value is 0.024 which means there is a strong relationship between financial income and being malnourished.

**Discussion:-**

This study was based on a number of 702 participants, from this study as the number of females is 449 and males is 253 and ,150 of them, their doctor told them that their kids are malnourished. which is considering as unhealthy sign

The current study showed statistically significant (P value is 0.039) which means there is a strong relationship between breastfeeding the child and suffering from the diseases, (P value is 0.002) which means there is a strong relationship between financial income and suffering from the diseases such as High fever , Sever dehydration and Anorexia.

(P value is 0.018) Which means that there is a strong relationship between the results of the child's weight dependent on the answers and the gender, ( P value is 0.026) Which means that there is a strong relationship between the results of the child's weight dependent on the answers and between the diseases such as High fever , Sever dehydration and Anorexia , (P value is 0.024) which means there is a strong relationship between financial income and being malnourished.

**Conclusion:-**

The results showed very positive results because most of the children have normal weight. It was clear from the results that there are some factors that affect a child's weight, including the financial income, children with higher incomes have a more normal weight than others . The results also showed that breastfeeding is very important to the children , and it can affect their health.

**Recommendation:-**

we recommend setting up health education programs about the malnutrition, This health problem must be presented broadly and beneficially and, in a way, that everyone understands, as most deal with the malnutrition by ignoring and not being important, work should be done on health conferences and medical discussions on that.

**Acknowledgement:-**

The authors would like to thank the participants for their great cooperation, Participants will be especially from medical universities and colleges selected and carried out by questionnaire.

**We thank the data collectors:****Ethical consideration:**

1. Individual consent from participants ( written on the front page of thequestionnaire).
2. All information will be kept confidential.

**Budget:**

Self funded

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7. Child malnutrition estimates in Indonesia. Geneva. The World Health Organization Database on child growth and malnutrition. Available from: [http://www.who.int/nutgrowthdb/database/countries/who\\_standards/idn.pdf](http://www.who.int/nutgrowthdb/database/countries/who_standards/idn.pdf) [cited 2009 Sept 23].

#### Appendices:

##### (Questionnaire):

Questionnaire Prevalence of malnutrition in preschool age children.

استبيان انتشار سوء التغذية في سن الأطفال ما قبل المدرسة.

##### Gender: الجنس

1. Female انثى
2. Male ذكر

##### Age: العمر

1. أقل من سنة / below 1 year
2. من سنة إلى 3 سنوات / years 1-3
3. من 4 إلى 5 سنوات / years 5-4
4. من 6 إلى 7 سنوات / years 6-7
5. أكثر من 7 سنوات / More than 7 years

##### State: الحالة

1. داخل المستشفى / In Patient
2. خارج المستشفى / Out Patient

##### Financial income: الدخل المالي

1. عالي الدخل / High income
2. متوسط الدخل / Average income
3. قليل الدخل / Low income
4. الدخل قليل جداً / Very low income

##### هل قمتي برضاعة طفلك رضاعة طبيعية? Did you breastfeed your baby?

1. Yes
2. No
3. Mix (رضاعة طبيعية و رضاعة صناعية)

##### اكتب وزن/ طول طفلك (ارجو ان تكون دقيقا) ? Write your child weight/height ( Please be precise)

هل سبق وان اخبرك طبيبك ان طفلك يعاني من سوء التغذية? Have your doctor ever told you that your child is malnourished?

طبيبك ان طفلك يعاني من سوء التغذية

1. نعم Yes
2. لا No

##### هل يعاني طفلك من أحد / Does your child suffer from one of the things mentioned?

الأشياء المذكورة

1. ارتفاع في درجة الحرارة / High fever
2. عدوى الجهاز التنفسي السفلي / Lower respiratory tract infection
3. جفاف حاد / Sever dehydration
4. فقدان الشهية / Anorexia
5. فقر دم شديد / Sever anemia
6. نقص سكر الدم / Hypoglycaemia
7. غير ذلك / Other
8. لا شيء / None

شكراً لك. Thank you.