# The Effect of Socio-economic Status on Morbidity of Children under Five Years in Alwasta Central Hospital in Benisuef Governorate

*Thesis*

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**Family Medicine**

*By*

**Heba Ali Abdelkarim Ali**

M.B.B.Ch- Benisuef University

*Under Supervision of*

*Prof. Dr.* **Mervat ElRafie**

Professor of Public Health &Community Medicine
Faculty of Medicine, Cairo University

*Dr.* **Maha Abdelrahman Mowafy**

Assistant Professor of Family Medicine
Faculty of Medicine, Cairo University

**Faculty of Medicine**
**Cairo University**
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# ABSTRACT

Morbidities are common in children under 5 years old. The socioeconomic status has a significant effect on these morbidities.

**Aim**: to assess the socioeconomic status and its effect on the rates of morbidities among these children and also to study the role of family physician in controlling these morbidities.

**Methodology**: The study was cross sectional study conducted in Benisuef governorate, Alwasta Central Hospital using Random sampling technique. The study evaluated the effect of socioeconomic status on the morbidity of children under five in pediatric outpatient clinic in Alwasta Central Hospital where 265 families of children under five years were enrolled using El-Gilany questionnaire to assess the socioeconomic status of the children's families.

**Results**: After collecting data and comparing the severity of morbidities of children and the socioeconomic status of their families, Itwas found that the low socioeconomic status affects the morbidities of children under five years.

**Conclusion and recommendations**: improving care of home sanitation and health care specialy for early age children can decrease the rate of morbidity among children under five years.

**Key-Words:** Morbidities - Socioeconomic status- children under five.

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# List of Abbreviations

| | | |
|---|---|---|
| **AAFP** | : | American Academy of Family Physicians |
| **ACP** | : | American college of Physicians |
| **ARI** | : | Acute Respiratory infection |
| **BCG** | : | Bacillus Calmette Guerin Vaccine |
| **CAP** | : | Community Acquired Pneumonia |
| **CFPC** | : | College of Family Physicians of Canada |
| **DPT** | : | Diphtheria, Pertusis, Tetanus Vaccine |
| **EDHS** | : | Egyptian Demographic health Survey |
| **EGNN** | : | Egyptian Neonatal Network |
| **ETEC** | : | Enterotoxinogenic Escherichia coli |
| **FPs** | : | Family Physicians |
| **GABHS** | : | Group A Beta Hemolytic Streptococcus Bacteria |
| **GAS** | : | Group A streptococcal bacteria |
| **HSV** | : | Herpes simplex virus |
| **ICT** | : | Immuno chromatography test |
| **IV** | : | Intravenous |
| **MALT** | : | Mucosa Associated Lymphoid Tissue |
| **MMR** | : | measles, mumps and rubella vaccine |
| **MOH** | : | Ministry of Health |
| **NGO** | : | Non-Governmental organization |
| **ORS** | : | Oral Rehydration Salts |
| **ORT** | : | Oral Rehydration Therapy |
| **PCM** | : | Protein Calorie Malnutrition |
| **PPP** | | Power Purchasing Parity |
| **RADT** | : | Rapid Antigen Detection Test |
| **RCT** | : | Randomized controlled trial |
| **SDM** | : | Shared Decision making |
| **SEM** | : | Skin, Eye and Mouth |
| **SES** | : | Socioeconomic status |
| **SNI** | : | Saline Nasal Irrigation |
| **WHO** | : | World Health Organization |

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# INTRODUCTION

Children morbidity in sub-Saharan African countries and Egypt is well known to be influenced by socioeconomic, demographic and environmental factors such as socio-economic status, housing conditions, toilet facilities, water supply and place of residence and number of children in the house **(Timaeus and Lush, 1995**).

According to UNICEF, nearly 8 million children under age five years died worldwide in 2010 **(Unicef, 2012).**

Morbidities in children under five may have a huge effect on the development of any population. World Health Organization considered the rate of morbidities in children under five a real indicator of the development of any country **(WHO, 2013).**

Higher morbidity has also been reported in children during complementary feeding as a result of increased exposure to contaminated food. In related studies, low level of maternal education and maternal power to take decisions were observed to be risk factors for childhood morbidity **(Chakrabarti, 2012).**

In urban areas in Egypt, a comparative study was made and concluded that children's health is affected by environmental conditions and socio-economic status of households **(Timaeus and Lush, 1995)**.

According to the World Health Organization, an estimated 1.7 million cases of diarrheal disease occur annually worldwide, with approximately 780,000 children dying from the disease. The majority of these cases occur in low- and middle-income countries (LMICs). Children under 3 years in LMICs experience about three episodes of diarrhea annually **(WHO, 2013)**

Similarly, ARIs, especially lower respiratory tract infections (LRTIs), are a major cause of death among children under 5 years of age. These conditions are responsible for between 1.9 million and 2.2 million childhood deaths globally. It is further documented that 42% of ARI-associated deaths occur in Africa **(Williams et al., 2002)**

The effect of SES on morbidity of children in Egypt is known to be significant in rural areas. Under-five mortality in rural Upper Egypt is 46 deaths per 1,000 births, around 65 percent higher than under-five mortality in rural Lower Egypt (28 deaths per 1,000 births). The post neonatal mortality rate in rural Upper Egypt is 19 deaths per 1,000 births, more than double the rate in rural Lower Egypt (8 deaths per 1,000 births). The child mortality rate in rural Upper Egypt (7 deaths per 1,000) is almost twice as high as the rate in rural Lower Egypt (4 deaths per 1,000) **(EDHS, 2008).**

In our study we tried to study the effect of the low socioeconomic status on morbidities of children in Alwasta Central hospital in BeniSuef governorate in Upper Egypt.

# AIM OF THE WORK

The main goal of this study is to upgrade health status of children under five and assess the relation of socioeconomic status on their morbidities.

## Objectives:

1- To assess socioeconomic status in children under five in Alwasta Central Hospital, Benisuef governorate using El- Gilany scoring system.
2- To assess the main morbidities affecting children under five frequenting in Alwasta Central Hospital.
3- To find the relation of socioeconomic status with their morbidities.

# CHAPTER I

# Main Causes of Morbidities of Children Less Than Five Years

The conduction of Egypt Demographic and Health Surveys **(EDHS)** in Egypt was established in 1988 in order to provide information to policy makers and researchers about the health situation in the country. The **EDHS** is repeated regularly (every 3-5 years) to provide useful information, monitoring and evaluating changes in maternal and child health indicators. Data from the **EDHS** series was used by policy makers for monitoring and evaluating current family planning and health status, and to plan future health-related strategies.

## Acute Respiratory Infection

Acute respiratory infection (ARI), particularly pneumonia, was a public cause of morbidities in infants and young children. Data about ARI children under five was collected by the **EDHS, (2008)** by asking mothers if any of their children had a cough during the two weeks before the survey. Thirteen percent (13%) of children under the age of five had a cough during the two week period prior to the survey, 9% of children with a cough experienced fast or difficult breathing**.**

**Table 1: Prevalence of cough Percent distribution of children under five years by cough and related symptoms during the two week period before the survey, Egypt 2008:**

| Cough and cough symptoms | Percent |
|---|---|
| **Cough** | 13.4 |
| Cough with short, rapid, or difficult breathing | 9.3 |
| Blocked/runny nose only | 1.4 |
| Chest-related only | 3.2 |
| Both blocked/runny nose and chest- related | 4.6 |
| Don't know/missing | 0.1 |
| Cough without short, rapid, or difficult breathing | 4.1 |
| **No cough** | 86.6 |
| Total percent | 100.0 |
| Number of children | 10,327 |

**EDHS, (2014)** collected information on the prevalence of symptoms of ARI and on the treatment children with ARI symptoms received. The prevalence of ARI was estimated by asking three questions of mothers of all children under five. The first question defined children who were ill with a cough in the two weeks before the survey. A second question was asked for the children had a cough to determine if the child had breathed faster than usual during the illness with short rapid breaths or had difficulty breathing. If the mother stated that the child had experienced fast or difficult breathing, she was were asked whether it was due to a problem in the chest or a blocked or runny nose. 14 % of children were reported to be ill with ARI symptoms during the two-week period before **(EDHS, 2014)**. As was the case with diarrheal illness, children age 6-11 months were affected with ARI symptoms than younger or older children.

## Consultation, Treatment, and Feeding Practices:

79 % of the children who were ill were given advice or treatment from a health provider. Private health care providers were the first source conferred in 64 % of the cases. The first consultation took place for slightly more than 60 % of the children ill with ARI symptoms the day they became ill. Less fluid than normal (56 %) or nothing to drink (11 %) was given to children ill with chest-related ARI symptoms. Seventeen percent (17 %) of the children ill with ARI symptoms were given the same or more food than normal **(EDHS, 2008).** 68 % of the children with ARI symptoms were consulted by a medical provider, private providers conferred about three times as often as public providers (52 % and 18 %, respectively). Medical providers were conferred most often when the child was under age of 12 months or lived in the Urban Governorates. Mothers stated that antibiotics were given to the majority of the children with ARI symptoms (63%) **(EDHS, 2014).**

## Diarrhea:

Dehydration caused by severe diarrhea was an essential cause of morbidities amongst young children. The immediate increase of a child's fluid intake was a simple and effective response to dehydration by providing some types of oral rehydration therapy (ORT). Overall, the percentage of children under the age of five who had diarrhea in the two-weeks before the **EDHS 2008** survey was 8.5% **(Cook, 2009).**

## Prevalence of Diarrhea:

The percentages of children under age five who had any form of diarrhea and who had diarrhea with blood in the feces, was presented in table 2, at some time during the two-week period before the survey. Bloody stools were a symptom of dysentery. 9 % of children under 5 were reported by their mothers

to suffer from diarrhea during the two-week period before the **EDHS (2008)** interview. Less than 1 % had diarrhea with bloody stools. Children under age 24 months, particularly those age 6-11 months, were more likely to suffer from diarrhea than older children. Especially among children living in Upper Egypt and the urban governorates than in lower Egypt and the Frontier Governorates. Prevalence of Diarrhea decreased somewhat with the wealth quintile and was slightly higher among the small number of children living in households of unimproved drinking water source than among children living in households with an improved toilet facilities, however the differential is not large.

**Table 2: Prevalence of diarrhea by background characteristics percentage of children under five years with diarrhea in the two weeks preceding the survey, by background characteristics, Egypt EDHS 2008.**

| Background characteristic | All diarrhea | Diarrhea with blood | Number of Children |
|---|---|---|---|
| **Age in months** | | | |
| <6 | 12.6 | 0.6 | 1.110 |
| 6-11 | 18.6 | 1.1 | 1.284 |
| 12-23 | 11.3 | 0.6 | 2.160 |
| 24-35 | 6.5 | 0.2 | 2.002 |
| 36-47 | 3.3 | 0.2 | 1.928 |
| 48-59 | 3.1 | 0.0 | 1.843 |
| **Sex** | | | |
| Male | 8.9 | 0.4 | 5.236 |
| Female | 8.0 | 0.4 | 5.091 |

In the **EDHS 2014**, mothers of children under age five were asked if their children had diarrhea in the two week period before the survey. If the child had diarrhea, the mother was asked what had been done to treat the diarrhea. The