

**Review Article**

# Assessment of Infants Mothers Knowledge About Health Problems as Results of Environment Pollution

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**Abstract:** During the past decades, remnants of wars and factories which impact on human health and the environment. According to WHO, more than three million children under five die each year from environment-related causes and conditions. The aims of this study was identified the most important health problem which infant suffer from as a results of environment pollution and assess of mother knowledge about mode of disease transmission. The study was carried out three hospitals (Al-monsour teaching hospital, Al-kadmia teaching hospital, and in Ibn El –baladi) in Baghdad city in order to collect the study sample. A purposive sample of (100) infants lying in Baghdad hospitals suffering from health problem. The data was collected during the period of 7th March to 30th April 2016. A draft of the questionnaire was presented to 8 experts in order to review and evaluated its contents. The questionnaires was adopted and developed from the (WHO) scales by the research to measure these variables. The statistical procedure which were applied for the data analysis and assessment of the result by descriptive statistics (frequency F, percentage %, mean of score and relative sufficiency). Majority of sample was (34%) in the age groups 3-4 months, followed by (24%) in the age 1-2 months. As for infected infants, the majority of male cases (54%) was greater than female cases (46%). (38%) was intermediate schools and (26%) was secondary schools. (54%) had under medium nutrition during pregnancy, followed by medium (26%). (40%) was fed by using the artificial feeding. The higher percentage of infant's health problems is problems of respiratory system (acute bronchitis, asthma pneumonia) and food poisoning and also measles, German measles, viral hepatitis, meningitis and chicken pox. Infant's health problems increase due to dependence upon artificial feeding. Providing health education for all society, taking care of accommodation, giving up smoking inside rooms, good ventilation and getting rid of animals. Taking care of infant nutrition and cleaning. Taking care of mother nutrition during pregnancy and urgent contacting of health centers. Conducting similar study on a bigger sample.

**Keywords:** Air, Environment, Knowledge, Education, Mother, Feeding, Child, Respiratory, Enteritis

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## 1. Introduction

During the past decades, remnants of wars and factories which impact on human health and the environment. According to WHO, more than three million children under five die each year from environment-related causes and conditions [1]. It's make that the environment is one of the most critical contributors to the secular toll of more than ten million child deaths per years. As well, it was very important factor in the health and well-being of their mothers. Take into consideration the polluted indoor and outdoor air, contaminated water, shortage of adequate sanitation, toxic hazards, disease vectors, ultraviolet radiation, and degraded

ecosystems are all important environmental risk factors for children, and in most cases for their mothers as well. Particularly in developing countries such as Iraq, environmental hazards and pollution are a major contributor to childhood deaths, illnesses and disability from acute respiratory disease, diarrheal diseases, physical injuries, poisonings, insect-borne diseases and perinatal infections. Childhood death and illness from causes such as poverty and malnutrition are also associated with unsustainable patterns of development and degraded urban or rural environments. Health-damaging exposure to environmental risks can begin before birth. Lead in air, mercury in food and other chemicals can result in long-term, often irreversible effects, such as

infertility, miscarriage, and birth defects [2]. When women are exposed to pesticides, solvents and persistent organic pollutants may potentially affect the health of the fetus. Additionally, while the overall benefits of breastfeeding are recognized, the health of the newborn may be affected by high levels of contaminants in breast milk. Small children, whose bodies are rapidly developing, are particularly susceptible - and in some instances the health impacts may only emerge later in life [3].

Moreover, children as young as five years old sometimes work in hazardous settings. Pregnant women living and working in hazardous environments and poor mothers and their children are at a higher risk, as they are exposed to the most degraded environments, are often unaware of the health implications, and lack access to information on potential solutions.

Improving children and mothers' environmental health by addressing and tackling issues affecting their health, presents an essential contribution towards the achievement of the Millennium Development Goals (MDGs) [4]. The aims of this study was identified the most important health problem which infant suffer from as a results of environment pollution and assess of mother knowledge about mode of disease transmission.

## 2. Methodology

The study was carried out three hospitals (Al-monsour teaching hospital, Al-kadmia teaching hospital, and in Ibn El – baladi) in Baghdad city in order to collect the study sample. A purposive sample of (100) infants lying in Baghdad hospitals suffering from health problem. The data was collected during the period of 7th March to 30th April 2016. A draft of the questionnaire was presented to 8 experts in order to review and evaluated its contents. The questionnaires was adopted and developed from the (WHO) scales by the research to measure these variables. The developed questionnaire consists of (3) parts

Part 1:- Socio- Demographic information

Part 2:- Is concerned with health problem for infant

Part 3:- mother knowledge about mode of disease transmission and prevention of disease. The statistical procedure which were applied for the data analysis and assessment of the result by descriptive statistics (frequency F, percentage %, mean of score and relative sufficiency).

## 3. Results

Out of (100) sample was selected randomly, the majority of sample was (34%) in the age groups 3-4 months, followed by (24%) in the age 1-2 months. As for infected infants, the majority of male cases (54%) was greater than female (46%). According to education level of mothers, the higher percentage (38%) was intermediate schools, then (26%) was secondary schools. Also in this table shows that the nutrition during the mothers pregnant, the most sample (54%) had under medium nutrition, followed by medium (26%). As

regards to accommodation, the majority of sample (42%) was living in Baghdad and (58%) from the other area. Also we observed, the majority of sample (66%) was employed and related to socio-economic status, the moderate level status was (43%), followed by (32%) was good. As show in table 1.

*Table 1. Distribution of sample according to socio demographic information.*

Variable	Frequency	Percent
<b>Age groups</b>		
1-30 days	22	22
1-2 months	24	24
3-4 months	34	34
5-6 months	17	17
>6 months	13	13
Total	100	100
<b>Gender</b>		
Male	54	54
Female	46	46
Total	100	100
<b>Education level of mothers</b>		
Illiterate	14	14
Primary	14	14
Intermediate	38	38
Secondary	26	26
Institute and college	8	8
Total	100	100
<b>Nutrition of the sample mother during pregnancy</b>		
Under medium	54	54
Medium	26	26
Good	20	20
Total	100	100
<b>Residential area</b>		
Center Baghdad area	42	42
Other area	58	58
Total	100	100
<b>Occupation of mothers</b>		
Employed	66	66
Housewives	34	34
Total	100	100
<b>Economic status</b>		
Good	32	32
Medium	43	43
Weak	25	25
Total	100	100

Concerning to type of feeding, reveals the majority of samples (40%) was fed by using the artificial, then (32%) was use the mixed and the breastfeeding was (28%). As show in table 2.

*Table 2. Distribution of sample according to types of feeding.*

Type of feeding	Frequency	Percent
Breastfeeding	28	28
Artificial feeding	40	40
Mixed feeding	32	32
Total	100	100

According to family member in the home, most cases (58%) had a member greater than 9, then (28%) had 6 to 8 members. Table 3. Also in this table was showed that the majority of sample (54%) had 1 to 2 room, followed by (36%) had 3-4 rooms. Table 3. As for the environment and health problems, the majority of sample (42%) was suffered from acute

inflammation, followed by enteritis, bacteremia, parasites, bronchitis, asthma, pneumonia and measles, chicken pox. (36%), (18%), (14%), (12%), (8%) and (2%), respectively. Table 4.

**Table 3.** Distribution of sample according to number of family member and rooms.

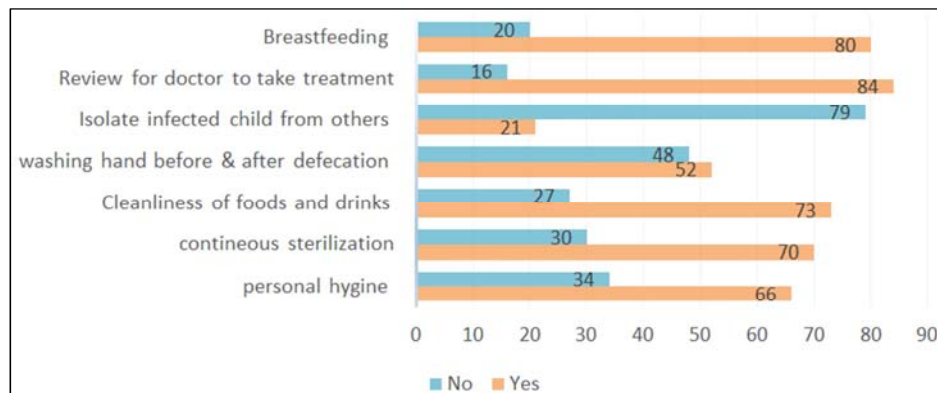
Variable	F.	%
<b>Number of family member</b>		
3-5	14	14
6-8	28	28
>9	58	58
Total	100	100
<b>Number of rooms</b>		
1-2 room	54	54
3-4 room	36	36
5-6 room	10	10
Total	100	100

**Table 4.** Distribution of sample according to environment and health problems.

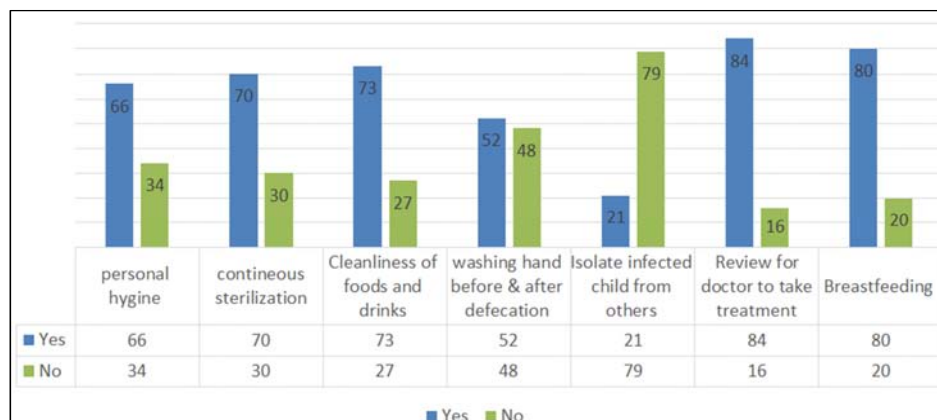
Problems	F.	%
Enteritis (acute diarrheal)	36	36
Bacteremia	18	18
Parasites	14	14
Food poisoning	4	4
Acute inflammation in the respiratory system	42	42
Bronchitis	14	14
Asthma	12	12
Pneumonia	8	8
Whooping cough	2	2

Problems	F.	%
Diphtheria	2	2
Flue	4	4
Viral hepatitis	2	2
Meningitis	4	4
Measles	8	8
German measles	6	6
Chicken pox	2	2

Concerning to mothers knowledge about mode of transmission, half of mother cases 85% which know that the eating of contaminated food is one of method of that spread the disease, while 15% was not. 76% of mothers which know the drinking contaminated water help to transport the disease while 24% was not. Poor hygiene's shows in 82% while 18% was not. 80% of mother's know that the not washing hand before and after eating food, it helps to spread infection while 20% was not. Also in this table, 70% of mother's which know the lack of ventilation room led to infection while 30% was not. Figure 1. More than half of mothers sample was know 66% how the personal hygiene which prevent the disease infection while 34% was not. 70% of mothers know how the continuous sterilization of baby clothes can prevent the infection while 30% was not. In this table was showed that the cleanliness of foods and drinks, also can prevent the infection in 73% but in 27% was not. Then 80% of mothers sample which know that the breastfeeding can prevent the disease but 20% of sample was not. Figure 2.



**Figure 1.** Mothers knowledge towards mode of transmission.



**Figure 2.** Mother's knowledge towards methods of disease prevention.

## 4. Discussion

The aims of this study was identified the most important health problem which infant suffer from as a results of environment pollution and assess of mother knowledge about mode of disease transmission. Air pollution is a major public health hazard and one of the leading causes of respiratory illness and deaths among children under-five years in Iraq. In our study, we found that the higher percentage of cases 34% still in the age groups 3-4 months, followed by 24% in < 2 months. As compare with another result in India by Naz 2016, who is found that 36.7% of cases still in the age <6 months, the health situation between the two countries are considered as a developing countries which are increasing the death cases due to pollution [5]. As for infected infants, 54% of male cases which are greater than female 46%. Other result has been found in California by Spencer-Hwang, who found that 47 % of cases were male, this is due to the different participants in the study, also the immune system was vary among children[6]. The educational level of the individual is very important and is associated with determining the type of health care which any infected family member can provide. In our study, we showed that 38% of cases had intermediate education level, as compare with result in China by Tanaka, who is found that, only 11% of samples had intermediate education level [7]. This is due to different customs and tradition, education level between the countries. Good nutrition during pregnancy provides protection to mother and infant against troubles and future health problems of child. Also in our study we observed that, 54% of mothers cases had under medium level of nutrition and which compare with result in Nigeria by Oluwole, who is found that 87.9% of cases had poor nutrition, this is because of the African countries are considering as a developing countries, which under poverty line and the women and children are suffering from many diseases [8]. Likewise, 42% of studied sample was living in Baghdad, and most cases 66% was employed, but in another result has been found in Canada by Shah, who is found that 89% of cases were employed. This difference is due to the majority of mothers are employed in order to get money to improve the standard of living [9]. According to UNICEF program it was found that the main rate of infection among infant whose family suffering from poverty and low-socio economic status (10). Socio-economic factors that affect the distribution of infection like inadequate individual and community sanitation, poor standard of living overcrowding. Unusual deposition of excreta provides facilities which favor the spread of infection, in this study we found that 43% of cases had moderate economic level which compare with another result has found in Canada 31%, this may be difference in the standard of living between countries [11]. Artificial feeding which cause many problems because it may be polluted by microbes and it doesn't contain all nutrition elements necessary for infant's body, in our study we found that 40% of cases, using artificial feeding to child and other result has been found in Nigeria by Oluwole, who is found that 13%, so the mothers must follow the right way of infant nutrition which is breastfeeding, this may be refer to lack of awareness about importance of breastfeeding or may be the African countries

are suffering from poverty [8]. Regarding the family size when it is more than 6 members, the infants will be vulnerable to infections and inflammation and environment pollution. In our study we showed that 58% of cases has the members greater than 9. As compare with the result in Bangladesh by Nas, who is found that 81.3%, this may be refer to the Bangladesh are consider in developing country and poor, don't use the family planning program[12]. The available studies showed that infections of respiratory system especially asthma from a percentage 10-20% of world population due to many factors such as poverty. 42% of cases had suffering from acute inflammation and 12% from asthma. As compare with result in China by Xu, who is found that 39.1%. Due to air pollution from factories and cars, and population density [13]. Also in this study we showed that 82% of cases which know the poor hygiene is one of the way to transport the infection. Other results found in Palestine who is found that 56%, this may be refer to mother's awareness about hygiene through health education and awareness program [14]. As well, 80% of cases had knowing the breastfeeding can prevent the infection. As compare with the other result in Palestine by Abuqamar, who found that 91% of mothers know the breastfeeding can prevent disease, this may be good mother's awareness about importance of breastfeeding [14].

## 5. Conclusions

A great percentage of infants (3-4) months of age is vulnerable to health problems. The ratio of male vulnerable to health problems is more than female. Infant's health problems increase due to low educational level and malnutrition of their mothers during pregnancy. The higher percentage of infant's health problems is problems of respiratory system (acute bronchitis, asthma pneumonia) and food poisoning and also measles, German measles, viral hepatitis, meningitis and chicken pox. Infant's health problems increase due to dependence upon artificial feeding.

## Recommendations

Providing health education for all society, taking care of accommodation, giving up smoking inside rooms, good ventilation and getting rid of animals. Taking care of infant nutrition and cleaning. Taking care of mother nutrition during pregnancy and urgent contacting of health centers. Conducting similar study on a bigger sample.

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