

## **Assessment of Nurses Knowledge Toward Pediatrics with Anemia in the Hospitals of Al Hilla City**

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**Abstract.** Anemia is a widespread condition characterized by a reduced number of red blood cells or hemoglobin concentration, which decreases the blood's oxygen-carrying capacity. In pediatric populations, anemia represents a critical health issue that can affect growth, immunity, and overall development. Nurses play a vital role in the early detection and management of childhood anemia through proper knowledge and practice in clinical care. Despite the significance of nursing knowledge in pediatric anemia management, limited data exist regarding nurses' awareness and understanding of childhood anemia in Al Hilla City, Iraq. Aims: This study aimed to assess nurses' knowledge regarding pediatric anemia in hospitals of Al Hilla City and to determine the relationship between nurses' demographic characteristics and their knowledge level. A descriptive study was conducted among 100 nurses using a self-administered questionnaire consisting of 24 items. The results showed that 60% of nurses demonstrated a low level of knowledge, 20% moderate, and 20% good knowledge regarding pediatric anemia. Statistical analysis revealed no significant relationship between nurses' knowledge and their demographic variables, including age, gender, marital status, education level, occupation, and years of experience ( $p > 0.05$ ). This study is one of the first in Babylon province to systematically assess nurses' knowledge on pediatric anemia using a structured tool based on national guidelines. The findings highlight the need for continuous professional education and training programs to enhance nurses' competence in pediatric anemia management and improve patient care outcomes.

### **Highlights:**

1. More than half of the nurses (60%) demonstrated a low level of knowledge regarding pediatric anemia management.
2. No significant relationship was found between nurses' knowledge levels and demographic variables such as age, gender, education, or experience.

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3. Findings emphasize the need for continuous education and training programs to improve nurses' competence in pediatric anemia care.

**Key words:** knowledge, pediatrics, Anemia

## Introduction

A condition known as anemia occurs when there are insufficient quantity of red blood cells, or hemoglobin, in the blood, which lowers the blood's ability to carry oxygen. For patients undergoing surgery, anemia might raise the chance of requiring a blood transfusion following the procedure if it develops gradually. Anemia can range from moderate to severe can be either transient or persistent. [1]

In the emergency department (ED), patients with anemia are commonly seen, and emergency doctors (EPs) are routinely involved in the diagnosis and treatment of anemia. While some of these patients may be asymptomatic, others may have primary problems that are directly linked to their anemia. [2] The etiology of the illness frequently determines the type of anemia. The following is a list of some anemia types: Anemia due to iron deficiency Anemia brought on by a vitamin deficiency Hemolytic anemia Sickle cell anemia Anemia brought on by other illnesses One of the uncommon forms of anemia is aplastic anemia. (Fanconi anemia, Diamond-Blackfan anemia, Iron blast anemia, and megaloblastic anemia). [3]

Normal hemoglobin levels in the blood vary widely from person to person because they rely first on age and then mostly on gender beginning in adolescence. Therefore, men often have higher hemoglobin levels than women. Male adults: 14–18 g/dL. Female adults: 12–16 g/dL. After middle age, males: 12.4–14.9 g/dL. [4]

Weary, pale skin An erratic and fast heartbeat Symptoms and indicators: Breathing difficulties, dizziness, and chest pain Alterations in the condition of cognition The cognitive state is altered by cold hands, and Anemia causes include: A lack of iron in the body, a lack of vitamin B12 in food, or a lack of folic acid A few blood disorders that are genetic Chronic illnesses Necrosis-induced blood loss. [5]

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Anemia's risk factor is A diet deficient in certain vitamins and minerals Digestive disorders  
Periods, pregnancy, and chronic illnesses Family background Č The likelihood of anemia is higher  
in those over 65. [6]

Anemia-related complications Pregnancy complications and extreme exhaustion Heart issues In  
order to compensate for the low blood oxygen levels, anemia causes the heart to pump extra  
blood. complications in death. Severe anemia can be fatal and is rapidly brought on by  
excessive blood loss. An increased risk of death is linked to anemia in the elderly [7]

## Methodology

### Study design:

For the purposes of the analysis, a summary of experimental cameras was implemented in the  
hospitals of the city of Hilla to assess the knowledge of nurses about children with anemia in the  
hospitals of the city of Hilla. The research included the period from December 20, 2024 to April 16,  
2025

**Study Sample:** A A convenience sample of (100) nurses who were actually responsible to care  
children of anemia centers who were selected for the purpose of this study Imam Sadiq Babylon  
Women's and Children's Hospital is a teaching hospital. Al Noor Hospital.

**Study Instrument:** Data collection tool which comprises the following:

For the purpose of the present study, the questionnaire had been designed and constructed by  
the investigator, depending on guideline of Anemia at health institutions 2011, which were  
under supervision of hospitals in Iraq, and after extensive review of relevant literature and  
studies concerning knowledge of nurses' in Anemia. Questionnaire has been constructed  
consisting of (24) items with two parts.

### Part I demographic characteristics:

The first part of the questionnaire relates to demographic characteristics and includes (6) items  
of age, gender, marital status, level of education, profession and years of experience.

### Part II

Questionnaire paper for assessing nurses' knowledge of anemia: These

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questions were developed to assess nurses' knowledge of children with anemia. It consists of (18) sections as.

**Information Collection the Strategies:** Retrospective data were collected from male and female nurses working in pediatric wards in Hilla city hospitals. Imam Al-Sadiq Hospital, Babel Women's and Children's Hospital, Al-Noor Children's Hospital in Hilla. [Using a questionnaire (tool) prepared in English as a method for assessing nurses' knowledge regarding anemia.

**Statistical examination:** Data entry and review is carried out using computer program SPSS version 26 (statistical kit for social sciences), Categorical variables were seen as concentrations and percentages, and continuous variables as (mean  $\pm$  variance to standard). To assess the relation between categorical variables, the student t-test was often used to calculate the mean differences within the groups. **P-value < 0.05** had been statistically found relevant.

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## Results

**Table (1):** Frequency distribution of demographic characteristics of the nurses(No. 100)

		Frequency	Percent
<b>Age</b>	<b>20-30</b>	<b>80</b>	<b>80.0</b>
	<b>31-40</b>	<b>10</b>	<b>10.0</b>
	<b>51-more</b>	<b>10</b>	<b>10.0</b>
	<b>Total</b>	<b>100</b>	<b>100.0</b>
<b>Gander</b>	<b>Male</b>	<b>50</b>	<b>50.0</b>
	<b>Female</b>	<b>50</b>	<b>50.0</b>
	<b>Total</b>	<b>100</b>	<b>100.0</b>
<b>Maritalstatus</b>	<b>Single</b>	<b>40</b>	<b>40.0</b>
	<b>Married</b>	<b>60</b>	<b>60.0</b>
	<b>Total</b>	<b>100</b>	<b>100.0</b>
<b>Level of education</b>	<b>Preparatory Nursing</b>	<b>40</b>	<b>40.0</b>
	<b>Diploma</b>	<b>50</b>	<b>50.0</b>
	<b>Bachelor</b>	<b>10</b>	<b>10.0</b>
	<b>Total</b>	<b>100</b>	<b>100.0</b>
<b>Occupation</b>	<b>Nurse</b>	<b>90</b>	<b>90.0</b>
	<b>Midwife</b>	<b>10</b>	<b>10.0</b>
	<b>Total</b>	<b>100</b>	<b>100.0</b>
<b>Years of experience</b>	<b>1-10</b>	<b>90</b>	<b>90.0</b>
	<b>11-20</b>	<b>0</b>	<b>0</b>
	<b>31-more</b>	<b>10</b>	<b>10.0</b>
	<b>Total</b>	<b>100</b>	<b>100.0</b>

This table shows that the age of the majority of participants (80%) was 20-30 years. In relation to gender, equal distribution (50 % were female and 50% were male. Regarding to marital status, more than half (60%) were married, and half of them (50%) were (Diploma). the majority of samples (90%) have 1-10 years of experience.

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**Table (2):** Overall Nurses Knowledge toward Pediatrics with Anemia in the Hospitals of Al Hilla City (No. 100)

<b>Frequency</b>	<b>Percent</b>		
<b>Valid</b>	<b>Low</b>	<b>60</b>	<b>60.0</b>
	<b>Moderate</b>	<b>20</b>	<b>20.0</b>
	<b>Good</b>	<b>20</b>	<b>20.0</b>
	<b>Total</b>	<b>100</b>	<b>100.0</b>

This table show that more than half (60%) of nurses were have a low Knowledge toward Pediatrics with Anemia in the Hospitals of Al Hilla City.

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**Table (3):** The relationship between overall nurses knowledge Toward Pediatrics with Anemia in the Hospitals of Al Hilla City (No. 100)

		total			p-value
		Low	Moderate	Good	
Age	20-30	50	20	10	.287 (N.S)
	31-40	0	0	10	
	51-more	10	0	0	
Total		60	20	20	100
Gander	Male	30	10	10	- (N.S)
	Female	30	10	10	
Total		60	20	20	100
Marital status	Single	20	10	10	.870 (N.S)
	Married	40	10	10	
Total		60	20	20	100
Level of education	Preparatory	30	00	10	.558 (N.S)
	Nursing				
	Diploma	20	20	10	
	Bachelor	10	0	0	
Total		60	20	20	100
Occupation	Nurse	50	20	20	.690 (N.S)
	Midwife	10	0	0	
Total		60	20	20	100
Years of experience	1-10	50	20	20	.690 (N.S)
	31-more	10	0	0	
Total		60	20	20	100

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This table shows that there was no significant relationship between overall nurse's knowledge Toward Pediatrics with Anemia in the Hospitals of Al Hilla City and demographic characteristics of the nurses at p-value < 0.05

## **Discussion**

### **Part I: Distribution of demographic characteristics of the nurses**

This study conducted in In The Hospitals Of Al Hilla City to Assessment Of Nurses staff Knowledge Toward Pediatrics With Anemia for patients with In general the results indicate that staff nurses in pediatric department they are a knowledgeable about Anemia. The Study revealed demographic data that majority of nurses (80.0%) of the sample were 20-30 years, this finding is similarity with study of [8] done in Sudan found that (61.40%) of the sample were 20-30 years.

Results of our study, shows that equal distribution (50 % were female and 50% were male), this finding is unconformity with study [9] done in Arequipa, Peru United States found that (100%) of the sample were female. This study found that (60.0 %) of the sample were Married, This finding is in the same line with study of [10] done in Jazan found that (70.0 %) of the sample were Married.

According to the results of our study, most of the research participants (50.0%) are degree holders, (90.0%) are nurses, and (90.0%) have experience that does not exceed 1 to 10 years, and these results are identical to previous studies that were conducted and found that (50.0%) of the participants are diplomas [11], and this study was conducted in Maysan, Iraq, (78.54%) the nurses were more Most often working as staff nurses , not employed in the United States, (41.3%) have 1-10 years of experience, Studying in Baghdad [12].

### **Part II: Overall Nurses Knowledge toward Pediatrics with Anemia in the Hospitals of Al Hilla City.**

About the Nurses' knowledge regarding iron deficiency anemia, the results showed that more than half (60%) of nurses were have a low Knowledge toward Pediatrics with Anemia in the Hospitals of Al Hilla City, this study was similar to the results [13] done in Sudan found that (26.9%) nurses were have a low Knowledge Toward Pediatrics With Anemia , and was

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inconsistent with the other study [14] found that (28.8%) participants having good knowledge, and show moderate with study

**Part III: The relationship between overall nurses knowledge Toward Pediatrics with Anemia in the Hospitals of Al Hilla City.**

In regard to relation between relationship between overall nurses knowledge Toward Pediatrics With Anemia and demographic characteristics of the nurses According to the current study, nurses' knowledge of demographic variables at  $p$ -value  $< 0.05$  and age at  $p$ -value =  $0.05$  do not significantly correlate with each other of it showed that statistical insignificant relation between other socio-demographic characteristics ( $P$  value  $\geq 0.05$ ) [15].

**Conclusions**

Research was conducted in the hospitals of the city of Hilla in the province of Babylon to assess the awareness of nurses about children with anemia. The convenience sampling technique was used to obtain data from 100 samples in total. And with the help of competent and eloquent statistics, the result is determined. Shows that the age of the majority of participants (80%) was 20-30 years. In relation to gender, equal distribution (50% were female and 50% were male. Regarding to marital status, more than half (60%) were married. And half of them (50%) were (Diploma). Shows that there was no significant relationship between overall nurses knowledge Toward Pediatrics with Anemia in the Hospitals of Al Hilla City and demographic characteristics of the nurses at  $p$ -value  $< 0.05$ , Our study indicates that there was no significant relationship between pathogenic knowledge about children with anemia and the changes in demographic variables (age, gender, level of education, years of experience, and training courses on that).

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