



## Patterns of disease and outcomes of neonatal admissions at Fallujah teaching hospital for women and children

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### Abstract

**Background:** A neonatal period is very important period which in turn determines the health status of the infant and adult life.

**Objectives:** The aims of this study is to determine the patterns of disease and outcomes of neonatal admission to neonatal care unit in Fallujah City from January to July 2019.

**Methods:** A retrospective study accomplished at neonatal unit of Fallujah Teaching Hospital for Women and Children. Data collection instruments included (age, sex, weight, cause of admission, time of Hospital stay, diagnosis and outcome). Data analysis was descriptive and represented as a number and percentage.

**Results:** A total number of neonatal admissions included in this study was 998; 535 were male (53.6%), and 463 were female (46.4%). A total of 740 patients (74.2%) were born in the Hospital while 258 (25.8%) were born at home. Most of the patients were admitted through the first 24 hours of life (60.5%). A total of 17 patients (1.7%) weighed <1kg; 43(4.3%) weighed 1-1.49 kg, and 353 (35.4%) between 1.5-2.5 kg. Prematurity and jaundice were the main causes for admission (28.5% and 26.2% respectively), followed by respiratory distress (22.5%), hypoglycemia (9%) and infection (8.2%). A total of 800 patients (80.2%) were discharged, 147 (14.7%) left against medical advice, 36 were referred to tertiary center (3.6%) and 17 (1.7%) died.

**Conclusion:** Prematurity, Jaundice, Low birth weight were the main causes of neonatal admissions. This may be reduced by proper antenatal care, early intervention, and if indicated referral of all pregnancies at high risk to be delivered in tertiary centers.

**Keywords:** disease pattern, neonatal admission, outcome

### Introduction

A neonatal period is very important period which in turn determines the health status of the infant and adult life. The mortality and morbidity rates in the neonatal period reveals a nation's socioeconomic status, also the effectiveness and efficiency of health care services [1]. Neonatal period is usually vulnerable period during the life result from different diseases [1]. Neonatal period represent the hazardous time of life [2]. The slow decrease in mortality of neonatal period in compare to mortality of post neonatal period need efforts and attention to reverse this direction [3]. The most common causes of neonatal deaths were considered to be infections (35%), prematurity (28%), birth asphyxia (23%) [4]. Tow third of neonatal deaths occur during the first week, and about one third of deaths occur during the first 24 hours [5, 6]. The major cause of mortality and morbidity in the developed countries is congenital anomalies while in the developing countries are infection, birth asphyxia, jaundice [7, 8]. In Iraq neonatal period deaths estimated to be more than half of under five children deaths [9]. The mortality rate has declined significantly in Iraqi children under five [10]. Reduction in neonatal mortality and morbidity can be achieved by proper intervention.

### Methods

This retrospective study was conducted from January to July 2019 at the neonatal care unit of the Fallujah Teaching Hospital for Women and Children. All neonates admitted to neonatal care unit were involved in this study except congenital malformation cases. The following research data were extracted from medical records of statistics unit of the

Hospital: Age, sex, delivery place, admission weight, hospital staying time, diagnosis, referral, discharge, death. Prematurity was considered when live baby delivered before 37 weeks. Low birth weight (LBW) is described when baby birth weight <2.5%; Very low birth weight (VLBW) if birth weight <1.5%; and extremely low birth weight (ELBW) if birth weight <1kg. Diagnosis of other conditions depend on clinical examination supported by investigations. Our data was descriptive and represented as a number and percentage.

### Results

The total number of admitted neonates during the study time was 998. There were 535 males (53.6%) and 463 were females (46.4%); most of the patients were admitted through the first 24 hours of life (60.5%) as shown in (Table 1). A total of 740 patients (74.2%) were delivered in the Hospital while 258(25.8%) were delivered at home. Concerning the birth weight of neonates, 17 patients presented with ELBW (1.7%), 43 as VLBW (4.3%), and 353 (35.4%) as LBW. Prematurity and jaundice were the main causes for admission to the neonatal care unit (28.5% and 26.2%) respectively, followed by respiratory distress (22.5%), hypoglycemia (9%), infection (8.2%) as shown in (Table 2). Regarding the disease outcomes, a total of 800 patients (80.2%) were discharged, 147 (14.7%) left against medical advice, 36 were referred to tertiary center (3.6%), and 17 (1.7%) died. (Table 3).

### Statistical analysis

This study represent a descriptive study so a frequency and percentage were used to describe a collected data.

**Table 1:** Age and sex distribution of 998 patients admitted to neonatal unit.

Variable	Features	Number	Percentage
Sex	Male	535	53.6%
	Female	463	46.4%
Age	< 1 day	604	60.5%
	> 1 day	394	39.5%

**Table 2:** Patterns of diseases among admitted neonates.

Diseases	Number	Percentage
Prematurity	284	28.5%
Jaundice	216	26.2%
Respiratory distress	225	22.5%
Hypoglycemia	90	9%
Infection	82	8.2%
Birth asphyxia	51	5.1%
Congenital heart Disease	5	0.5%
Total	998	100

**Table 3:** Outcomes distribution of neonatal admissions

Outcome	Frequency	Percentage
Discharged	800	80.2%
Left against medical advice	147	14.7%
Referral	36	3.6%
Died	17	1.7%
Total	998	100

## Discussion

Our study shows that highest percentage (60.5%) of newborns were admitted in the first 24 hours of life. This result is higher than Larkana study and lower than Lahore study which reported (44.47% and 75%) respectively [17, 18]. This is probably due to social and cultural factors. The majority of admitted neonates were males (53.6%). This result is comparable with Norhan study [11], Hameed and Abed study [12]. As males more likely to get medical care in compare to females in the family. This study shows that low birth weight was found in 35.4%, this result is comparable with Larkana and Lahore [17, 18] respectively. This high percentage of low birth weight in our study may be due to poverty, inadequate antenatal care and nutritional status of the mothers. In developed countries the rate of preterm birth range from 5%-7% but in developing countries the rate is higher [14]. This study shows that prematurity rate was 28.5% which is similar to Pakistan study [13].

Neonatal jaundice is a more common problem during infancy [15]. In this study the neonatal jaundice rate was 26.2% which is comparable to Peshawar study [16], and lower than Bangladesh study [19]. Regarding respiratory distress our study shows that 22.5% of admitted neonates develop distress, this result was comparable to Kuti, Kommawar, Adebami studies performed in developing countries [20, 21, 22]. This study shows that 80.2% of patients were discharged after proper management. This results was comparable with Pakistan study [13]. The patients left against medical advice in this study was higher than Pakistan study [13]. This is because decrease awareness of family regarding the benefit of treatment of their neonates in Hospital.

## Conclusion

Prematurity, Jaundice, Low birth weight were the main causes of neonatal admissions. This may be reduced by proper antenatal care, early intervention, and if indicated referral of all pregnancies at high risk to be delivered in

tertiary centers.

Authors contributions:

Author 1: Dr Mohammed Shuckur (conceived and designed the analysis, wrote the paper).

Author 2: Dr Majeed Hameed (collected and contributed the data).

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