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Assessment of preterm Labor among delivered women in Salahuddin general hospital

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ABSTRACT

Background:*Preterm birth define as the birth of a fetus before 37 wks of pregnancy (which normally last from 37- 40 weeks). Preterm birth is a great problem. It occurs in any socio-economic level countries. It still the main cause of perinatal disease and death.. The aim of this study is to evaluate the frequency of preterm labor in Salahuddin general hospital.*

Subjects and method:*A descriptive cross sectional study involving delivered women in Salahuddin general hospital (n=151) was conducted during February 2018. Simple random sampling was used to choose the sample and self-administered questionnaire to gather information about socio-economic, demographic characteristics, health status and risk factor for preterm babies.*

Results: *About 35 deliveries (23.18 %) were preterm deliveries. Among women with preterm delivery, about four women were below 18 years (44.4%) and one woman was above 35 years (6.7%). Concerning the spacing between the last pregnancy and the previous one, in about eight women with preterm delivery spacing was below 2 years and it was above 5 years in one woman. First pregnancy was reported in nine women with preterm delivery. Eleven preterm newborns were females (31.4%) and 24 were males (68.6%). In regard to health problems in preterm newborns, 13 newborns had respiratory problem (37%), 4 preterm newborns had poor feeding (11%), 3 newborns had cyanosis (9%), 2 newborns had jaundice (6%), 2 newborns (6%) had low APGAR score, and 11 (31%) were with no detected problem. In regard to birth weight, 18 preterm babies were with a birthweight <2500 grams.*

Conclusion: *1. About 23.18% of all deliveries in Salahuddin general hospital which were taken in the sample were preterm delivery.*

2. Emergency Cesarean section delivery was the most common type of labour in preterm delivery compared with those with full term delivery where elective CS was more common.

3. Premature delivery is risk factor for low birth weight.

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Introduction:

Preterm birth define as the birth of a fetus before 37 wks of pregnancy (which normally last from 37- 40 weeks).[1]

Preterm birth is a great problem. It occurs in any socio-economic level countries.[2,3,4] Premature Infants have a certain additional risk of mortality, diseases, deformity, as well as persistent motor loss, cognitive, vision problems, hearing problems, behavioral defect , and growth problems in comparison to full -term- infants.[5,6]

Although, there are many researches in developed countries, there is little knowledge about the main causes of premature birth in developing countries. The underlying causes are many and non-understood. They include behavioral cause, psychosocial causes, environmental factors, medical problems, infertility drugs and genetics causes.[7] More than one factors can occur at the same time.

Most preterm births happen spontaneously, despite the cause sometime unknown, different factors lead to spontaneous preterm labour, which include mainly infection[8], placental problems, like placenta previa, placenta accreta, or placental abruption[9], big uterus, which occur in pregnant with twin or polyhydromnias[10], and having shape abnormalities of the uterus or cervix.[11] However, some are due to early induction of labor or caesarean birth, whether for medical or non-medical reasons.[12] Preterm neonate sometime need should remain in the neonatal intensive care unit until their condition improve, they can feed good without problems.[13]

The indicating features of preterm labor include uterine contractions about 4 or more in one hour. As well as preterm laboure characterized by cervical dilatation and effacement. [14]

Researches have not shown the tests to be of benefit in women that are not at high risk and have no any symptoms. There are 2 screening tests for women who consider risky of preterm labor. A negative result is important and useful due to put mind at ease and lead to avoid interventions and addmition to the hospital. These tests include Measuring the length of cervix with ultrasound and fetal fibronectin screening, this test is mainly done for those who have uterine contractions or other symptoms of premature labor..[15-21]

Many cases of deaths due to preterm laboure could still alive if warmth enough, breastfeed quickly, infection treatment early as well as good breath support.[22]

Aim of study:

To evaluate the frequency of preterm labor in Salahuddin general hospital.

Objectives:

1- Identify the frequency of preterm deliveries in Salahuddin general hospital.

2- Identify the frequency of preterm delivery risk factors in comparison with term and post-term deliveries.

3- Clarify the health status among newborns.

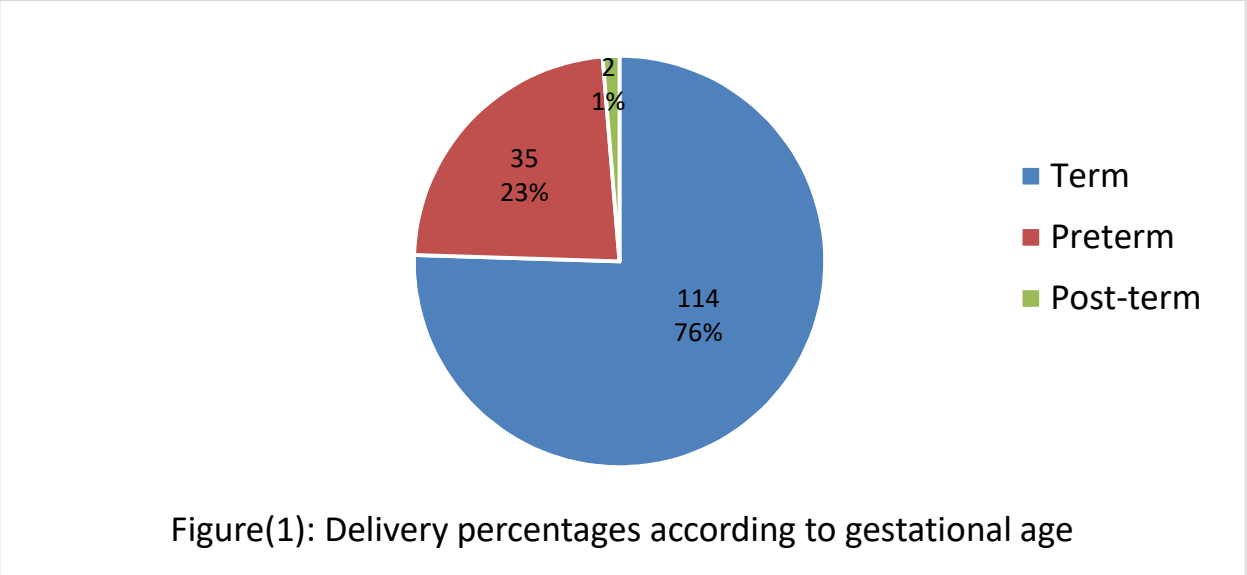
Subject and method:

A descriptive cross sectional study involving women undergoing deliveries in Salahuddin general hospital, who all agreed to participate in the study and

filled the questionnaires (n=151). Simple random sampling was used to choose the sample. Approval was obtained from delivered women regarding to their demographic information. Self-administered questionnaire was used for data collection in English language, containing closed and open type questions, including 15 question; 5 about demographic characteristic of respondents, others about type of delivery, history of preterm baby before and history of reproductive assistant, antenatal care, medical conditions, cause of preterm delivery, life style and environmental factors, maternal complications after delivery and other questions related to delivered fetus. Data was analyzed through use of descriptive data analysis by using manual statistical methods. Data have been represented by suitable tables and figures. The study was conducted during February 2018.

Results:

From the 151 delivery cases, there was 35 preterm deliveries (24 males and 11 females), 114 term and 2 post-term deliveries as shown in the next figure.



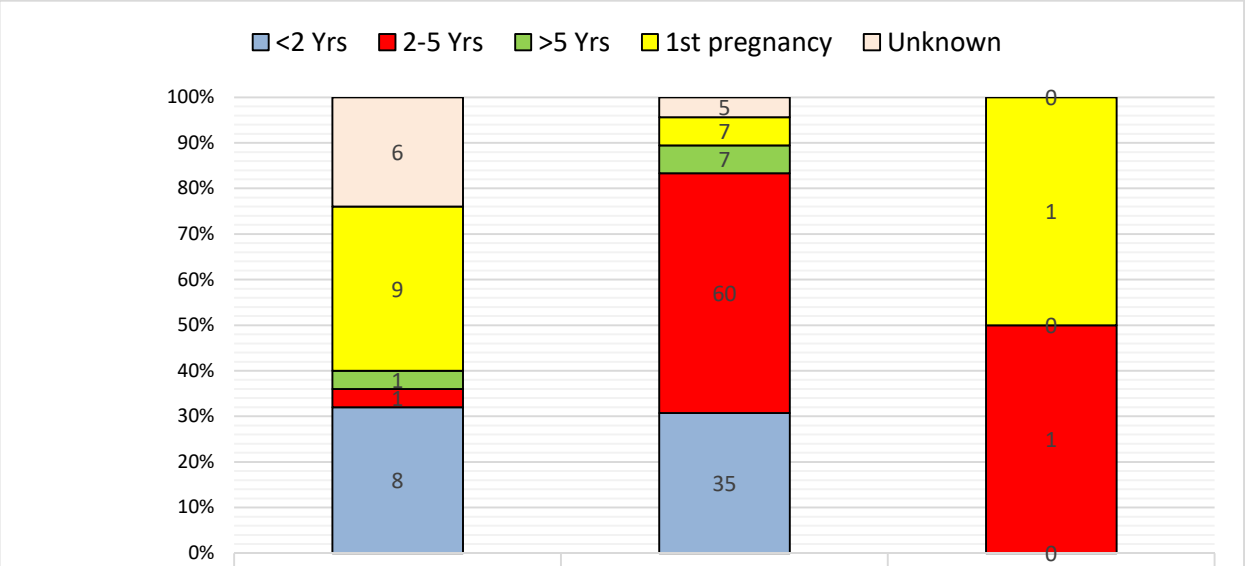
Figure(1): Delivery percentages according to gestational age

It was found that most of the deliveries were among the 18-35 years old mothers, the distribution of maternal ages at time of delivery in relation to gestational age is shown in the next table.

Figure(2): Relation between pregnancy spacing and time of delivery

Table(1): Relation between pregnancy duration and maternal age

	Preterm	Term	Post-term	Total
Below 18y	4 (44.4%)	5 (55.6%)	0 (0%)	9
18-35 y	30 (23.6%)	95 (74.8%)	2 (1.6%)	127
Above 35y	1 (6.7%)	14 (93.3%)	0 (0%)	15
Total	35	114	2	151

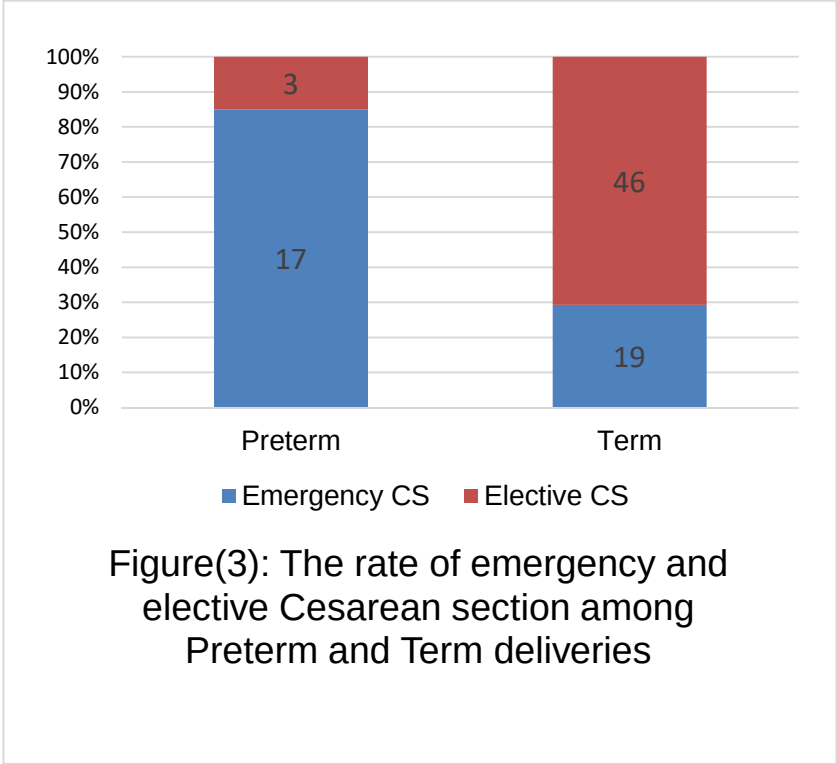


	Preterm	Term	Post term
Unknown	6	5	0
1st pregnancy	9	7	1
>5 Yrs	1	7	0
2-5 Yrs	1	60	1
<2 Yrs	8	35	0

The next figure (figure2) shows the relation between pregnancy spacing and time of delivery.
In regard to maternal medical condition during pregnancy, table(2) shows the number of women with different medical conditions and their distribution according to delivery time.

Table(2): Relation between pregnancy duration and medical conditions

Medical condition	Preterm		Term		Post term	
	Number	%	Number	%	Number	%
Hypertension	5	14.3%	21	18.4%	0	0
Placental problems	2	5.7%	8	7%		0
DM	3	8.6%	10	8.8%	0	0
Vaginal infections	6	17.1%	21	18.4%	0	0
UTI	16	45.7%	48	42.1%	0	0
Uterine anomaly	0	0%	1	0.9%	0	0
No or unknown condition	3	8.6%	5	4.4%	2	100%



Figure(3): The rate of emergency and elective Cesarean section among Preterm and Term deliveries

Regarding the delivery mode there was no differences in the rates of Cesarean sections among the preterm and the term deliveries (57% of both were born via C-section) but among those babies the rate of emergency C-section was higher in the preterm versus the term deliveries; this is shown in the next figure.

For the neonatal problems among the preterm children, three of the 35 preterm babies were dead and the other 32 were alive, the problems are listed in the next table.

Table(3): Health problem and their frequency among preterm babies

Health problem	Number	Percentage
Respiratory diseases	13	37%
Poor feeding	4	11%
Cyanosis	3	9%
Jaundice	2	6%
Low APGAR score	2	6%
No detected problem	11	31%

Finally, regarding the birthweight of babies, it was found that low birthweight infants were more among preterm than term deliveries, this is shown in the next table.

Table(4): Relation between pregnancy duration and neonatal birthweight

Birthweight	Preterm		Term	
	Number	%	Number	%
Low (<2500gm)	18	51.4%	6	5.3%
Normal (>2500gm)	17	48.6%	108	94.7%

Discussion:

In the current study, it was found that the frequencies of term, preterm and post-term deliveries were 76%, 23% and 1% respectively, this high percentage of preterm deliveries (23%), however, was higher than what is found globally where it was stated that 11.1% of all livebirths were born before 37 Weeks gestational age worldwide. This rate differ between countries, so that some European countries registered a rate of 5% while other African countries reached up to 18% or more.[23] The higher rate found in this study could be attributed to the fact preterm birth is a multifactorial process, so that many factors can contribute to this high percentage such as the lower socioeconomic status, the more physical activity and maternal infections, and all of these are identified as risk factors for preterm deliveries[24]

Regarding the maternal age at time of conception, it was found in this study that 44% of mothers with an age of less than 18 years were having preterm deliveries, this finding is consistent with another study that concluded a U-shaped distribution of preterm birth risk in relation to maternal age.[25] Other studies with different criteria found that the 30-34 years age group are having more rates of preterm deliveries but this finding could be attributed to the differences in sociodemographic characteristics and prenatal clinical risk factors between the study groups.[26]

Regarding the pregnancy spacing, it was found that the highest percentages of preterm deliveries were among the first pregnancies followed by pregnancies with less than two years of birth interval spacing, this finding is consistent with similar findings from other studies that stated the primiparous women and the interpregnancy spacing as independent risk factors for preterm births.[27,28]

In regard to maternal medical condition, it was found the highest two conditions percentages among preterm deliveries were the UTI and the vaginal infections, an expected non surprising finding due to the fact that maternal infections is a known risk factor for preterm child birth.[27]

About the Cesarean section rate in both the preterm and term births, it was found that the emergency CS contributed to more than 84% of all CS among the preterm births in comparison to less than 30% among the term deliveries. This finding could be attributed to the fact that the preterm deliveries were usually not expected and not prepared unless in the minority where preterm induction of labour was medically indicated.

Finally, regarding the child's birthweight, the low birthweight problem was encountered in about 51% of preterm born neonates compared to only 5% of term babies. This finding could be explained logically by knowing that fetal growth is a very rapid process and the last weeks of gestation are the most important in the fetal growth and weight increase, so the birth before the 37 weeks will yield a baby at higher risk of being underweight.[27]

Conclusions:

1. About 23.18% of all deliveries in Salahuddin general hospital which were taken in the sample were preterm delivery.

2. Emergency Cesarean section delivery was the most common type of labour in preterm delivery compared with those with full term delivery where elective CS was more common.
3. Premature delivery is risk factor for low birth weight.

Recommendations:

1. Encourage the pregnant women for better antenatal care to avoid the risk factors of maternal infections and short spacing.
2. Increase the future researches on this subject.
3. Educate the health care providers about the early identification of preterm deliveries for better management.

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