Mid-Year results of the Neonatal and Stillbirth Audits 2019

Dr Dina Jardaneh
Assistant Public Health Officer
UNHCR Jordan
RH WG
Oct 24th 2019

Outline

- NN Deaths Mid-Year Figures
- Neonatal Deaths Characteristics
- Maternal Characteristics
- Modifiable and Non-Modifiable Factors
- Recommendations

- Stillbirth Definition
- Stillbirth Figures
- Maternal Characteristics
- Stillbirth Characteristics
- Modifiable and Non-Modifiable Factors
- Recommendations

NNMR Mid-Year Comparisons

	2016	2017	2018	2019
Zatari	10	13.9	9.4	6.7
Azraq	19	11.9	12.1	20.2

NNMR/1000 live births among Syrian refugees by weeks and Camps, Midyear 2019
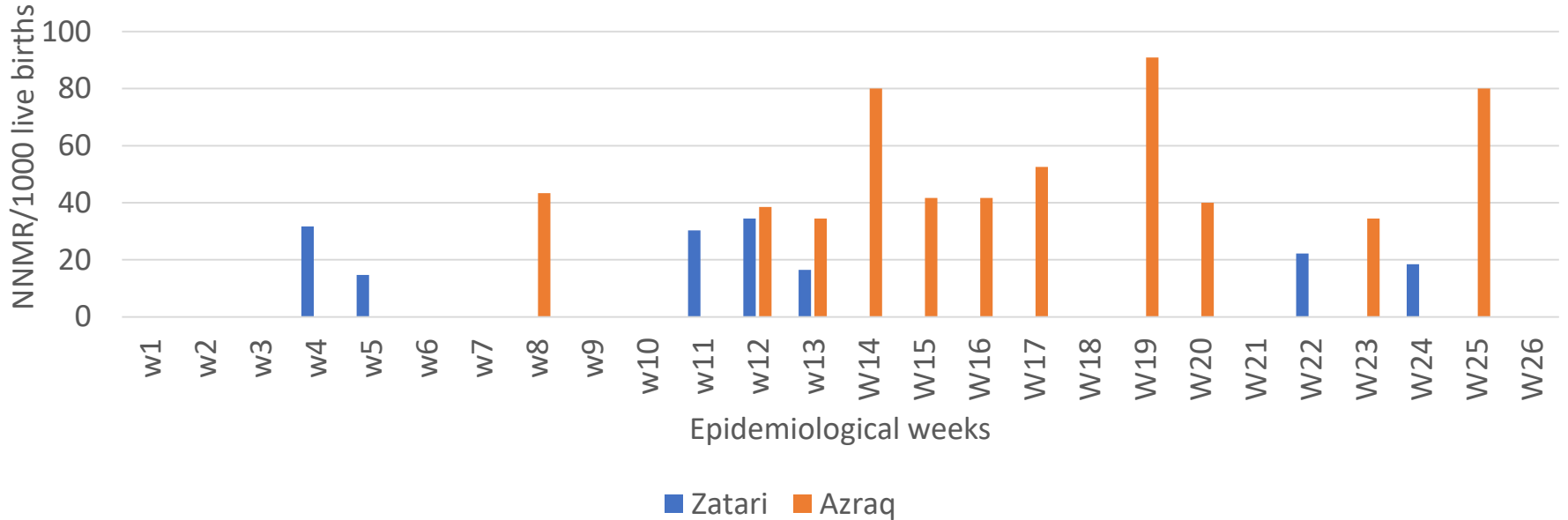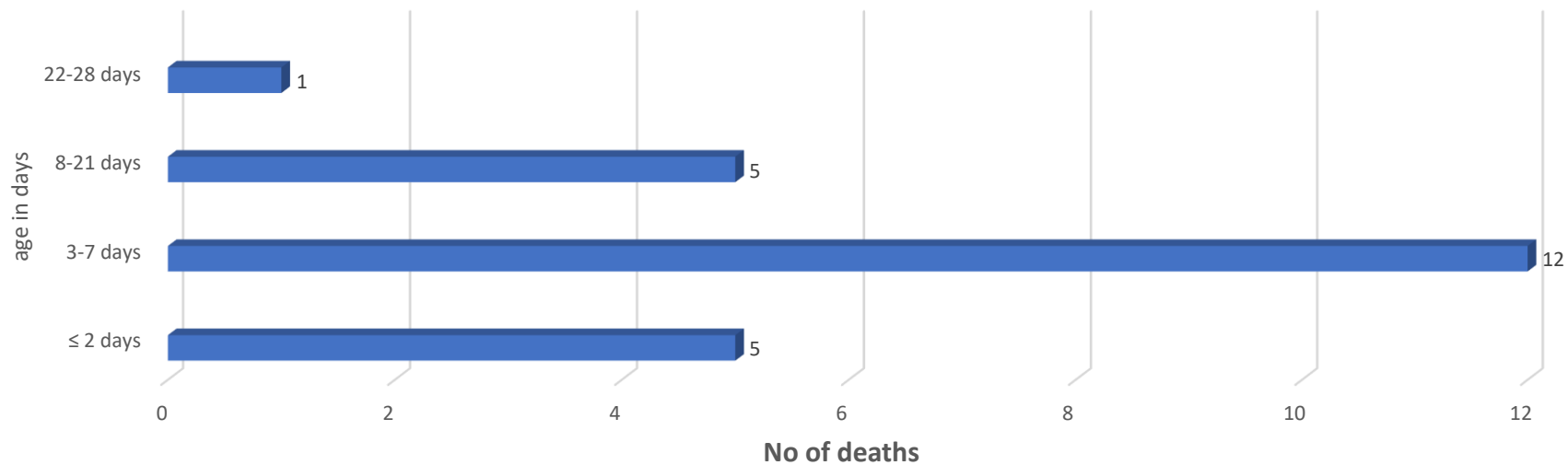
Fig.7.Neonatal death by age at time of death among Syrian refugees in Zatari and Azraq camps, Midyear/2019

Characteristics of NN deaths

Characteristics	Azraq		Zatari		Total	
Parameter	No.	%	No.	%	No.	%
Deliveries						
Single	12	92.3	9	87.5	21	91.3
Multiple pregnancies	1	7.7	1	12.5	2	8.7
Gender						
Male	6	46.4	7	62.5	13	56.5
Female	7	53.8	3	37.5.	10	43.5
Place of Birth						
Referral Hospital	5	38.5	7	75	12	52.2
Camp Hospital	8	61.5	3	25	11	47.8
Home	0	0	0	0	0	0
Age Group at time of death						
≤ 2 days	4	30.8	1	12.5	5	21.7
3-7 days	6	46.2	6	50	12	52.2
8-14days	1	7.7	2	25	3	13
15-21 day	1	7.7	1	12.5	2	8.7
22-28 days	1	7.7	0	0	1	4.35
Birth Weight						
Low birth weight	9	69.2	4	50	13	56.5
Normal birth weight	4	30.8	6	50.5	10	43.5

UNHCR
The UN Refugee Agency

CCx Cont'd

Birth weight per classification						
Extremely Low Birth weight<1000 gm	2	15.4	1	12.5	3	13
Very low Birth weight 1001-1500 gm	5	38.5	2	12.5	7	30.4
Moderate low birth weight 1500-<2500 gm	2	15.4	3	25	5	21.7
Normal birth weight	4	30.1	4	50	8	34.8
Resuscitation needed at time of delivery						
Yes	11	84.6	6	62.5	17	73.9
No	2	15.4	4	37.5	6	26.1
Place of death						
Referral Hospital	12	92.3	9	87.5	21	91.3
Camp hospital	1	7.7	0	0	1	4.35
Home	0	0	1	12.5	1	4.35
Total	13	100	10	100	23	100

UNHCR
The UN Refugee Agency

Reasons for Admission

Reason for Admission	Azraq		Zatari		Total	
	No.	%	No.	%	No.	%
Respiratory System Disorder*	10	76.9	6	60	16	69.6
LBW	7	53.8	6	60	13	56.5
Prematurity	8	61.5	3	30	11	47.8
Congenital anomalies	3	23.1	6	60	9	39.1
Jaundice	0	0	2	20	2	8.7
Fever	0	0	1	10	1	4.35
Cyanosis	1	7.7	0	0	1	4.35
Neonatal Sepsis	2	15.4	0	0	2	8.7

Cause of NN Death

Location	Zatari		Azraq		Total	
Immediate causes of death	No.	%	No.	%	No.	%
RDS	4	40	8	61.5	12	52.2
Pulmonary edema	1	10	0	0	1	4.35
Pneumonia	2	20	0	0	2	8.7
Transient Tachypnea of Newborn (TTN)	1	10	0	0	1	4.35
Suffocation	1	10	0	0	1	4.35
Liver failure	1	10	0	0	1	4.35
Pulmonary hemorrhage	0	0	2	15.4	2	8.7
Congenital anomalies	0	0	1	7.7	1	4.35
Pneumothorax	0	0	1	7.7	1	4.35
Sepsis	0	0	1	7.7	1	4.35
Total	10	100	13	100	23	100

Maternal Characteristics

Location	Zatari		Azraq		Total	
Characteristics	Number	Percent	Number	Percent	Number	percent
Age (years)						
Mean	28.1 years		28.67 years		28	
Range	25-44 years		18-35 years		18-44	
Gestational age						
Mean	35.5 weeks		35. weeks		34.47	
Range	29-40 week		26-42week		26-42	
Preterm level						
Extremely preterm (< 28 wks)	0	0	1	7.7	1	4.35
Very preterm (28- < 32 wks)	2	20	5	38.5	7	30.4
Moderate preterm (32- <37 wks)	2	20	3	23.1	5	21.7
Full Term (37-42 wks)	6	60	4	30.8	10	43.5

Maternal CCx Cont'd

Gravida				
Mean	5		4.3		4.78	
Range	3-10		1 -7		1-10	
Parity						
Mean	4.62		4.3			
Range	2-10		1-7		1-10	
Number of antenatal visits						
Mean	6.8		7		4.43	
Rang	2-9		4-8		2-9	
Presentation						
Cephalic	9	90	8	61.5	17	73.9
Breech	0	0	4	30.8	4	17.4
Transverse lie	0	0	1	7.7	1	4.35
N. D	1	10	0	0	1	4.35
Mode of delivery						
Cesarean Section	5	50	5	38.5	10	43.5
Spontaneous Vaginal delivery (skilled attendant).	5	50	8	61.5	13	56.5

Danger Signs

Characteristics	No.	%
Signs diagnosed during antenatal period		
Vaginal bleeding	2	8.7
Elevated blood pressure	3	13
UTI	2	8.7
Abdominal pain	1	4.35
Preterm rupture of membranes	1	4.35
No danger sign	15	65.2

Anemia Management

Camp	Hb not documented	Hb doc, no def, dose correct	Hb doc, anemic, Rx correct	Hb Doc, anemic, Rx does not correct	Hb doc, no def, not correct
Azraq	5	3	0	4	1
Zatari	2	2	2	2	2

Modifiable and Non-Modifiable Factors

- The most important objective of the NN deaths audit is to identify RF contributing to the NN deaths and to take proper actions in order to avoid these deaths in the future

- Medical and Non Medical Contributing RF
- Avoidable and Non-Avoidable

UNHCR
The UN Refugee Agency

Avoidable/ Modifiable:

- Old age pregnancies
- Lack of PPFP
- ANC Corticosteroids during pregnancy.
- Calcium supplementation
- Poor adherence to ANC Rx protocols (no ANC cards, insufficient ANC visits, Hb, BP).
- Clear guidance for GA identification
- Clear guidance for post-date management

Antenatal Corticosteroids (ACS)

- For threatened preterm birth (24-34 weeks), to speed surfactant development in fetal lungs and reduce respiratory distress syndrome (leading cause of preterm death)

- Antenatal corticosteroids (dexamethasone or betamethasone) are inexpensive and readily available (cost $0.50-$1).

- Equity divide: in high income countries, 90% of women in preterm labor receive ACS, but in low income countries coverage rates are estimated at 10%....

UNHCR
The UN Refugee Agency

What are the benefits of antenatal corticosteroids?

Antenatal steroids are associated with a significant reduction in rates of:

1. RDS by 40%
2. Neonatal death by 30%
3. Intraventricular haemorrhage
4. Necrotizing enterocollitis
5. The cost and duration of neonatal intensive care is reduced
6. They are safe for the mother.

Indications for antenatal corticosteroid therapy:

- Threatened preterm labor
- Antepartum haemorrhage
- Preterm rupture of membranes
- Any condition requiring elective preterm delivery

Contra-indications for antenatal corticosteroids therapy:

- Systemic infection including tuberculosis or sepsis
- Diabetes mellitus is not a contraindication to antenatal corticosteroid treatment for fetal lung maturation.

When to use?

Antenatal corticosteroids are most effective in pregnancies that deliver 24 hours after and up to 7 days after administration of the second dose of antenatal corticosteroids.

Antenatal corticosteroid should still be given even if delivery is expected within 24 hours.

Antenatal corticosteroids should be given to all women for whom an elective caesarean section is planned prior to 38+6 weeks of gestation

Dose:

Dexamethasone 6 mg given intramuscularly in four doses 12 hours apart in women between 24 and 36 weeks gestation

The Royal College of Obstetricians and Gynaecologists (RCOG)

UNHCR
The UN Refugee Agency

- Lack of proper categorization of pregnancies as high and low risk
- Filling all the sections in the medical files. these essential information to be provided by referral facilities
- Cord around babies neck?
- SIDS
- Proper referral for critical cases

- Meeting took place centrally at the beginning of Q3:
- The low coverage of the first ANC visit done in the first trimester
- Lack of documentation
- Improving the quality of care and adherence to RH treatment protocols
- UNHCR, UNFPA, IRC to attend the meeting to take place between IMC ToT's and IRC gynecologist, GP, and Midwife to discuss camp specific context recommendations on implementing RH activities

- Lack of systematic proper counselling and knowledge on danger signs for new-borns (at camp level and affiliated hospitals level)
- Lack of guidelines on the screening and management of Gestational DM during pregnancy

- Non-modifiable risk factors identified

Recommendations

- It is recommended through the RH coordination forum to take the following actions:

- Strengthen the role of HC providers and CHVs on counselling on PPFP

- Awareness raisings on the risks of young and old age pregnancy (on-going UNFPA)
- Systematic scoring on high/low risk pregnancy
- Calcium supplementation

- Follow up with the referral facilities assigned for RH and NN care cases on the following:

- Proper documentation of essential information on the care provided for new-borns including (Apgar score, Partograph, and CCHD screening and essential new-born care data)

- Proper counselling on the danger signs for the new-borns and pregnant women
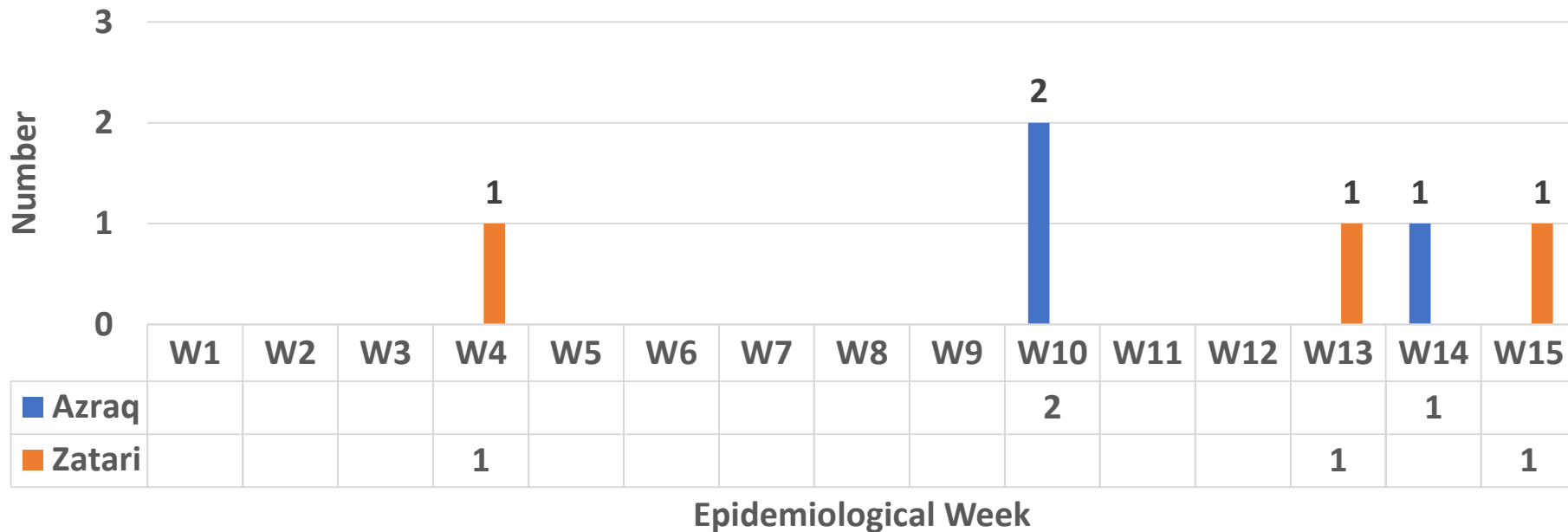
Mid-year

STILLBIRTH AUDIT, 2019

Stillbirth Definition

- Stillbirth is defined as Birthweight ≥1000g, or if missing, ≥24 completed weeks gestation, or if missing, body length ≥35cm.

	Stillbirths	Total births	Stillbirth rate per 1000 total births
Azraq	3	671	4.47
Zatari	3	1460	2.05
Both camps	6	2125	2.82

Distribution of Stillbirths By Camps and Epidemiological Weeks in midyear, 2019

	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15
■ Azraq										2				1	
■ Zatari				1									1		1

Epidemiological Week

Maternal CCx

Characteristics	Number	percent
Age of the Mothers (years)		
Mean	26.2	
Median	24.5	
Range	16 (19-35)	
Women less than 18	0	% (0)
Women above 35	0	% (0)
Pregnancy term level		
Full term	4	67%
Preterm	2	33%
Gravidity		
Mean	4	
Median	4	
Range	6 (1-7)	
Parity		
Mean	3	
Median	3.5	
Range	3 (1-4)	

No. of ANC visits		
Mean	4.5	
Median	4	
Range	7 (1-8)	
Mode of delivery		
Cesarean Section	3	50%
Spontaneous Vaginal Delivery (skilled attendant)	3	50%
Predisposing factors for Stillbirth		
Grand and Great grand Multi gravidity	4	67%
Post-date pregnancy (Transvers lie)	1	17%
Un-Known	1	17%

Stillbirth CCx

Characteristics	No.	%
Gestational age (weeks)		
Mean	35.83	
Median	37.5	
Range	12 (28-40)	
Terms of Pregnancy		
Full term	4	67%
Preterm	2	33%
Fetal Weight (grams)		
Mean	2966.7	
Median	3000	
Range	2000 (2000-4000)	

Condition at the time of delivery		
Fresh stillbirth	4	67%
Macerated stillbirth	2	33%
Type of Stillbirths		
Intrapartum	2	33%
Antepartum	4	67%
Causes of Stillbirths		
Post-date pregnancy	1	16.67%
Abruptio placenta	2	33.33%
Umbilical Cord Accident	1	16.67%
Obstetric complication (delay receiving care)	1	16.67%
Un-known (No ANC)	1	16.67%

UNHCR
The UN Refugee Agency

Modifiable and Non-Modifiable Risk Factors

- Importance of early booking visits
- Importance of reaching the facility once labor starts
- Protection cases more attention
- Adherence to RH treatment protocols, identifying risk factors, and danger signs

Camp	Hb not documented	Hb doc, no def, dose correct	Hb doc, anemic, Rx correct	Hb Doc, anemic, Rx not correct	Hb doc, no def, not correct
Azraq	2	1	0	0	0
Zatari	1	1	0	1	0