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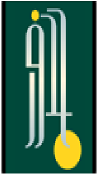

Maternal Near Miss in Four Government Hospitals in the West Bank:

Results from a retrospective study

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Introduction

- WHO estimates that each year 10 to 15 million women experience severe or long-lasting illnesses or disabilities caused by complications during pregnancy or childbirth.

- In recent years maternal near miss (MNM) has gained international attention as another indicator of quality obstetric care

Background

- MNM cases occur more frequently than maternal deaths and may generate more information as the woman herself can be a source of data.
- MNM is useful for the identification of health system failure
- It is a relevant source of information for policy makers in the selection of maternal health care priorities

The World Health Organization (WHO) definition

- Maternal near-miss is “a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy.”

Objectives

- To identify maternal near miss in four government hospitals (Hebron, Rafidia, Jenin and Jericho) in 2010.
- To assess compliance with the National Obstetrical Emergencies Guidelines and Protocols in the management of maternal near miss cases.
- To assess coverage of training on the protocols among staff.
- To define opportunities to improve documentation.

Methodology

1. MNM identification: Retrospective, descriptive, facility based survey of the 2010 maternity registers

2. Review of patient files: random stratified sample of potential cases (198 records out of 403 suspected cases)

3. Knowledge, Attitudes, and Practices (KAP) survey was completed by 46 health care professionals working in the maternity wards.

4. Sample of 100 suspected near miss cases selected and files reviewed to identify documentation shortfalls.

Results

- Documentation in patient files was insufficient to clearly identify near miss cases occurring at the time of or shortly after delivery. Suspected cases were identified using disease-specific criteria and data.

- Percentage of (suspected) maternal near miss was 2.13% (reflects suspected MNM rate at delivery and immediately post-partum).

Distribution of direct cause for suspected MNM

	Frequency	Percent
PET	75	41.9%
APH	54	30.2%
PPH	33	18.4%
APH, PPH	6	3.4%
Anemia	11	6.1%
Total	**179**	**100%**

67% of the women delivered by CS

Characteristics of suspected maternal near miss cases

	Mean [min-max]
Women's age (176 women)	29.8 [16, 44]
Gestational age at delivery (154 women)	36.2 [27, 42]
Days between admission and delivery (171 women)	0.88 (SD=1.8)
Days between delivery and discharge (159 women)	1.8 [SD= 1.4]
Previous CS (57 women)	2 [1,6]
Referral (49 cases)	Frequency- (%)
Private physicians	25 (51%)
Government Hospitals	10 (20.4%)
Maternity clinics	9 (18.4%)
NGO hospitals	4 (8.2%)
Others	1 (2%)

Previous obstetric complications and medical history

	Suspected Maternal near-miss cases	
Previous obstetric complications	No.	Percent
Pre-eclampsia	17	16.7%
Anteparum Hemorrhage	6	5.9%
Post partum Hemorrhage	7	6.9%
Pregnancy Induced hypertension	2	1.9%
Previous medical history		
Diabetes Mellitus	1	0.9%
Hypertension	8	7.8%
Contributory causes/associated conditions		
Previous caesarean section	57	55.9%
Renal problem	1	1%
Intrauterine Growth restriction	1	1%
Preterm labor	2	2%
Total	**102**	**100%**

Distribution of the cases admitted to ICU

Case	Frequency	Percent
PET	21	56.8%
Obstetric Hemorrhage	13	35.1%
Anemia	1	2.7%
PET & Anemia	1	2.7%
PET & HELLP	1	2.7%
Total	37	100%

Management of Postpartum Hemorrhage according to obstetric emergency protocol (39 cases)

	Yes	Percent
1. Remove placenta manually	15	38.5%
2. Oxytocin IV drop/ IM- Methergine IV/IM & uterine massage	33	84.6%
3. Examination of cervix and vagina	31	79.5%
4. Check uterine cavity manually	25	64.1%
5. Cytotec 5x200µg intrarectal or PG F2a 0.25mg IM	27	69.2%
6. Blood transfusion	16	41%
7. Refer to theatre or resuscitation room	5	12.8%
8. Hysterectomy	5	12.8%
9. Iliac ligation	5	12.8%

71% of health staff who responded in the KAP survey correctly answered questions related to post-partum hemorrhage case management.

Management of pre-eclampsia/eclampsia according to protocol (75 cases)

	Yes	Percent
Assessment of consciousness level	51	68%
Magnesium Sulphate	31	41.3%
Termination of pregnancy (Gestational age considered) 27-32 W	8	10.7%
32+ - 36+ W	21	28%
37 - 40 W	36	48%
Missing	10	13.3%
If convulsion are not controlled transfer to ICU	3	4%
Management of fluids according to urine output	15	20%
CVP line is inserted if urine output remains< 30 ml/hour for further 2 hours	3	4%
If oliguria continues in the absence of pulmonary odema, dopamine 1-5 mg/kg/min.	1	1.3%
If no response, patient transferred to ICU	7	9.3

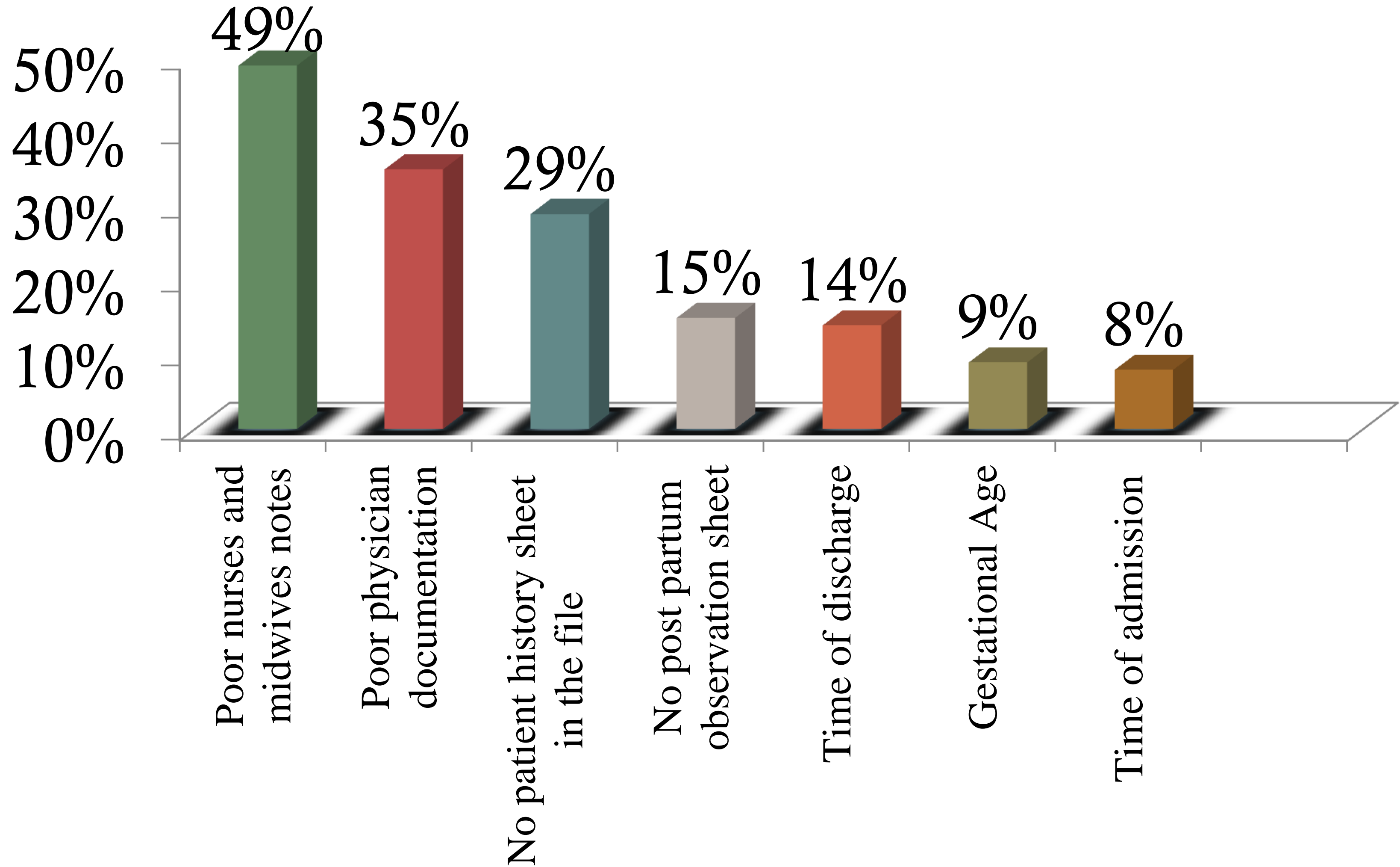
26% correctly answered questions related to the management of PET.

Relationship between passing the knowledge questions and attending training

Characteristics	Pass >16 N= 29 (63%)	Fail <16 N=17 (37%)	P value
Ever attended training			
Yes	21(84.0)	8 (40.0)	0.002
No	8 (16.0)	16 (35.6)	

Approximately 42 % of health staff respondents were able to define near-miss classification.

Distribution of missing data and improper documentation



Conclusions

- Maternal near miss case identification and clinical management according to established protocols cannot be sufficiently determined due to the lack of adequate and quality documentation in patient files.

- This study revealed several issues regarding quality of obstetric care that need urgent attention and improvement to reduce maternal morbidity.

Recommendations

- **Further investigation regarding maternal near miss**

- **Health system improvements**:

(1) Evidence-based, standardized training in emergency obstetrics

(2) Continuous education system linked to licensing, and available to all maternity care providers

(3) Systematic documentation of individual case files

(4) Improve and unify hospital archiving and filing systems

(5) Enhance quality of MNM case management and referral;

(6) Strengthen management and supervision systems

(7) Surveillance and monitoring system

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