STEP UP UTEROTONIC MEDICATIONS IN HIGH RISK MOTHERS AT GODDEN MEMORIAL HOSPITAL, JANUARY 2020- DECEMBER 2021

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INTRODUCTION

- Post partum haemorrhage (PPH) remains a global burden contributing to high maternal morbidity and maternity.
- In resource limited settings like Godden Memorial Hospital careful assessment of risks among pregnant mothers is essential to determine preventative measures.
- Aim : Investigate how HCWs working in GMH maternity ward classify and manage risk factors of PPH. Particularly focusing on the tendency to give uterotonic medications.
- Uterotonic medications are available for pregnant mothers with risk factors attributing to PPH or use in Active Management for PPH.
- Step up of uterotonic medications, is a term for giving extra doses of syntocinon and misoprostol as a prophylaxis of PPH apart from the already given routine 10 unit syntocinon immediately after delivery of baby. This level of care has been practiced in GMH and health facilities in Penama since in 2019.

- Uterotonic medications for PPH prevention has been studied in various settings
  - *…effective for preventing PPH ≥ 1000 mL when compared with placebo or no treatment.* (Gallos, Papadopoulou, & Man, 2018).
  - *….The combination of misoprostol with oxytocin reduces Mean Blood Loss (MBL) post-delivery Ottun, 2022)".*
- However the step up of uterotonic medications has not been carefully studied much, and for Vanuatu it is a practice that needs further investigation to help improve care for laboring mothers.

METHODS

- We gained approval to conduct study from the Management of Godden Memorial Hospital (GMH).
- Health Worker Survey (HCW):
  - A one-on-one survey was conducted with nurses and midwives
  - Study period : January 2020 to December 2021.
  - To assess health worker knowledge of risk factors of PPH.
- Data Collection
  - Retrospective observational study , all deliveries.
  - Folders were retrieved and tabled in Excel spreadsheet along with the risk factors documented in their antenatal cards.
- The risk factors for primary PPH were categorized into antepartum and intrapartum risks. We computed Chi square test of Independence to determine association between risks factors and PPH.
- Due to the small sample size, a Fishers Exact Test was also computed for individual risk correlation with Post partum haemorrhage.

RESULTS: SURVEY – HCW GENERAL KNOWLEDGE OF PPH

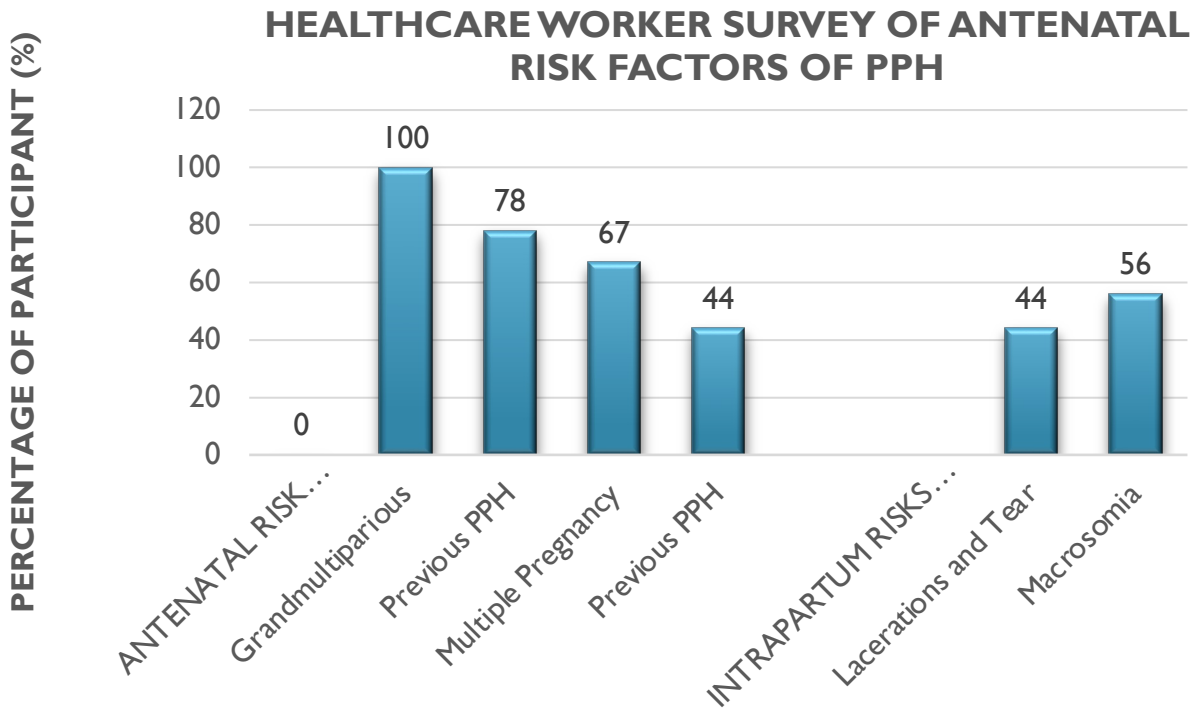


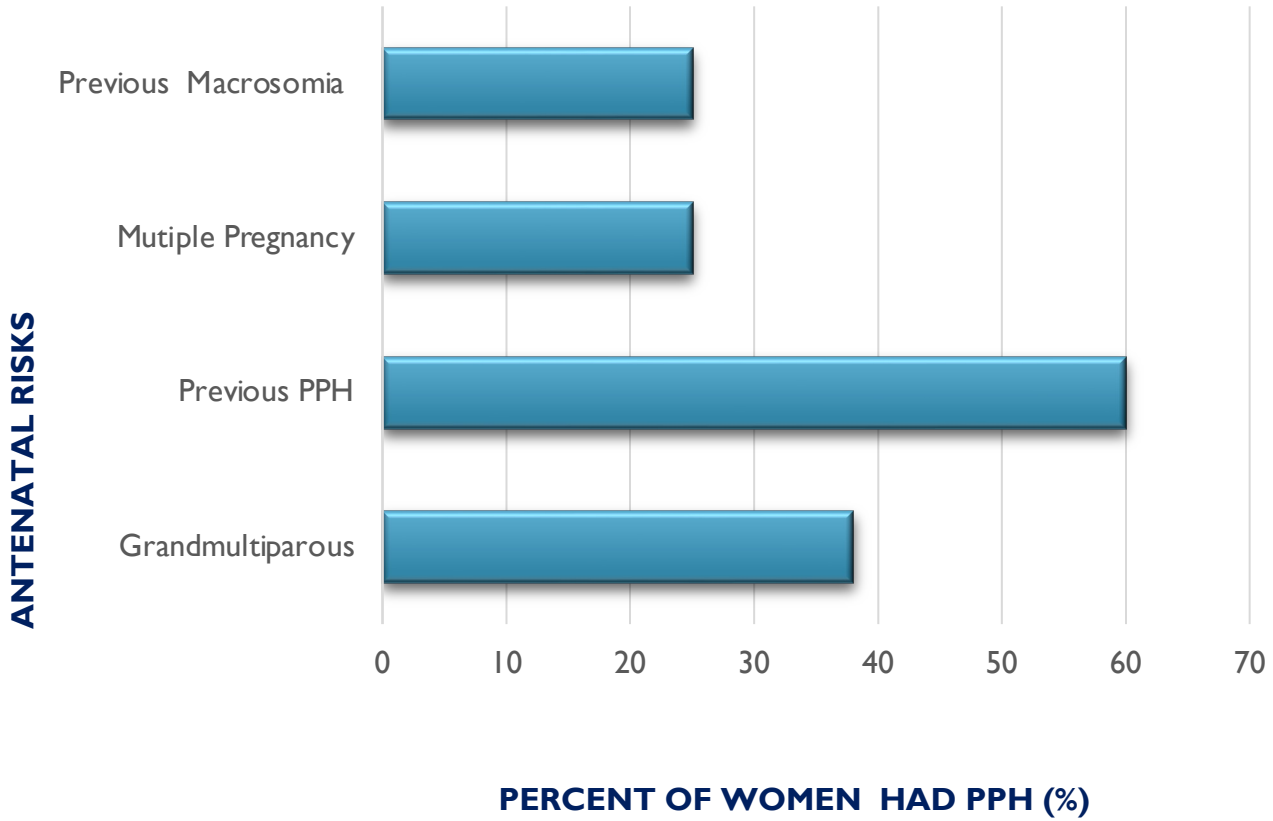
CHART 1 : RISK FACTORS OF PPH

- Total Interviewed : 9 (5 midwives and 3 registered nurses)
- Risks were divided into 2 categories
- Risk factors identified by nurses were recorded during antenatal first booking screening (antenatal card).
- All HCW had experience the step up approach of PPH Prophylaxis
- Certain key action points not being mentioned by participants such as: call for help, and investigating source of bleeding.

RESULTS – BIRTH REGISTRY ANALYSIS

- There was 269 deliveries Registered in the birth registry, but we managed to retrieve 195 folders – 73% recovery rate.
- 195 patient folders 10.3% (20) had Postpartum Haemorrhage.
- 31.8% (62) had received step up doses of uterotonic medications of 62% (39/62) were for PPH prophylaxis.
- Chi Square Test of Independence was computed for collective risk factors usually identified by HCWs at antenatal booking, then during labor (intrapartum). *(Since this was retrospective, all risks were documented in folders were analyzed based on an "as it is" context. This was useful method to standard of care previously with un updated one-to-one survey based on HCW knowledge).*
  - **Antenatal Risks:** $X^2 (4, N = 46) = 9.49, p = 0.059$
  - **Intrapartum Risks:** $X^2 (4, N = 21) = 9.49, p = 0.24$

POSTPARTUM HAEMORRHAGE OCCURRENCE IN PREGANT WOMAN WITH PRESENT RISK FACTORS



- Intrapartum Risk Factors had developed PPH :
  - Lacerations (13.5%), Macrosomia at birth (16.7%) – identified during delivery

RESULTS – BIRTH REGISTRY ANALYSIS – FISHERS EXACT TEST

Documented Risk Factors of PPH		Fishers Exact (P Value)	Chi Square Test of Independence	
			CV	(p value)
Antenatal Risk Factors				
Previous Macrosomia (n = 153)		p= 0.29		
*Anaemia * (n = 48)*		p = 0.16	9.49	0.059
*Multigravida** (n = 153)*		p = 0.07		
*Multiple Pregnancies*** (n = 137)*		p = 0.14		
Previous Post Partum Haemorrhage (n = 153)		**p = 0.002**		
Intrapartum Risk Factors (n = 153)				
Preterm Delivery		p = 0.59		
Post Term Delivery		p = 1	9.49	0.24
Macrosomia at birth		p = 0.432		
Retained Placental Products		p = 1		
Prolong Labor		p = 0.176		
Lacerations	**(n = 153)**	p = 0.811	0.13	0.71

** Haemoglobin < 11.1 g/dL*

*** Gravida > 5*

**** Twin pregnancies and the like*

DISCUSSION

- HCWs are comfortable using Misoprostol and syntocinon combination safe rather than Sytocinon only.
- Previous PPH is significantly associated with PPH (p value = 0.002)
- 64 % mothers had Laceration or Tear however only 13.5 % had developed PPH.
- There is no standard way of classifying risks of PPH at Godden memorial hospital however a the step up use of uterotonic medications is quiet high with a rate of 62% for PPH prophylaxis compared to 38% for actual PPH (EBM >/= 500 ml).

Limitations

- The small sample size of the Health Care Worker Survey (n=9).
- Missing folders and poor documentation.

RECOMMENDATIONS / IMPLICATIONS

1. **Midwives and Nurses Refresher Training**
   - Strengthening of knowledge base PPH risk factors,
   - Indicators for use of uterotonic drugs
   - Active management of Postpartum Haemorrhage
   - Ways to measure Estimate Blood Loss (EBM).
2. Change of Practice Consideration
   - Mothers previous PPH must be investigated thoroughly for cause of bleeding
   - Syntocinon and Misoprostol must be made available at Health Centers and Dispensaries (Set-up Guidelines)

3. **Further studies should be carried out**
   - Standardising a prophylaxis regimen dose for misoprostol and oxytocin
   - Comparing syntocinon vs Misoprostol and oxytocin on a larger scale of population (Provincial or a referral Tertiary Hospital)
   - Estimated blood Loss (EBM) should have a documented time frame (i.e.1 hour post delivery or within 24hrs).

ACKNOWLEDGEMENTS

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