

Heavy menstrual bleeding and association with menstruation-specific resources: A cross-sectional study across five low- and middle-income country settings



Zarmeen Shakil<sup>1</sup>, Bethany Caruso<sup>1</sup>, Madeleine Patrick<sup>1</sup>, Thea Mink<sup>1</sup>, Tanushree Bhan<sup>1</sup>, Tanvir Ahmed<sup>2</sup>, Jenala Chipungu<sup>3</sup>, Malini Reddy<sup>4</sup>, Chibwe Beatrice Chiwala<sup>5</sup>, & Sheela Sinharoy<sup>1</sup>

## INTRODUCTIO

Heavy menstrual bleeding (HMB): Ex blood loss which interferes with a wo emotional, social, and/or material qu

1.Nearly 49% of urban women across and middle-income countries (LMIC associated with adverse health outo 2. Prior research emphasizes biologic

DN	METHOD				
xcessive menstrual	Statistical Analysis Fig 2 Poisson Regression Models				
oman's physical,	2 multivariable Daigoon (adjusted) regression models ware	Covariates			
ality of life [1]	developed (Figure 2)	Demographics and Menstrual	Models 1, 2 p		
ss ten cities in low-	Model 1: Demographics, Menstrual Practices and HMB	Practices	Heavy		
Cs) experience HMB;		Primary Exposures	Menstrual		
comes [2]	Model 2: Menstruation specific resources (safety and security,	Safety And Security	Models 2 & Bleeding		
cal causes of	privacy, financial assets, and time) and HMB, controlling for	Time, Privacy,	(HMB)		
	domographic obstactoristics and manetrual practices		0.4//		

HMB but non-biological factors such as resource constraints may also contribute to the experiences of HMB in LMICs [3-5]

## **Study Objectives:**

- 1. To examine associations between menstruationspecific resources and HMB in LMICs to understand factors that may contribute to HMB
- 2. To identify modifiable factors that may influence the experience of HMB to inform future research and policy to improve menstrual health resources

# METHODS AND MATERIALS

### **Study Design**:

 Secondary analysis of cross-sectional data collected via household surveys between August 2021-June 2022

## **Participants and Analytic Sample:**

- 3,597 women from 8 cities across 5 countries (Figure 1) who had menstruated in the past year & had complete data for outcome, exposures, and covariates

demographic characteristics and menstrual practices

Model 3: Menstruation specific resources and HMB, controlling for demographic characteristics and menstrual practices, and clustering at neighborhood level

# RESULTS

### Model 1; Demographics and HMB:

• HMB was statistically and positively associated with using 'other' menstrual materials (*PR*=0.25, *p*=0.015)

### Model 2; Menstruation-Specific Resources and HMB:

Financial dependence was significantly associated with higher HMB (*PR*=0.09, *p*=0.008) and greater control over time was associated with lower HMB (*PR*=-0.20, *p*<0.001)

### Model 3; Menstruation-Specific Resources and HMB, **Neighborhood Clustering Adjusted:**

Significant associations remained—financial dependence (*PR*=0.09, *p*=0.001), time (*PR*=-0.19, p < 0.001), and 'other' menstrual products (*PR*=0.28,



# CONCLUSION

Financial dependence and HMB: Economic constraints and gender norms increase women's reliance on others for menstrual expenses

**Control over time and HMB:** Improving women's control over their time may improve menstrual management

"Other" Menstrual Materials and HMB: Using 'other' materials (cotton wool, toilet paper, etc.) reflects limited access to preferred materials due to financial dependence **Future research and policy:** 

### Investigate how finances, time, availability and affordability of menstrual materials, and tax reduction on menstrual materials shape HMB and menstrual management

Prioritize access, quality and sufficiency of materials

## REFERENCES

### Fig 1. Map of study locations



### **Measures:**

**Outcome:** HMB was assessed using the SAMANTA scale, a validated six-item instrument [2,6]. Responses were scored from 0-10, with  $\geq$ 3 indicating HMB

**Exposures:** Perceived access to menstruation-specific resources (safety and security, privacy, financial assets, and time) was assessed using validated scales (see QR code below) [7]

**Covariates:** Demographic characteristics (age,

### *p*<0.001)

## **Table 1: Poisson Regression Results of HMB and Menstruation-Specific Resources (Models 2 and 3)**

	Pre	Prevalence ratio (PR), standard error, p-value									
		Model 2* (n=3.597)			Model 3** (n=3,597)						
		PR	SE	P value	PR	SE	P value				
	Safety and security	-0.07	0.42	0.076	-0.07	0.04	0.06				
	Privacy	-0.01	0.07	0.941	0.02	0.06	0.762				
F a	Financial assets	0.09	0.03	0.008	0.09	0.03	0.001				
	Time	-0.20	0.05	<0.001	-0.19	0.03	<0.001				

\* Model 2: Adjusted for age, education, city, type of menstrual material used most often, disposal method for menstrual materials, and type of sanitation facility \*\* Model 3: Adjusted for all covariates in Model 2 except city, and controlling for clustering at neighborhood level

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# CONTACT

education, city) and menstrual practices (type of menstrual material used most often, disposal method, sanitation facility)



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**Institutional affiliations:** <sup>1</sup>Emory University <sup>2</sup>Bangladesh University of Engineering and Technology <sup>3</sup>Centre for Infectious Disease Research in Zambia <sup>4</sup>Athena Infonomics <sup>5</sup>Lusaka Water Supply and Sanitation Company

Zarmeen Shakil PhD Student in Global

Health & Development, **Emory University** 

**Email**: Zshakil@emory.edu