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BRIEF COMMUNICATIONS

Care seeking for postpartum morbidities in Murshidabad, rural India

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Worldwide, an estimated 536 000 maternal deaths occur each year [1]. Of these, approximately 25% occur in India alone [2]. Postpartum maternal morbidity, defined by the WHO as morbidity occurring in the first 6 weeks after delivery, is a serious problem in resource-poor settings that contributes to maternal death [3]. Despite the high prevalence of postpartum morbidity and the danger of maternal mortality, women in low-resource settings such as rural India frequently fail to seek care from formal health providers [4]. Understanding the factors that influence care-seeking behavior for postpartum health problems in India is vital to setting program priorities and designing appropriate interventions. Our study sought to elucidate these factors in the rural district of Murshidabad, India.

We conducted secondary data analysis using multinomial logistic regression methods, using data collected through a household survey involving interviews with 2114 mothers carried out in February 2008 in the Murshidabad district of India. IRB approval was obtained from Johns Hopkins University Bloomberg School of Public Health.

A total of 929 (43.9%) mothers were reported to have had postpartum morbidities in the 6 weeks after delivery and were included in our analysis. Of these women, 54 (5.8%) did not seek care, 457 (49.2%) sought care from informal providers, and 418 (45.0%) sought care from formal providers. Most mothers lived in rural areas, were of lower socioeconomic status, were unemployed, and did not deliver at health facilities. The majority of mothers (62.5%) were Muslim, and most women and household heads had low educational levels. The mean distance to the nearest healthcare facility from a household was 3.9 kilometers (Table 1).

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Women who sought care for their morbidities from formal providers were compared with those who sought care from informal providers. In households in which the household head had a high school or higher level of education, the women were more likely to have sought care from a formal rather than an informal provider (relative risk ratio [RRR] 1.79; $P < 0.05$). Women who had delivered at a health facility were nearly 4 times more likely to seek care from a formal provider (RRR 3.85; $P < 0.001$). Women who were reported to have had a severe postpartum morbidity were more likely to have sought care from a formal provider (RRR 1.48; $P < 0.05$). Hindu women

Table 1

Baseline characteristics of women with postpartum morbidities (n = 929).^a

	Total (n = 929)	No care (n = 54)	Informal provider (n = 457)	Formal provider (n = 418)
PREDISPOSING				
Demographic				
Birth order of index pregnancy	2.32 ± 1.48	2.44 ± 1.62	2.51 ± 1.61	2.08 ± 1.27
Location				
Rural	898 (96.7)	50 (92.6)	445 (97.4)	403 (96.4)
Social/individual				
Education: mother				
Up to primary	458 (49.3)	23 (42.6)	273 (59.7)	162 (38.8)
Primary	173 (18.6)	13 (24.1)	78 (17.1)	82 (19.6)
Middle school	206 (22.2)	12 (22.2)	84 (18.4)	110 (26.3)
≥ High school	92 (9.9)	6 (11.1)	22 (4.8)	64 (15.3)
Education: household head				
Up to primary	557 (60.0)	33 (61.1)	302 (66.1)	222 (53.1)
Primary	130 (14.0)	7 (13.0)	63 (13.8)	60 (14.4)
Middle school	130 (14.0)	6 (11.1)	59 (12.9)	65 (15.6)
≥ High school	112 (12.1)	8 (14.8)	33 (7.2)	71 (17.0)
Religion				
Muslim	581 (62.5)	32 (59.3)	283 (61.9)	266 (63.6)
Hindu	348 (37.5)	22 (40.7)	174 (38.1)	152 (36.4)
Institutional delivery	325 (35.0)	13 (24.1)	92 (20.1)	220 (52.6)
ENABLING				
Economic				
Socioeconomic status				
Upper quintiles	324 (34.9)	21 (39.0)	133 (29.1)	170 (40.7)
Occupation: mother				
Employed	214 (23.0)	9 (16.7)	139 (30.4)	66 (15.8)
NEED				
Severe postpartum morbidity	191 (20.6)	11 (20.4)	77 (16.8)	103 (24.6)
GEOGRAPHIC				
Distance from nearest health facility, km	3.94 ± 4.98	5.30 ± 6.61	4.32 ± 5.26	3.36 ± 4.33

^a Values are given as mean ± SD or number (percentage).

were found to be 39% less likely to seek care from formal providers as opposed to informal providers than Muslim women (RRR 0.61; $P < 0.01$).

In multivariate analysis comparing care seeking from formal providers with no care seeking, women who had had an institutional delivery were more likely to have sought care from a formal provider than to have sought no care (RRR 3.97; $P < 0.001$). The further the distance that women lived from a government health facility, the less likely they were to seek care from a formal provider (RRR 0.94; $P < 0.05$).

Of the postpartum morbidities reported by 929 mothers, a significant proportion (20.6%) was classified as severe and potentially life threatening. Despite numerous barriers to accessing care, most women sought some kind of medical attention for their postpartum complications. Women who did not seek any attention appeared to be most influenced by distance to a healthcare facility and whether they had had an institutional delivery.

That previous institutional delivery is associated with greater care seeking from formal providers is unsurprising: women who had institutional deliveries were in general wealthier, better educated, and likely better connected with the formal healthcare sector. However, it does underscore the importance of trying to increase rates of institutional delivery, not only for better delivery and birth outcomes, but also to increase follow-up and uptake of formal care during the puerperium, when women and their children are extremely vulnerable to morbidity and even mortality.

The association of having a severe postpartum morbidity with seeking care from formal providers rather than informal providers is in some sense a positive finding, because it implies that severe

morbidities are being recognized as dangerous, and therefore women with such symptoms are appropriately seeking higher-level care.

The finding that Hindu women are less likely to seek care for postpartum morbidities than Muslim women is interesting and should be investigated further, as it may have important implications for programs that aim to increase women's access to postpartum care.

Postpartum morbidity is an important but complex public health problem in Murshidabad, India. Efforts should be made to increase access to health facilities for care seeking, and more research should be conducted to examine the relationship between postpartum care seeking and other factors including education and religious beliefs at the household level.

Conflict of interest

The authors have no conflict of interest.

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Rimonabant during early pregnancy

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Rimonabant (Sanofi-Aventis, Paris, France) was the first cannabinoid receptor antagonist to show high potency and selectivity for the central cannabinoid (CB₁) receptor. It is indicated for the treatment of obesity, in conjunction with diet and exercise, for patients with a body mass index (BMI, calculated as weight in kilograms divided by the square of height in meters) greater than 30 kg/m² [1]. There is no clinical evidence regarding the safety of fetal exposure to rimonabant

during early pregnancy, but animal studies have indicated a particularly high risk of profound consequences for brain maturation [1].

A 26-year-old primigravida was referred at 12.5 weeks of pregnancy. She had been treated with rimonabant (for a BMI > 30 kg/m²) for the previous 5 months and had stopped treatment at 12 weeks of pregnancy. A two-dimensional (2D) ultrasound examination at 12 + 5 weeks revealed no fetal anomalies, and crown–rump length and fetal nuchal translucency thickness were appropriate for gestational age. Because of the fetal exposure to rimonabant during early pregnancy, pluridisciplinary medical staff and a national reference center for teratogenic agents were consulted at 14 weeks; cerebral fetal magnetic resonance imaging to evaluate treatment exposure was not recommended.

An advanced 2D ultrasound survey at 18 weeks—which targeted the central nervous system and abdominal wall—showed no fetal malformation and a crown–rump length appropriate for gestational age. The woman was closely monitored throughout her pregnancy, and ultrasonographic examinations at 22 and 33 weeks showed no fetal abnormalities—with femur length, and cephalic diameter and circumference appropriate for gestational age; however, abdominal circumference was greater than the 95th percentile. Umbilical artery Doppler flow showed a systolic:diastolic ratio of 0.46 at 33 weeks, and uterine artery flow was normal. The patient experienced excessive weight gain during

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