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BRIEF COMMUNICATIONS

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# Root causes and social consequences of birth injuries in Western Uganda

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Incontinence-inducing birth injuries, such as obstetric fistula and anal-sphincter tears, are devastating sequelae of prolonged and obstructed labor, and can only be repaired through surgery. Such injuries are most prevalent in settings where delays and limitations in accessing emergency obstetric services are common.[1,2] The 2011 Demographic and Health Survey of Uganda[3] estimated that 2% of Ugandan women have experienced obstetric fistula and resulting trans-vaginal urine or fecal incontinence.

Whereas the clinical causes of birth injuries are well-understood, the contribution of social, cultural, and health-system factors have received limited attention. The present exploratory pilot study, approved by the institutional review board of the University of Michigan Medical School, Ann Arbor, Michigan, USA, sought to address this gap by employing in-depth case studies for 10 women in rural Western Uganda.

Virika Hospital, Fort Portal, Uganda conducts quarterly birth-injury camps for up to 50 women with a range of birth injuries. Virika Hospital provides surgical repair, recovery, and assisted community re-entry. All patients who presented to the May 2016 camp with vesicovaginal fistula, rectovaginal fistula, or fourth-degree anal-sphincter tears were invited to participate in an in-depth, semi-structured interview; written informed consent was obtained. The interviews assessed demographic data, obstetric history, rehabilitative services received, and the social impact of injuries. Data from each respondent were treated as individual case studies and the narrative portion of their interviews were used to trace potential root causes of injuries and to identify themes regarding social consequences.

The mean age of participants was 31 years (range 18–48) and the mean parity was 4 (range 1–10). Of the 10 women, four had been unmarried and developed injuries after their first pregnancies and five had been living with their injury for at least 5 years. The root-cause analysis suggested the following upstream causes of birth injuries: preference for traditional providers; lack of autonomy; lack of transportation; lack of clarity on presenting in labor; referral/access challenges; and lack of recognition or explicit discussion of injury (Table 1). There were 8 (80%) patients who reported their birth injuries as having a significant impact on day-to-day activities, including not being allowed to prepare food, difficulty continuing to work outside the home, social isolation, limited sexual intercourse, and fear of partners leaving.

In Western Uganda, the high prevalence of obstetric fistula is entwined with many social, cultural, and system-based root causes. The present study is but one step toward a broader understanding of the factors contributing to birth injuries; further research is needed to effectively address these complex factors.

## AUTHOR CONTRIBUTIONS

JNA contributed to the conception and design of the study, background literature review, data acquisition and analysis, and manuscript preparation. PB contributed to the design of the study, data acquisition, and manuscript preparation. GY-KG contributed to data interpretation and

**TABLE 1** Root causes and social consequences of birth injuries.

| Factors | Examples provided by participants |
|---|---|
| Upstream factors identified as contributing to birth injury | |
| Delivering with a traditional birth attendant | "It's not necessary to deliver in a hospital." Quote from a patient aged 30 y with a fourth-degree AST (TSI 11 y). |
| Necessary to wait for a husband's permission/economic input | Experienced a 9-h delay in hospital-transfer owing to having to wait for husband to arrive with funds. Patient aged 42 y with a VVF (TSI 4 mo). |
| Lack of transportation to facility | Began labor at midnight but had to delay seeking care until the morning when motorbike taxis would be available. Patient aged 30 y with a fourth-degree AST (TSI 12 y). |
| Chastised for arriving at facility early, leading to future delays | At prior delivery, patient told she was too early. Consequently, during her next delivery she labored at home for 12 h before departing for the hospital. She delivered on route with a traditional birth attendant who did not recognize/disclose the injury. Patient aged 23 y with a fourth-degree AST (TSI 9 mo). |
| Referral/access challenges | There was no physician available at the first facility they presented at; consequently, they sought care at a government hospital. Patient aged 28 y with a VVF (TSI 2 mo). |
| Lack of recognition/explicit discussion of injury | After a facility delivery, the provider did not discuss the tear; as it was the patient's first delivery, she thought it was normal and would heal. Patient aged 35 y with a fourth-degree AST (TSI 17 y). |
| Social consequences of birth injury | |
| Not allowed to prepare food | Owing to being perceived as unclean, the patient's children must prepare food, although she is allowed to eat with the family. Patient aged 28 y with a VVF (TSI 2 mo). |
| Interferes with work | "I do not bring produce to market anymore" [because of fear of leaking in public]. Quote from a patient aged 33 y with a VVF (TSI 5 y).<br>When she bends over to pick something up in front of her students she cannot control passing gas, which embarrasses her greatly. Patient aged 30 y with a fourth-degree tear (TSI 11 y).<br>At the market where she sells fruit, people point and laugh, making fun of her wet skirts and odor. Patient aged 48 y with a VVF (TSI 26 y). |
| Social isolation | Patient avoids visiting friends because she is afraid of people looking after her to see if her skirts are wet. Patient aged 33 y with VVF (TSI 5 y).<br>Patient avoids community gatherings because she fears leaking gas and/or stool. Patient aged 30 y with a fourth-degree AST (TSI 11 y). |
| Limited sexual intercourse | The patient's husband has stopped coming to her bed and she is worried that he will leave her if this continues. Patient aged 23 y with a fourth-degree AST (TSI 9 mo). |
| Fear of being left by partner | The patient's husband keeps another woman and has been sleeping at her home more and more since the injury. She is worried he will leave her if the fistula is not repaired. Patient aged 28 y with a VVF (TSI 2 mo). |

Abbreviations: AST, anal-sphincter tear; TSI, time since injury; VVF, vesicovaginal fistula.

revising the manuscript. CAM contributed to the conception and design of the study, data analysis, and manuscript preparation and revision.

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## CONFLICTS OF INTEREST

The authors have no conflicts of interest.

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