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Disrespectful and abusive treatment during facility delivery in Tanzania: a facility and community survey

Margaret E Kruk,[1]* Stephanie Kujawski,[2] Godfrey Mbaruku,[3] Kate Ramsey,[2] Wema Moyo[3] and Lynn P Freedman[2]

[1]Department of Health Policy and Management, [2]Averting Maternal Death and Disability Program, Columbia University Mailman School of Public Health, 60 Haven Avenue, New York, NY 10032, USA and [3]Ifakara Health Institute, Plot 463, Kiko Avenue Mikocheni, Dar-es-Salaam, Tanzania PO Box 78373

*Corresponding author. Department of Health Policy and Management, Columbia University Mailman School of Public Health, 600 West 168 Street, New York, NY 10032, USA. E-mail: mkruk@columbia.edu

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Although qualitative studies have raised attention to humiliating treatment of women during labour and delivery, there are no reliable estimates of the prevalence of disrespectful and abusive treatment in health facilities. We measured the frequency of reported abusive experiences during facility childbirth in eight health facilities in Tanzania and examined associated factors. The study was conducted in rural northeastern Tanzania. Using a structured questionnaire, we interviewed women who had delivered in health facilities upon discharge and re-interviewed a randomly selected subset 5–10 weeks later in the community. We calculated frequencies of 14 abusive experiences and the prevalence of any disrespect/abuse. We performed logistic regression to analyse associations between abusive treatment and individual and birth experience characteristics. A total of 1779 women participated in the exit survey (70.6% response rate) and 593 were re-interviewed at home (75.8% response rate). The frequency of any abusive or disrespectful treatment during childbirth was 343 (19.48%) in the exit sample and 167 (28.21%) in the follow-up sample; the difference may be due to courtesy bias in exit interviews. The most common events reported on follow-up were being ignored ($N = 84$, 14.24%), being shouted at ($N = 78$, 13.18%) and receiving negative or threatening comments ($N = 68$, 11.54%). Thirty women (5.1%) were slapped or pinched and 31 women (5.31%) delivered alone. In the follow-up sample women with secondary education were more likely to report abusive treatment (odds ratio (OR) 1.48, confidence interval (CI): 1.10–1.98), as were poor women (OR 1.80, CI: 1.31–2.47) and women with self-reported depression in the previous year (OR 1.62, CI: 1.23–2.14). Between 19% and 28% of women in eight facilities in northeastern Tanzania experienced disrespectful and/or abusive treatment from health providers during childbirth. This is a health system crisis that requires urgent solutions both to ensure women's right to dignity in health care and to improve effective utilization of facilities for childbirth in order to reduce maternal mortality.

Keywords Abuse, disrespect, facility delivery, maternal mortality, quality of care, respectful maternal care

KEY MESSAGES

- Despite a large body of anecdotal evidence, there are no reliable estimates of the prevalence of disrespectful and abusive treatment during labour and delivery in health facilities.
- We measured the frequency of abusive and disrespectful treatment during delivery in eight Northeastern Tanzanian health facilities using a structured survey. We interviewed women on discharge from facility, and re-interviewed a subset in the community 5–10 weeks later.
- Reporting of any disrespectful treatment ranged from 19% on discharge to 28% on community follow-up, with ignoring, shouting and negative comments among the most frequently reported events.
- This work confirms that disrespectful treatment is relatively common in this low-income setting and signals a crisis in a health system that is attempting to encourage women to deliver in health facilities to reduce maternal mortality.

Introduction

The Millennium Development Goal 5, which aims to reduce persistently high maternal mortality, has propelled policies to increase facility deliveries to the forefront of national agendas in many low-income countries (Campbell *et al*. 2006). However, there are anecdotal reports and mounting qualitative evidence that some women experience disrespectful or abusive treatment at the hands of health providers in facilities during labour and delivery (d'Oliveira *et al*. 2002; Bowser and Hill 2010). Abusive treatment in a health care setting where all patients are entitled to be treated with dignity violates a woman's fundamental rights. Such treatment is also a signal of low quality of care that may adversely affect health outcomes and may deter women from coming to facilities (Kruk *et al*. 2009, 2010). Both of these undermine efforts to reduce maternal mortality.

Accounts of women, health workers and families reveal a range of disrespectful and abusive treatment. These include physical abuse (beating, slapping and pinching), lack of consent for care (e.g. for Caesarean section or tubal ligation), non-confidential care (e.g. lack of physical privacy or sharing of confidential information), undignified care (e.g. shouting, scolding and demeaning comments), abandonment (e.g. being left alone during delivery), discrimination on the basis of ethnicity, age, or wealth, or detention in facilities for failure to pay user fees (d'Oliveira *et al*. 2002; Miller *et al*. 2003; D'Ambruoso *et al*. 2005; Bowser and Hill 2010).

Disrespectful treatment may be due to absent or inadequate national human rights policies and their enforcement, lack of leadership in the health system, poor standards of care in facilities, provider demoralization and shortages (Bowser and Hill 2010). Health providers in these contexts often contend with poor physical and organizational working environments, including medicine and provider shortages as well as low pay and weak supervision, which may result in demoralization and thus dehumanization of patients (Amoran *et al*. 2005; Bosch-Capblanch and Garner 2008; Johnson *et al*. 2011). The dynamics of power in health systems that strongly favour health professionals and low community engagement in health governance limit the accountability of health providers to users (Freedman 2003). In addition, long-standing patterns of poor quality and disrespectful care in a context of resource scarcity lead to their normalization in local cultures, making abusive care less visible (Bowser and Hill 2010). Finally, research from high-income countries has found that more educated women, women with past abuse and women with depression report higher rates of abuse in health care settings (Swahnberg *et al*. 2007).

To date there have been no estimates of the prevalence of disrespectful and abusive treatment of pregnant women in health facilities in low-income countries. In this article, we assessed the frequency of disrespect and abusive experiences as reported by women during facility childbirth in eight health facilities in Tanzania. We compared two approaches for measuring prevalence—exit interviews and community follow-up surveys and examined individual and delivery-related factors associated with reports of abusive treatment. This analysis is part of a larger study, the Staha (Respect in Swahili) study, which aims to measure the extent of disrespect and abuse, examine its drivers and determinants and design and pilot interventions to combat disrespectful treatment in health facilities in Tanzania.

Methods

Study area and sampling

The study was conducted in the Tanga Region of Tanzania in Korogwe and Muheza Districts, rural areas in the northeast corner of Tanzania. Korogwe District has a total population of 324 000 and Muheza District 341 000 (National Bureau of Statistics Tanzania and Tanzania Ministry of Planning 2006). Korogwe has 36 government health facilities (1 district hospital, 4 health centres and 31 dispensaries) and 8 private health facilities (1 hospital and 7 dispensaries). Muheza has 24 government health facilities (3 health centres and 21 dispensaries) and 6 private health facilities (1 district designated hospital, 2 health centres and 3 dispensaries). The hospital in Muheza District is non-governmental organization (NGO)-owned but it is designated by the government as the main district hospital (National Bureau of Statistics Tanzania and Tanga Regional Commissioner's Office 2008; Tanga Regional Health Management Team, personal communication). The Tanga Region has an institutional delivery rate of 41.3%, which is lower than the national average (National Bureau of Statistics Tanzania and ICF Macro 2011).

Eight health facilities were purposively chosen from the two study districts to be included in the study: the two district hospitals, five government health centres and one government dispensary. The two hospitals and one of the health centres in

Korogwe can perform obstetric surgery. The facilities were selected to reflect the range of delivery settings in rural Tanzanian districts. Women who delivered in study facilities and were 15 years of age and older were eligible to participate. Women aged 15–17 years required parent/guardian or spousal consent. During the consent process, participants were asked whether they would be interested in participating in a follow-up interview in their homes 5–10 weeks postpartum. Informed consent was obtained for both surveys at the time of the exit survey. Those who agreed to follow-up interviews provided contact details which were stored in a lock box separate from other study material. We randomly sampled 60% of the participants who consented to participate in the follow-up interview and had a complete exit questionnaire for the follow-up survey. Participants who lived outside of the study district or in hard to reach remote areas of the district were excluded from this sample due to logistic constraints. The authors obtained ethical clearance for this study from their institutions and the National Institute for Medical Research, Tanzania.

Instrument and survey fielding

Exit and follow-up questionnaires were developed in English, translated into Swahili and back translated. The exit questionnaire included questions about demographic characteristics, asset ownership, health history, recent health care utilization, delivery characteristics, perceived health care quality and satisfaction, experiences of disrespect and abuse during delivery and future health care utilization. The follow-up questionnaire included the same questions from the exit survey about perceived health care quality and satisfaction, experiences of disrespect and abuse during delivery and future health care utilization and also included questions about health seeking behaviours for mother and baby, preferences for labour practices and measures of maternal health.

Disrespect and abuse were measured by asking women whether they experienced specific events during labour and delivery. Questions were based on the disrespect and abuse categories defined by Bowser and Hill and were further adapted and validated for the Tanzanian context by the study team in formative research before this study consisting of focus group discussions and several in-depth interviews with recently delivered women. The categories were reworked as follows: non-confidential care, non-dignified care, neglect, non-consented care, physical abuse and inappropriate demands for payment. In the exit and follow-up surveys, each disrespect and abuse event was asked in a separate question. The disrespect and abuse items in the questionnaires were: body seen by others; shouting/scolding; request or suggestion for bribes or informal payments for better care; threatening to withhold treatment; threatening comments or negative or discouraging comments; ignoring or abandoning patient when in need; delivered alone; non-consent for tubal ligation; non-consent for hysterectomy; non-consent for Caesarean section; hitting, slapping, pushing, pinching or otherwise beating the patient; sexual harassment; rape and detention due to failure to pay. Although some of the items overlapped in meaning (e.g. shouting and negative comments), they were chosen to gain greater specificity of understanding of the women's experience; thus, multiple responses may represent a single abuse incident. Responses to each question were categorized as 'experienced' or 'not experienced'. A participant was labelled as having experienced disrespect and abuse during childbirth if she answered 'experienced' to one or more of the 14 questions.

The exit questionnaire was administered between December 2011 and May 2012 and the follow-up questionnaire between February 2012 and June 2012. Each interview lasted approximately 45 min and was administered in Swahili. For the exit interviews, trained interviewers approached women for participation upon discharge. To account for delivery volumes, six interviewers were stationed at each of the hospitals with one interviewer stationed at each of the health centres and the dispensary. The exit interviews were held in tents outside of the health facilities to maintain privacy. The follow-up interviews were conducted inside the participants' homes by trained interviewers. Interviewers were instructed to interview the women in private without other family members present. Women were given a bar of soap and a bottle of water in appreciation of their participation after each interview. Quality of the surveys was monitored by two supervisors and by monthly monitoring visits from a data analyst based at Ifakara Health Institute in Dar es Salaam, Tanzania.

Statistical analyses

We calculated means and frequencies for a range of sociodemographic factors (age, education, marital status, socioeconomic status and parity), factors pertaining to women's health (reported low mood or depression in the past 12 months and any past experiences of physical abuse or rape) and factors related to participants' delivery experiences (delivery facility, length of stay at facility, Caesarean section, whether the woman came directly to the facility for delivery and self-reported complications during delivery). The latter variable included any of a broad array of concerns ranging from extreme pain, to excess bleeding, to headache. The frequency of separate experiences of disrespect and abuse and a single measure of any disrespect and abuse was measured for exit and follow-up samples. To measure household wealth in a non-cash economy, we used a principal component analysis (PCA), as developed by Filmer and Pritchett, based on 18 survey questions about household assets (Filmer and Pritchett 2001). The results of the PCA were divided into quintiles, with the lowest two quintiles (40%) classified as 'poor'. Independent variables were chosen based on past literature and our hypotheses of what may make women vulnerable to experiences of disrespect and abuse. For example, teen mothers frequently experience social disapproval and deliver less frequently in health facilities, which may lead to disrespect during labour (Magadi *et al*. 2007). Women with self-reported complicated labours may require greater assistance and thus be more likely to be treated rudely by overextended staff.

Overall quality of care and satisfaction with delivery were also explored for each group of women. Response categories for overall quality of care were excellent, very good, good, fair and poor. From these, a three-level categorical variable was created: excellent/very good, good and fair/poor. Response categories for satisfaction with delivery were very satisfied, somewhat satisfied, somewhat dissatisfied and very dissatisfied. Responses were dichotomized into very satisfied and the other response choices.

Chi-square tests or Fisher's exact tests were performed to compare disrespect and abuse by each experience and for any disrespect and abuse experienced as measured on exit from health facility and on follow-up 5–10 weeks postpartum. Two multivariable logistic regression models were performed with the outcome of interest as experience of any disrespect and abuse—one measured on discharge from facilities and one measured on follow-up—with robust standard errors to account for grouping of observations in facilities. The intent of the regression was to identify individual and delivery-related factors associated with reports of abusive treatment rather than to identify underlying causes of abuse, which is impossible given the cross-sectional data and the relative homogeneity of the health system settings in the study. Independent variables included demographic and health characteristics, such as age, parity, wealth (bottom 40%), history of depressed mood in past 12 months, history of abuse or rape, hospital vs health centre delivery and several birth factors. Statistical analyses were performed using Stata 12.1 (College Station, TX, USA).

Results

We invited 2520 women who had been discharged from health facilities after delivery to participate in the study. Of these, 1779 (70.60%) agreed to participate. Women were, on average, 25.86 years old (standard deviation (SD) = 6.3) and for 684 women (38.47%), this was their first birth (Table 1). About a fifth of the women ($N = 360$, 21.80%) had some secondary education. Although 421 (23.72%) of the women's households have electricity, 1501 (84.52%) have a mobile phone. The majority of the women in our sample delivered in hospitals ($N = 1388$, 78.02%). Of the women who participated in the exit survey, 1532 (86%) consented to participate in the community follow-up survey and had a complete exit survey. A simple random sample of 60% of these women was selected for follow-up, of which 782 (85.46%) were eligible for participation; 14.54% were not eligible due to logistical constraints. Of those eligible, 593 (75.83%) were interviewed. Ninety-five per cent of the women were interviewed within 8 weeks after delivery discharge. Although no significant differences were found in background characteristics, health facility factors or delivery experience comparing the full exit sample to the community follow-up subsample, there was a significant decrease in satisfaction with delivery and quality of care from exit to follow-up (Table 1).

Overall, more disrespectful and abusive treatment was reported on follow-up than on exit. Nearly one in five women ($N = 343$, 19.48%) reported any disrespectful and abusive treatment during their childbirth experience on exit and 167 women (28.21%) reported any disrespect and abuse on follow-up (Table 2). The most commonly reported experiences of disrespect and abuse were shouting or scolding ($N = 153$, 8.71% on exit; $N = 78$, 13.18% on follow-up), ignored when needed help ($N = 139$, 7.93% on exit; $N = 84$, 14.24% on follow-up) and threatening or negative comments ($N = 93$, 5.28% on exit; $N = 68$, 11.54% on follow-up). Chi-square tests showed significant increases in the reporting of disrespect and abuse on follow-up compared with exit for our measure of disrespect and abuse ($P \leq 0.001$), and the categories of non-dignified care ($P \leq 0.001$), neglect ($P \leq 0.001$), physical abuse ($P = 0.012$) and inappropriate demands for payment ($P = 0.042$). The specific experiences of disrespect and abuse that significantly increased from exit to follow-up were shouting or scolding ($P = 0.002$), threatening or negative comments ($P \leq 0.001$), ignored when needed help ($P \leq 0.001$) and physical abuse ($P = 0.004$).

Table 3 shows results from separate multivariable logistic regression models with any experience of disrespect and abuse on exit and on follow-up as the outcomes of interest. Full data for analysis were available for 1613 women on exit and 546 women on follow-up. On exit, women who attended secondary education or greater (OR: 1.34, 95% CI: 1.05–1.71), those with a first birth (OR: 1.26, 95% CI: 1.00–1.59), those who reported low mood in the last 12 months (OR: 1.27, 95% CI: 1.00–1.62) and those who reported ever being physically abused or raped (OR: 2.29, 95% CI: 1.44–3.64) were more likely to report experiences of disrespect and abuse and women who were married were less likely to report experiences of disrespect and abuse (OR: 0.72, 95% CI: 0.58–0.89). In terms of delivery experience factors, women who reported that they had any complications during delivery (OR: 1.69, 95% CI: 1.29–2.22) and who stayed in the facility for delivery for less than 1 day (OR: 1.35, 95% CI: 1.07–1.70) were more likely to report experiences of disrespect and abuse, whereas women who came directly to the facility (OR: 0.51, 95% CI: 0.42–0.60) for delivery were less likely to experience disrespect and abuse.

In the follow-up survey, women who had four or more births (OR: 0.58, 95% CI: 0.39–0.87) and those with Caesarean sections (OR: 0.66, 95% CI: 0.51–0.86) were less likely to report any experiences of disrespect and abuse. Poor women (OR: 1.80, 95% CI: 1.31–2.47) and those who reported low mood at the time of the exit interview (OR: 1.62, 95% CI: 1.23–2.14) were more likely to report any experiences of disrespect and abuse on follow-up. Similar to exit data, women who attended secondary education or greater were more likely to report disrespect and abuse (OR: 1.48, 95% CI: 1.10–1.98).

Discussion

We found that 19% of women interviewed immediately postpartum reported experiencing at least one form of disrespectful or abusive treatment during facility delivery in northeastern Tanzania with the frequency rising to 28% 5-10 weeks after delivery. The most commonly reported incidents in both waves were being ignored when they needed help, shouting and scolding and negative comments. Between 3% and 5% of women reported being slapped or pinched and 4–5% of women reported delivering alone. These figures are some of the first systematic measures of abusive practices in health facilities and indicate a worrisome picture of the quality of care for Tanzanian women in labour and delivery. They confirm findings of the qualitative literature in the field (Moyer *et al*. 2014).

The reported frequency of disrespect and abuse varied by time of the interview. Reporting was substantially higher in the community survey 5–10 weeks after delivery than in the exit survey done on facility grounds. This may be due to courtesy bias—reluctance to disappoint researchers by giving negative ratings, particularly if the interviewers are perceived to be associated with the clinic. Despite reassurance from the research team, women may also have been concerned that

Table 1 Sociodemographic and delivery experience characteristics of survey respondents from eight health facilities in the Tanga Region, Tanzania, 2011–12

Characteristics	Exit survey ($N=1779$)[a]		Follow-up survey ($N=593$)[a]	
	N	%	*N*	%
Demographics				
Age, mean (SE)	25.86	6.3	26.28	6.6
Attended secondary education or greater	360	21.80	124	22.55
Married	1465	82.40	479	80.78
Parity				
First birth	684	38.47	222	37.44
Two to three births	634	35.66	199	33.56
Four or more births	460	25.87	172	29.01
Reported low mood or depression in last 12 months	730	41.20	247	41.65
Reported ever being physically abused or raped	137	7.76	35	5.92
Household has electricity	421	23.72	144	24.28
Household has a mobile phone	1501	84.52	507	85.50
Health facility factors				
Facility type				
District hospital	1388	78.02	467	78.75
Health centre or dispensary	391	21.98	126	21.25
Delivery experience				
Length of stay for delivery ≤1 day	583	33.31	200	34.01
Caesarean section	88	4.98	25	4.22
Reported any complications during childbirth[b]	1065	60.20	351	59.19
Came directly to facility for childbirth	1358	76.90	456	77.16
Satisfaction and quality of care				
Very satisfied with delivery[c]	1336	75.82	344	58.11
Overall quality of care for delivery				
Excellent or very good	298	16.90	11	2.28
Good	1175	66.65	257	53.21
Fair or poor	290	16.45	215	44.51

[a]Totals may not add up due to missing values.
[b]Complications include extreme pain, high blood pressure, seizures, blurred vision, severe headaches, swelling in hands/feet, baby was in distress or too large, long labour (≥12 h), excessive bleeding and infection/fever.
[c]Vs somewhat satisfied, somewhat dissatisfied and very dissatisfied.

providers would learn of their responses. Women's perception of their birth experience also changes over time. Although newly discharged mothers are likely to be relieved to have given birth safely and may feel grateful to the facility, they may re-evaluate their experience in subsequent weeks. They may also be more inclined to share negative delivery experiences in their own home than on health facility grounds. On the other hand, women may have poorer recall of specific incidents at 5–10 weeks. Although it is possible that there was upward bias in reporting disrespect and abuse on follow-up due to hearing the questions a second time, we do not believe this was large as frequency of reporting of related variables did not similarly rise. Indeed women's overall satisfaction and quality ratings for the delivery declined over time—nearly twice as many women reported only fair or poor quality on follow-up as on exit survey. This finding is consistent with higher frequency of disrespect. Other studies have documented a lower level of satisfaction with facility care in household surveys compared with exit questionnaires (Glick 2009).

Three items in particular were reported much more frequently in the community follow-up than on exit: being ignored, threatening or negative comments and slapping or pinching. Of these, the first two are more general in nature. In a study of the reliability of patient reporting of hospital medical errors, Bjertnaes and colleagues (2013) found that more general items, such as staff forgetting to convey important information, had lower test–retest reliability than more specific questions such as receiving a wrong diagnosis—i.e. were prone to be reported with different frequencies over time. Future qualitative research should explore how women's assessments of care, including disrespectful or abusive care, evolve over time.

Women with secondary education were more likely to report disrespect and abuse in both waves of data. This is likely due to

Table 2 Experiences of disrespect and abuse during childbirth of survey respondents from eight health facilities in the Tanga Region, Tanzania, 2011–12

	Exit survey ($N = 1779$)[a]		Follow-up survey ($N = 593$)[a]		P-value[b]
	N	%	N	%	
Any disrespect and abuse	343	19.48	167	28.21	≤0.001***
Specific experiences of disrespect and abuse					
Non-confidential care	77	4.39	36	6.16	0.08
Lack of physical privacy	77	4.39	36	6.16	0.08
Non-dignified care	227	12.89	112	18.92	≤0.001***
Shouting/scolding	153	8.71	78	13.18	0.002**
Threat of withholding treatment	73	4.16	35	6.01	0.07
Threatening or negative comments	93	5.28	68	11.54	≤0.001***
Neglect	150	8.53	92	15.54	≤0.001***
Ignored when needed help	139	7.93	84	14.24	≤0.001***
Delivery without attendant	68	3.91	31	5.31	0.15
Non-consented care[c]	1	0.06	1	0.17	0.44
Non-consent for tubal ligation[c]	1	0.06	0	0	1.00
Non-consent for c-section[c]	0	0	1	0.18	0.24
Non-consent for hysterectomy	0	0	0	0	N/A
Physical abuse	51	2.90	30	5.08	0.012*
Physical abuse (slapping, pinching, etc.)	47	2.68	30	5.10	0.004**
Sexual harassment[c]	2	0.11	1	0.17	0.58
Rape[c]	4	0.23	0	0	0.58
Inappropriate demands for payment	34	1.94	20	3.39	0.042*
Detention in facility for failure to pay[c]	3	0.17	2	0.34	0.61
Request for bribe	31	1.78	18	3.07	0.06

[a]Totals may not add up due to missing values.
[b]P-value derived from Pearson chi-square test unless otherwise noted.
[c]P-value derived from Fisher's exact test.
*$P \leq 0.05$, ** $P \leq 0.01$, ***$P \leq 0.001$.

a combination of higher expectations of care quality and greater empowerment to report abuse. Self-reported depression in the year prior to delivery increased the frequency of reporting disrespectful treatment during labour in both the exit and follow-up interviews. In the second wave, poor women (in the lowest 40% of wealth) were nearly twice as likely to have experienced disrespect, possibly due to class-based discrimination and providers' belief that poor women have less power and thus less recourse to the complaint process (Fonn *et al*. 2001). Other research concurs that poor patients receive lower quality of care (Mamdani and Bangser 2004). Having four or more children reduced the likelihood of reporting disrespect, potentially indicating quicker and easier deliveries and/or greater resistance to or normalization of abusive remarks or behaviour. Similarly, delivery by Caesarean section, in which the woman received anesthesia and thus has less pain during delivery reduced the odds of disrespect. Providers have greater control over timing and setting of Caesarean section births and may perceive these cases as more serious, therefore behaving more professionally with the patient. Further, in one of the study hospitals, women receiving Caesarean section were permitted a companion at their bedside and this may also have reduced the probability of poor treatment.

Several other variables were significantly associated with disrespect and abuse in the exit survey. For example, women with first births and those who reported complications reported more disrespect and abuse. This may reflect anxiety about the birth experience as well as a greater need for care from providers who may have resented the demands and consequently were disrespectful. Coming directly to the facility was associated with lower disrespect because referrals and/or delayed arrivals may have created administrative and clinical challenges for providers. Negative attitude among medical staff towards unmarried pregnant women may explain why married women were less likely to have experienced disrespect than unmarried women. Finally, previous history of abuse or rape doubled the odds of reporting disrespect. These women may have been extremely sensitized to abusive behaviour or projected vulnerability to providers.

This study had several limitations. First, our assessment relied on self-report, and thus does not provide an 'objective' measure of the frequency of poor and abusive care in facilities. This is particularly the case in settings such as this one where disrespectful care is to some degree normalized. However, given that the negative consequences of disrespect and abuse for women are mediated by their own view of what is abusive,

Table 3 Results from multivariable logistic regression models of predictors of disrespect and abuse during childbirth for survey respondents from eight health facilities in the Tanga Region, Tanzania, 2011–12

	Exit survey ($N = 1613$) Any disrespect and abuse		**Follow-up survey ($N = 546$)** Any disrespect and abuse	
	OR	95% CI	OR	95% CI
Demographics				
Ages 20–34 (reference group)				
Ages 15–19	1.48	[0.92–2.39]	1.41	[0.89–2.24]
Ages 35–48	0.82	[0.54–1.25]	0.97	[0.58–1.65]
Attended secondary education or greater	1.34*	[1.05–1.71]	1.48**	[1.10–1.98]
Married	0.72**	[0.58–0.89]	0.77	[0.49–1.21]
Two to three births (reference group)				
First birth	1.26*	[1.00–1.59]	0.85	[0.55–1.30]
Four or more births	1.25	[0.93–1.69]	0.58**	[0.39–0.87]
Poor	1.13	[0.89–1.45]	1.80***	[1.31–2.47]
Reported low mood or depression in last 12 months	1.27*	[1.00–1.62]	1.62***	[1.23–2.14]
Reported ever being physically abused or raped	2.29***	[1.44–3.64]	1.23	[0.81–1.87]
Health facility factors				
Delivered at a hospital	0.70	[0.40–1.20]	1.39	[0.73–2.64]
Delivery experience				
Length of stay for delivery ≤1 day	1.35*	[1.07–1.70]	1.01	[0.66–1.56]
Caesarean section	1.12	[0.94–1.34]	0.66**	[0.51–0.86]
Reported any complications during childbirth	1.69***	[1.29–2.22]	0.85	[0.58–1.25]
Came directly to the facility for childbirth	0.51***	[0.42–0.60]	1.04	[0.58–1.86]

*$P \leq 0.05$, **$P \leq 0.01$, ***$P \leq 0.001$.

a self-reported measure is appropriate. Second, our choice of 'any disrespect and abuse' to measure frequency limits our ability to compare severity of the abuse among women. Adding up the incidents of abuse, a potential alternative measure, was not possible as several of the items, such as shouting and negative comments, overlapped and may have represented a single incident. In any case, even a single episode signals a potentially abusive environment. Third, budget constraints prevented us from having a larger community sample, which would have provided greater precision of estimates and more power to discern associations. Fourth, our regression analysis of factors associated with abuse is cross-sectional and reverse causation is possible. However, this is unlikely for the majority of predictors clearly preceded the delivery in time (age, parity and wealth). One potential exception is low mood, which may have been influenced by abuse although it was asked for the 12 months preceding birth. Fifth, our analysis does not include provider or health system characteristics and thus does not address systemic drivers of disrespect. Provider level was not apparent to women and over 96% of providers were women, limiting variability. Other provider characteristics, including motivation were beyond the scope of this analysis. Future research should explore provider and facility level factors as contributors to disrespect and abuse. Finally, the results we found are specific to the health system and demographic and cultural context of north-eastern Tanzania and cannot be generalized to other areas. Similarly, the majority of study participants delivered in hospitals limiting inference to lower-level centres.

In summary, our finding that between 19% and 28% of women in a rural region of Tanzania experienced abuse or disrespect during facility delivery shows a health system in crisis. Abuse during childbirth is a fundamental abrogation of a woman's human rights and may have far reaching consequences for her mental health, future health care utilization and community trust in the health system (Gilson 2003). Further, given the generally poor quality of obstetric care and the attendant normalization of harsh or neglectful treatment in this setting, this may be an underestimate of the true prevalence of abusive treatment. Although our study reflects a particular context, other low-income countries face similar challenges with health system underfunding, worker shortages, low motivation and high burnout. Qualitative literature confirms that women encounter similar treatment elsewhere (d'Oliveira *et al*. 2002; Bowser and Hill 2010). One key implication of our findings is that efforts to increase facility delivery must address disrespect and abuse to ensure higher utilization by women and to safeguard women's fundamental rights during facility delivery.

These results are a call to action. The ultimate aim of any reform is to stop abusive treatment by making abusive behaviour unacceptable to women, providers, health system managers and policymakers. Suggested interventions include strengthening accountability through legal redress, citizen participation on hospital management boards, client health care charters, improving the quality of the work environment for providers, training and introduction of care standards

(Misago *et al*. 2001; Bowser and Hill 2010). Although we are assessing the feasibility of several of these approaches in this study, more research is urgently required to understand the deeper dynamics of power that drive disrespect and abuse and to learn how the care environment in low-resource settings can be fundamentally and lastingly changed. However, action should not await more research findings but be pursued in concert with research to ensure that best practices can be rapidly scaled. Until we do so, women will continue to be deterred from delivering in facilities and those who do will risk sacrificing their dignity in the process.

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