Socio-economic status or caste? Inequities in Maternal and Newborn Health Care in Rural Uttar Pradesh, India.

Meenakshi Gautham[1], Joanna A. Schellenberg[1], Tanya Marchant[1]

[1] Department of Disease Control, Faculty of Infectious and Tropical Diseases, London School of Hygiene and Tropical Medicine
Contact: Meenakshi.gautham@lshtm.ac.uk

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Introduction

Many inequalities in the coverage of essential interventions in pregnancy, childbirth and newborn and child health, especially those that require contact with the health system, persist within countries [1]. Although economic inequities may be the most visible and profound, there can be other sources of social disadvantage [2]. Poverty and caste are important determinants of health, including maternal healthcare in India [3,4]. We conducted a descriptive analysis of socio-economic and caste-based inequities in the coverage of:

(a) interactions between women and front-line health staff

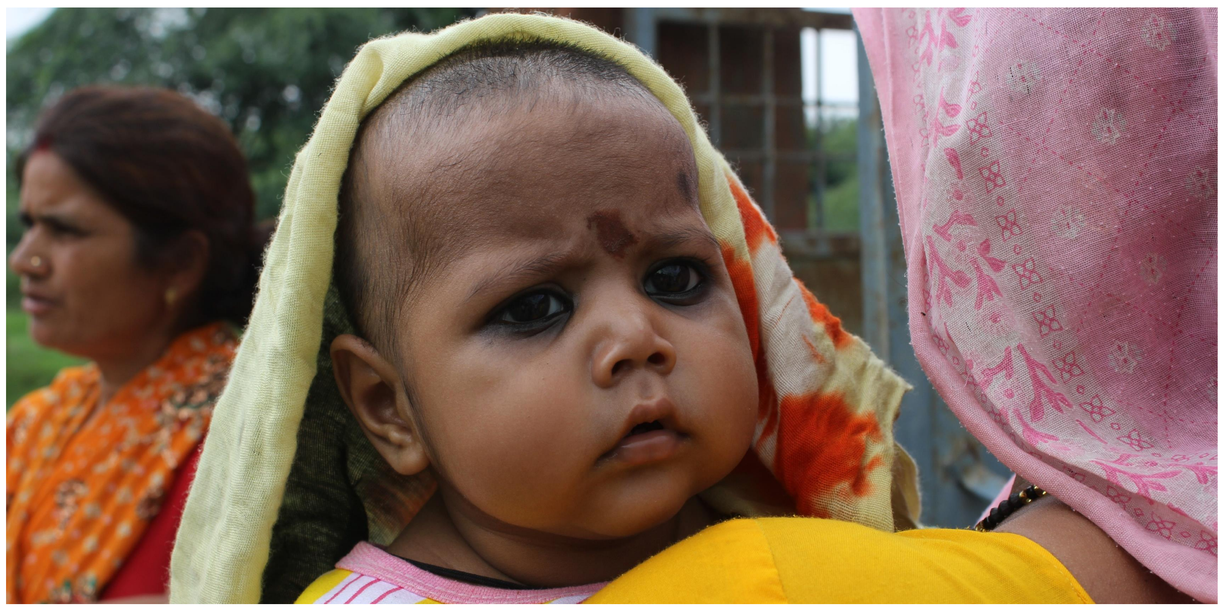
(b) Interventions for antenatal, intrapartum and postnatal care

Methods

We conducted a survey with 5258 households in November 2012 in 80 villages across 40 blocks of six districts. 604 women with a live birth 12 months preceding the survey were interviewed about the care they received.

Households were divided into five quintiles, from most poor to least poor. Castes were categorised as 'scheduled castes and tribes', 'other backward classes' and general castes, using government nomenclature.

We used Chi-square test for trend to assess the relationship between coverage indicators and socioeconomic quintiles. We also used the Chi-square test for associations between coverage indicators and caste.



About caste in India

The caste system in India is a unique combination of economic deprivation and social exclusion, as it divides society into hierarchically organised social groups, with the most privileged at the top and the most disadvantaged at the bottom.

Prior to India's independence in 1947, the socially disadvantaged castes were categorised as 'depressed classes'[5]. In 1935, the 'Government of India Act' notified the socially disadvantaged castes and tribes as 'scheduled castes', and a list of these castes and tribes was made available for all states [6]. The Constitution of India (26th January 1950), abolished caste based untouchability and provided several safeguards for 'scheduled castes' and 'scheduled tribes' including reservations in government jobs [5]. The Constitution also made it obligatory for the government to look after the welfare of all other socially and educationally disadvantaged classes [7], commonly known as 'other backward classes'

Currently there are 1,263 'scheduled castes' constituting 16.6% of India's population [5] and 705 'scheduled tribes' constituting 8.6% of India's population [8]. The list of 'other backward classes' is bigger, with 2,404 castes and population estimates varying from 52% in the Mandal Commission Report in 1980 [9], to 40.2% in the 62nd round of the National Sample Survey in 2008 [10].

Results

We found socio-economic inequities in six out of eight interaction indicators, and only one caste based one (Table 1)

Table 1: Coverage of interactions by socio-economic status and caste groups

Coverage of interactions	Household socio-economic quintiles (n=604)							Caste groups (n=604)				
	Q1 (17%) % (95%CI)	Q2 (19%) % (95%CI)	Q3 (19%) % (95%CI)	Q4 (23%) % (95%CI)	Q5 (22%) % (95%CI)	Total (100%) % (95%CI)	P value	Scheduled castes / tribes (37%) % (95%CI)	Other backward classes (43%) % (95%CI)	General castes (20%) % (95%CI)	Total (100%) % (95%CI)	P value
	PREGNANCY											
At least one contact with a health worker during pregnancy	63 (50,75)	71 (62,79)	79 (68,87)	76 (67,83)	85 (76,91)	76 (70,80)	<0.001	71 (61,80)	77 (70,83)	79 (69,87)	76 (70,80)	0.304
Contact with a skilled* health worker at least once during pregnancy	44 (32,55)	62 (53,71)	63 (51,74)	65 (57,73)	75 (66,83)	63 (57,68)	<0.001	56 (46,65)	68 (61,74)	65 (54,75)	63 (57,68)	0.050
	INTRAPARTUM											
Institutional delivery**	68 (56,79)	74 (66,81)	73 (64,80)	77 (69,84)	85 (77,90)	76 (71,80)	0.004	75 (67,81)	77 (71,82)	77 (66,86)	76 (71.80)	0.832
Skilled* birth attendant attended delivery	62 (51,72)	68 (58,77)	73 (62,81)	85 (77,91)	86 (78,91)	76 (71,80)	<0.001	75 (68,81)	77 (70,82)	75 (63,84)	76 (71,80)	0.906
	POSTNATAL for mother											
Reported postnatal check for the mother within 2 days of birth	49 (37,62)	50 (40,60)	52 (42,62)	54 (45,63)	60 (51,69)	54 (48,59)	0.080	51 (44,59)	57 (51,64)	50 (40,60)	54 (48,59)	0.284
Reported first postnatal check for the mother done by a skilled* provider within 2 days	49 (37,62)	50 (40,59)	50 (41,60)	54 (45,63)	60 (51,69)	53 (48,58)	0.070	50 (43,58)	57 (50,63)	50 (40,60)	53 (48,58)	0.275
	POSTNATAL for newborn											
Reported first postnatal check for the newborn within 2 days of birth	13 (7,21)	18 (12,26)	16 (11,24)	15 (9,25)	30 (22,39)	19 (15,23)	0.004	17 (12,23)	22 (17,28)	16 (10,24)	19 (15,23)	0.200
Reported first postnatal check for the newborn by a skilled* provider	6 (3,13)	13 (8,20)	9 (5,16)	13 (8,20)	23 (16,32)	13 (10,17)	<0.001	12 (8,17)	14 (10,20)	14 (9,22)	13 (10,17)	0.622

*doctor/nurse/auxiliary nurse midwife **includes public and private institutional facilities

In intervention indicators, socio-economic inequities were observed in Caesarean section births and BCG vaccination of infants (Table 2)

Table 2: Coverage of interventions by socio-economic status and caste groups

Coverage of interventions	Quintiles (n=604)							Caste groups (n=604)				
	Q1 (17%) % (95%CI)	Q2 (19%) % (95%CI)	Q3 (19%) % (95%CI)	Q4 (23%) % (95%CI)	Q5 (22%) % (95%CI)	Total (100%) % (95%CI)	P value	Scheduled castes/ tribes (37%) % (95%CI)	Other backward classes (43%) % (95%CI)	General castes (20%) % (95%CI)	Total % (95%CI)	P value
	PREGNANCY											
Received tetanus toxoid protection[1]	86 (77,92)	86 (75,92)	88 (80,93)	88 (80,93)	88 (80,93)	87 (83,90)	0.589	87 (80,92)	87 (81,91)	87 (79,93)	87 (83,90)	0.997
Received any iron and folic acid supplementation	61 (49,72)	55 (46,64)	63 (52,74)	56 (46,66)	60 (50,69)	59 (54,64)	0.868	60 (52,68)	57 (49,63)	63 (53,72)	59 (54,64)	
	INTRAPARTUM											
Delivery by caesarean section	4 (2,10)	10 (6,17)	6 (3,11)	7 (4,13)	17 (10,25)	9 (7,12)	0.008	9 (6,14)	8 (5,13)	12 (7,20)	9 (7,12)	0.503
Birth attendant wore gloves during delivery	97 (87,99)	99 (91,100)	99 (91,100)	96 (90,99)	98 (93,100)	98 (96,99)	0.894	98 (94,99)	97 (94,99)	98 (91,99)	98 (96,99)	0.928
	POSTNATAL for newborn											
Newborn received clean cord care[2]	52 (42,61)	50 (41,58)	50 (40,60)	50 (41,59)	44 (36,52)	49 (44,53)	0.320	50 (42,57)	50 (44,57)	44 (34,55)	49 (44,53)	0.582
Newborn received immediate skin to skin contact	72 (59,82)	66 (57,74)	67 (56,76)	66 (56,76)	60 (49,70)	66 (60,72)	0.081	65 (58,72)	63 (54,70)	75 (65,83)	66 (60,71)	0.080
Newborn immediately breastfed[3] (<1hour)	52 (42,63)	44 (35,54)	47 (38,56)	56 (47,64)	55 45,64)	51 (46,56)	0.220	50 (44,57)	50 (43,58)	54 (44,64)	51 (46,56)	0.765
Delayed bathing[4] (>24 hours)	64 (54,74)	69 (61,77)	70 (60,78)	67 (56,76)	68 (60,75)	68 (63,72)	0.837	69 (61,76)	72 (65,78)	55 (46,63)	68 (63,72)	0.010
Infants 6-12** months received BCG vaccination	74 (57,86)	75 (63,85)	92 (83,97)	93 (83,97)	93 (78,98)	86 (81,90)	<0.001	85 (77,91)	85 (76,91)	90 (78,96)	86 (81,90)	0.583

Note: No data were available on treatment for anaemia or sepsis, examples of life saving interventions for postnatal care of the mother
**Infants aged 6-12 months at the time of survey, N=295

1. TT protection for the mother: Two tetanus toxoid vaccinations in last three years or five in lifetime
2. Clean cord care for the newborn: Combination of (a) cutting with a new or sterilized blade (b) tying with a new or boiled string (c) nothing harmful put on the cord
3. Immediate breastfeeding of the newborn: Breastfeeding within one hour of birth
4. Delayed bathing of the newborn: Not bathed for at least 24 hours after birth

Conclusions

There were more socioeconomic than caste based inequities and more inequities in interactions between women and the health system than in the coverage of interventions. As 'scheduled castes and tribes' and 'other backward classes' constituted 80% of our respondents as well as the surveyed population, the health system here will need to make special efforts to increase interactions with the poorest women in these social groups.

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