

11. Equity in Utilization of Hospital and Maternal Care Services: Trend Analysis at SEWA Rural, India

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Abstract

Objective of this paper is to present trends in utilization of hospital and community based health and maternal care services, among patients from different caste and sex at SEWA Rural in Gujarat, a 100 bedded general hospital catering to 168 villages of Jhagadia block, in the last decade from 2002-2013. The hospital provides Indoor and round the clock Emergency services and community based Safe Motherhood and New Born Care. In-service data, including institutional delivery, analysed in utilisation of hospital services especially by Scheduled Tribe community and female patients compared to non-Scheduled Tribe and male patients.

The number of patients who received services from SEWA Rural hospital increased over the study period of from 2002 to 2013; however, the increase was 4.6 times higher among Scheduled Tribe and 8 times higher among women patients compared to non-scheduled and male patients, respectively. Similarly the increase in the number of deliveries among scheduled tribe mothers was 2.9 times higher as compared to non-scheduled women. Overall Hospital Delivery Rate in the community served by SEWA hospital increased from 23% to 75% during 2003-04 to 2012-13.

SEWA Rural's focus towards equity has enabled to implement various programmatic interventions at hospital, and at community level, which are responsible for the utilization of health services by the scheduled tribe population of the region. SEWA Rural's work has important lessons for other organizations and policy makers to make utilization of health services more equitable through voluntary organizations.

Key words: equity, utilization of maternal health services, universal health care, Millennium Development Goal-5, voluntary organizations

Background

India has made significant progress towards reducing maternal mortality over last decade (Sample Registration System, Office of Registrar General 2013; Shah et al.2014). However, it is likely to fall short of Millennium Development Goal (MDG) 5 of reducing maternal mortality by 75% between 1990 and 2015 (United Nations 2012). States such as Kerala and Maharashtra have already achieved MDG-5 whereas a number of large states such as Assam, Uttar Pradesh, and Rajasthan are far behind. Certain populations have much higher maternal mortality ratio (MMR) compared to others. MMR is worst for women belonging to certain disadvantaged sections of society; disadvantages with regard to characteristics like wealth quintile or education status or geographical location (rural / urban) or belonging to certain religion or caste. Studies have shown that inequity is largely observed among groups falling in lower income quintiles, lower level of education, living in rural areas, belonging to Schedule Castes (SCs), Scheduled Tribes(STs) and Other Backward Castes(OBCs), females, underserved and marginalized population and also among migratory population. Such inequity is one of the important reasons for India's slower than expected progress towards achieving MDG-5.

Improving utilization of health services is critical to improve maternal health outcomes (Grahamet al 2000;K oblinskyet al. 1999). However, there is inequity in utilization of maternal health services (Pallikadavath et al. 2004; Navaneetham & Dharmalingam, 2002; IIPS & Macro International 2007; Pathaket al 2010). A review of three rounds of National Family Health Survey (NFHS) between 1992 and 2006 reported that service utilization during antenatal period in India increased by 12%; but, increase was only 0.1% among poor mothers. Increase in presence of skilled birth attendants at delivery was only 2% among women from poorest quintile; whereas it was 13% for India as a whole. Improvement in utilization of maternal health services was much slower among economically poor states compared to non-

poor states and the results were same when data were compared for urban and rural settings (Pathaket al. 2010). When hospital deliveries are taken into account, a household survey showed that the proportion of institutional deliveries among women residing in urban slum areas was about 32%, while it was 93 % for the women among non-slum urban areas (Gupta et al.2008).

The Central and state Governments have introduced a number of schemes to improve the utilization of maternal healthcare services by the disadvantaged population over last decade such as Janani Suraksha Yojana (JSY), Rashtriya Swasthya Bima Yojana (RSBY) (Mavalankar et al. 2009; Guidelines for implementation; GVK emergency management and research institute). In Gujarat, Non-governmental organizations (NGOs) are one of the important health care providers that are working towards improving utilization of maternal health services through variety of initiatives ranging from hospital based services to community based interventions (Bhatet al. 2001). Objectives of many of the NGOs are to serve the deprived and underserved population and to overcome the unfairness in service utilization. However, there is a lack of evidence regarding effectiveness of efforts made by such NGOs in achieving equity. This paper describes efforts and results related to reducing inequity in utilization of health services in general and maternal care in particular by one such NGO, SEWA (Society for Education, Welfare and Action) Rural located in Jhagadia block of Gujarat since 1980. Objective of this paper is to examine trends in utilization of hospital based services, including maternal care services, among patients from Scheduled Tribe and gender at SEWA Rural Hospital over a decade from 2002-2012.

Study setting

Jhagadia block is located in southern region of Gujarat. The state has population of 60.3 million and literacy rate of 79.3% in 2011 (Socio-Economic Review, Gujarat State Profile, 2013). The Maternal Mortality Ratio (MMR) in Gujarat is 122 per 100,000 live births(Sample Registration System, 2013). Jhagadia is a predominantly tribal and rural block with 175,000 population (as

per census 2011). Most of the residents of Jhagadia are marginal farmers and landless laborers with more than one third population living below poverty line. Jhagadia's MMR was 594 in 2002-03 (Report on Family Centered Safe Motherhood and Newborn Care Project 2011).

SEWA Rural is a voluntary development organization with a mission to reach out and assist the poorest of poor through various health and development programmes based on the community needs and available manpower. Aiming for overall development of the rural, poor and tribal population of South Gujarat, the organisation runs a hospital, provides community based outreach health care, comprehensive eye care, runs a health training centre, vocational training institute for rural youth and women development center for promoting women empowerment. The 100 bed hospital is also recognised as First Referral Unit (FRU) by state government and UNICEF and ensures Comprehensive Emergency Obstetric & Newborn Care (CEmONC) (Shah et al.2014). Patients from more than 5000 villages including from adjacent districts and states take advantage of the hospital services.

Interventions to promote equitable utilization of health services

After 2002-2003 SEWA Rural implemented new hospital based and community based programmatic interventions to encourage equitable utilization of health services in Jhagadia block. It also implemented new schemes that have been introduced by the Government of India and Gujarat.

1) Hospital based interventions

SEWA Rural was empanelled as a service provider for various government sponsored schemes aimed at providing free of cost maternity and other health services to marginalised population. It made extra efforts to facilitate uptake of the services by appointing social workers to streamline procedures to avail timely benefits to eligible women. SEWA Rural continued its previous practice of providing free of cost care to those patients who are not able to pay for health services but might not be eligible to avail benefits of government sponsored schemes for various reasons. The hospital staff is clearly instructed to treat

marginalised patients with respect and dignity.

Most of the services at SEWA Rural hospital are provided under one roof that communities find more convenient and conducive. These include round the clock availability of various consultants and supporting medical and paramedical staff, laboratory investigations, radiology services (ultra-sonography and x-ray), blood storage centre, medicines, operation theatre and other amenities like free food for patients, lodging for relatives, running water and electricity along with generator facility. Hence very few patients need referral to higher centers.

2) Community based intervention

SEWA Rural implemented a family centred safe motherhood and new-born care project to reduce maternal and neonatal mortality and morbidity from 2002 to 2011. The project covered the entire Jhagadia block consisting of 168 villages with a population of 175,000. Community level and family centred interventions were implemented by establishing a cadre of village level frontline workers (Arogya Sakhis-ASHAs) and traditional birth attendants (TBAs) with aim of ensuring proper antenatal, intranatal and postnatal care. The frontline worker registers every pregnancy and follows its outcome up to 6 weeks postpartum. She visits the woman seven times during the antenatal period and nine times during the postnatal period. During their home visits, the frontline workers encourage pregnant women to seek care at SEWA Rural hospital, if possible, and facilitate referral for delivery and complications.

3) Policy level interventions

Over last decade, the Government introduced various schemes to improve utilization of health services and maternal care services among marginalised community. The Government of Gujarat implemented Chiranjeevi scheme since 2005 whose goal is to encourage institutional deliveries among below poverty line (BPL) pregnant women. The BPL women are provided inpatient maternity services, including medicines at healthcare facility of empanelled obstetricians at free of cost. Empanelled obstetrician is paid fixed fee by the

government for conducting a delivery (Mavalankar et al. 2009). The Government of India implemented Rashtriya Swasthya Bima Yojana (RSBY) since 2008 which is a health insurance programme for those families who live below poverty line. Eligible families are entitled to hospitalization coverage up to Rs. 30,000 (US \$ 500) per year for any illness treated at empanelled health provider including maternity services. The health provider is paid a predetermined amount for each eligible patient.

The Government of India in 2005 launched The Janani Suraksha Yojana (JSY), which is a conditional cash transfer programme to promote institutional deliveries among BPL women (Janani Suraksha Yojana: Guidelines for implementation, 2005). Additionally, since 2007 free transportation to patients with medical emergencies to reach health care facilities has been made available for the whole population under a public-private partnership model. The government of Gujarat's unique grant-in-aid programme provides financial assistance to meet 75% admissible operating expenses at approved hospitals managed by voluntary organizations in hard to reach areas since last 50 years (Bhat et al. 2001). SEWA Rural has been one of the grant-in-aid hospitals since 1981.

Sources of Data

This paper analyses two sets of data available from the records of SEWA Rural Hospital. (1) Since 2002 the hospital management information system (HMIS) has maintained information about all patients who receive services from outpatient department (OPD) and inpatient department (IPD). (2) Since 2003 the frontline workers have been collecting both the household level data and information on every new pregnant woman and the outcome up to six weeks postpartum. The household level data are collected from all the 168 villages of Jhagadia block. Both sets of data are computerized and their quality is regularly checked at least once a month (Shah et al. 2014).

Variables

Since social group (tribe in the case of Jhagadia block) and gender are known

determinants of health inequity (Solar O & Irwin A. 2010), we have used social group as a dichotomous variable as scheduled tribe and non-scheduled tribe. The parameters to measure utilization of health care services and maternal health care services for this study are (1) number of patients who received services at outpatient department (2) number of patients who received services at inpatient department (3) number of new pregnancies registered, (4) number of deliveries and (5) institutional delivery rate. The data are presented separately for scheduled tribe patients and non-scheduled patients and for males and females.

Analysis: Social Group differences in use of SEWA health services

Table 11.1 shows the number of scheduled tribe patients and non-scheduled tribe patients who used various health services available in the outpatient and inpatient departments, delivering babies in the SEWA hospital and used the antenatal service in 2002-03 and a decade later in 2012-13. Overall, there has been an increase in the number of people utilizing all the health services but the increase in the utilization of all the services by the ST patients has been significantly greater compared to the non ST patients. In fact, the gap evident at the initial period in the numbers between the two groups has narrowed or has even been eliminated in the use of the selected services by the end period. The absolute increase in the utilization of various health care services was greater by the ST patients compared to the non ST patients as shown in Table 1. The percent share of ST patients or women among all using the SEWA hospital services has markedly increased from around 41-47 percent in 2002-03 to 61-71 percent a decade later in 2012-13. Clearly SEWA hospital has over time been increasingly serving people from the marginalized community.

Another way of presenting these data is shown in Figures 1 to 4. Treating the base year of 2002-03 as 100, the increase in use of all the four services at SEWA hospital by the end year of 2012-13 has been significantly greater by the ST patients compared to non-ST patients. Figure 11.1 shows the increase in patients attending outpatient department of SEWA rural hospital. Figure 11.2 shows the number of patients of the two groups admitted as inpatients.

Compared to an almost flat curve for the number of non-ST patients who sought OPD services between 2005-06 and 2012-13, the curve for the ST patients shows a steady rise from the base of 100% in 2005-06 to 146% in 2012-13. Overall, the number of patients admitted to the SEWA hospital rose at a faster rate than the OPD patients. The rise was much sharper for the ST patients (the number increased by 2.5 times in seven years between 2005-06 and 2012-13 compared to that for the non-ST patients, which increased from 100 to 186%.

In the past decade there has been a significant increase in the use of SEWA hospital by women both for antenatal services and for delivering their babies. The number of ST women who used these services increased by 4 and 5.5 times, respectively. The increase in the number of non-ST women was comparatively modest as shown in Figures 11.3 and 11.4. One of the reasons for the dramatic increase of maternal health services by tribal women was that the various government schemes for poor were rigorously implemented at SEWA Rural Hospital. Out of 7,826 eligible beneficiaries, 7,164 (91%) received the benefit of completely free maternal care services under the Chiranjeevi scheme from 2006-7 and 2012-13. Out of 8,091 women who delivered at SEWA Rural hospital from 2010-11 to 2012-13, almost two third used the EMRI services to reach the hospital. About 6000 patients have availed free patient care including required surgeries at SEWA Rural in the last five years under RSBY.

Analysis: Gender differences in use of SEWA health services

The same set of data were also examined separately for males and females to understand whether there has been an increase in the number of women relative to men in the utilization of health services at SEWA hospital. The data are for the OPD and for admitted patients at the hospital are presented in Table 11.2 and Figures 11.5 and 11.6. As is evident, there has been a much greater increase over time in both the OPD services and admission for more serious ailments by women compared to men. From the perspective of gender equity, the finding is indeed encouraging.

Institutional Delivery Rate

We also estimated from the data the institutional delivery rate for ST and non-ST mothers and compared changes in chances of institutional deliveries (Relative risk) among complete cohort of scheduled tribe and non-scheduled tribe native women of Jhagadia block who delivered in 2002-03 and 2012-13. As shown in Figure 11.7, the institutional delivery rate among tribal women in SEWA Rural's project area increased from 14% to 72% overall during the 10 years of study period. The gap between institutional delivery rate between scheduled tribe and non-schedule tribe women has narrowed during study period although there is still a difference. As seen in Table 11.3, increase in chances of institutional delivery among scheduled tribe women (RR 5.14, CI: 4.7 - 5.9) was significantly higher than non-scheduled caste tribe women (RR 1.9, CI: 1.8 - 2.1) from 2003-04 to 2012-13.

Discussion

Over last decade, increase in the utilization of health services in general and maternal health services in particular at SEWA Rural hospital has been much higher among scheduled tribe and female patients compared to their counterparts. SEWA Rural has successfully been able to leverage upon the

Government sponsored schemes so that majority of eligible patients are able to receive benefits.

Although there is ample literature showing inequity in utilization of health services at state and national level, role and effectiveness of NGOs has not been well documented. A community based intervention implemented through a large voluntary organization (BRAC) aimed at free of cost home based care with strengthening of referral systems in Bangladesh resulted in higher utilization maternal care services by poor women compared to national average (Quayyum Zet al.2013). Another study in Philippines covering period from 1993 to 2008 showed that increase in antenatal examination was more equitable favoring lowest economic quintile; however, the increase in institutional delivery was not equitably distributed (Molina et al. 2013).

One of the most important reasons for equitable increase at SEWA Rural could be the organization's focus towards its mission to serve poor from the very beginning. Even before the initiation of the Government sponsored schemes, marginalised patients were treated at SEWA Rural at no cost or with significant subsidy. Seeing potential synergy with its mission, SEWA Rural put extra efforts to successfully implement the Government sponsored new schemes like Chiranjivi, Balsakha and RSBY, which are specifically aimed for BPL and Schedule Tribe families. SEWA Rural undertook this task with patience and perseverance while dealing with bottlenecks related to working with the insurance companies and local health department. Introduction of free 108 ambulance services by state government for transporting patients in emergency to nearby hospitals and its prompt availability even in remote and interior villages has also positively contributed towards increase in utilization of hospital services by marginalized population.

The environment of the SEWA Rural hospital was made friendly especially to patients coming from marginalised community by recruiting a nurse from local tribal community, by having a representation of local leaders in the steering committee of the hospital, by setting up an effective grievance

redressal mechanism for patients and by creating strong communication channels between management and employees to emphasise SEWA Rural's mission rooted in equity. Ongoing efforts by SEWA Rural ensured round the clock availability of qualified manpower such as obstetricians and anesthetist as well as supporting medical and paramedical staff.

This study has significant implications for other voluntary organizations as well as policy makers in the Government to make universal health care possible for marginalised population. SEWA Rural is an important case study to learn how to effectively deliver services equitably in voluntary sector. Lessons learned could be adopted by other organizations, who might also consider documenting their own experiences in the context of equity. For policy makers, this study presents another implementation model involving voluntary organizations for equitable utilization of health care services within the framework of universal health care. As mentioned above, SEWA Rural hospital is one of the grant-in-aid hospitals which receives grant from the state government for meeting its recurring expenses. The grant-in-aid scheme has helped SEWA Rural to maintain its focus on equity over last three decades. It would be important for policy makers to create and maintain such enabling environment where organizations such as SEWA Rural would join hands with the government to realise mutual mission to serve the poor.

Among the limitations of this study it may be noted that there was no control area because the primary motive of SEWA Rural is to provide equitable services and it is open to all coming from any region. Also, it is difficult to estimate the impact of different programmatic interventions separately.

Acknowledgement

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serve the poor. We thank state government for providing grant every year for past three decades and other funding organizations and individual donors from India and abroad for meeting the shortfall. We thank Drs. Kapil Dave and Hitesh Purohit for help in drafting and Dr. Shivani Patel for invaluable help in analyzing the data.

Figure 11.1: Number of Scheduled Tribe and Non-Scheduled Tribe patients attending outpatient department during 2005-06 and 2012-13

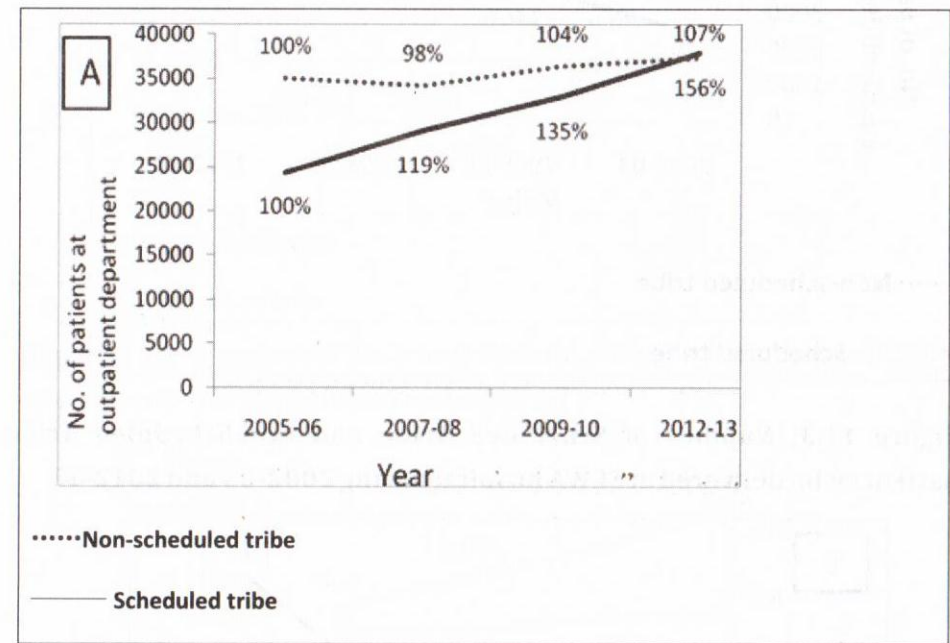


Figure 11.2: Number of Scheduled Tribe and Non-Scheduled Tribe patients attending inpatient department during 2002-03 and 2012-13

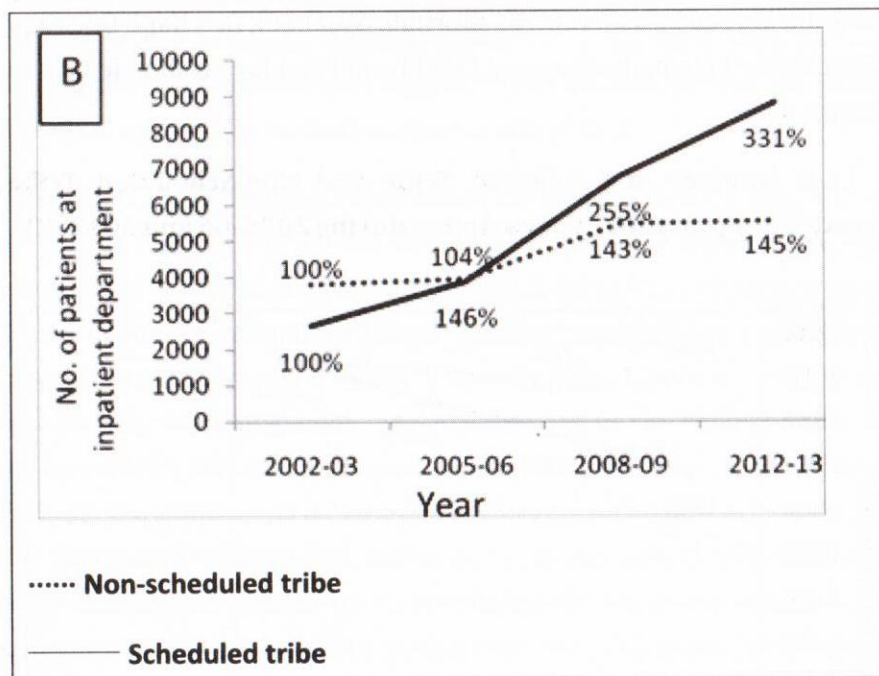


Figure 11.3: Number of Scheduled Tribe and Non-Scheduled Tribe patients who delivered at SEWA hospital during 2002-03 and 2012-13

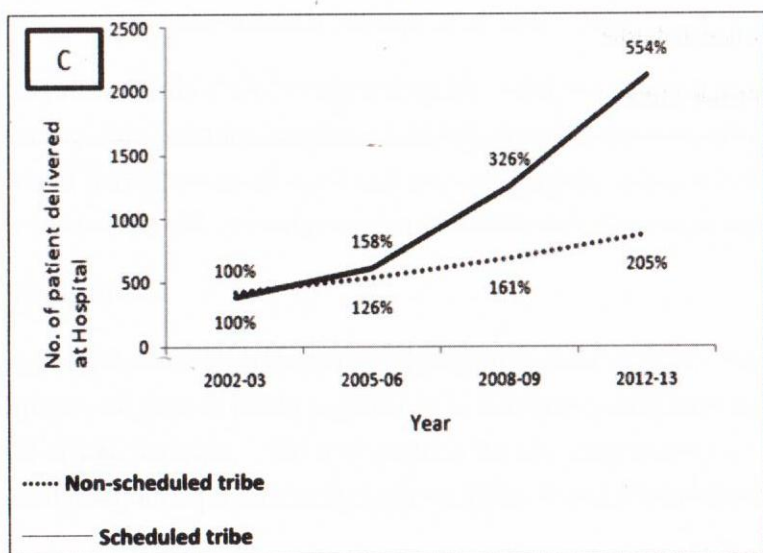


Figure 11.4: Number of new pregnancies registered among Scheduled Tribe and Non-Scheduled Tribe mothers during 2002-03 and 2012-13

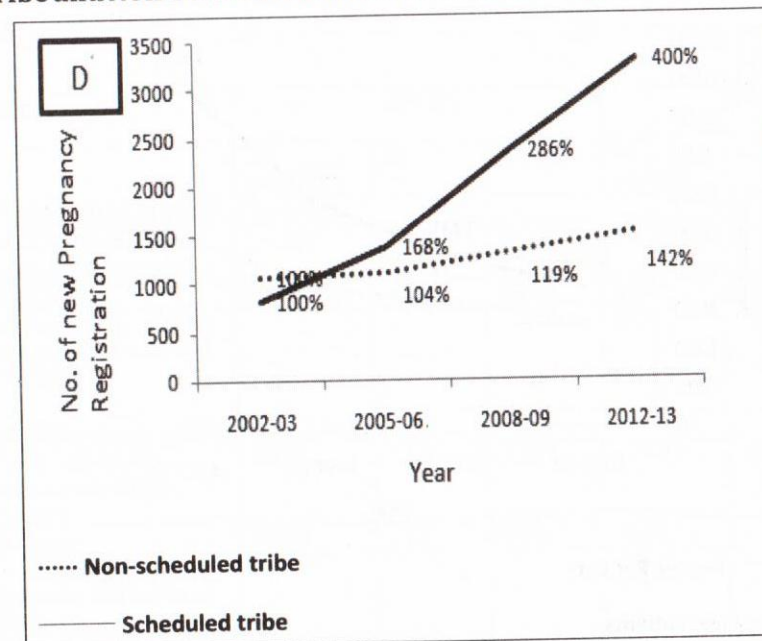


Figure 11.5: Number of Male and Female patients attending outpatient department during 2005-06 and 2012-13

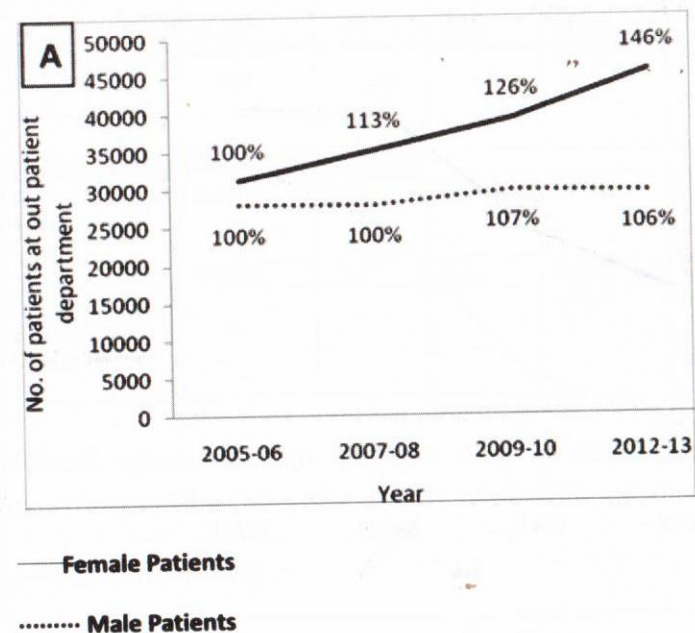
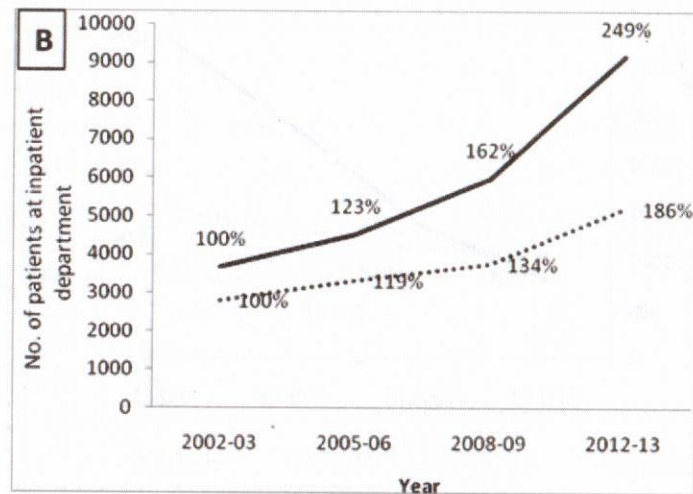


Figure 11.6: Number of male and female patients attending inpatient department during 2002-03 and 2012-13



— Female Patients
 Male Patients

Figure 11.7: Trend in Institutional delivery rate among Scheduled tribe and non-scheduled tribe women who delivered from 2003-04 to 2012-13 in Jhagadia block

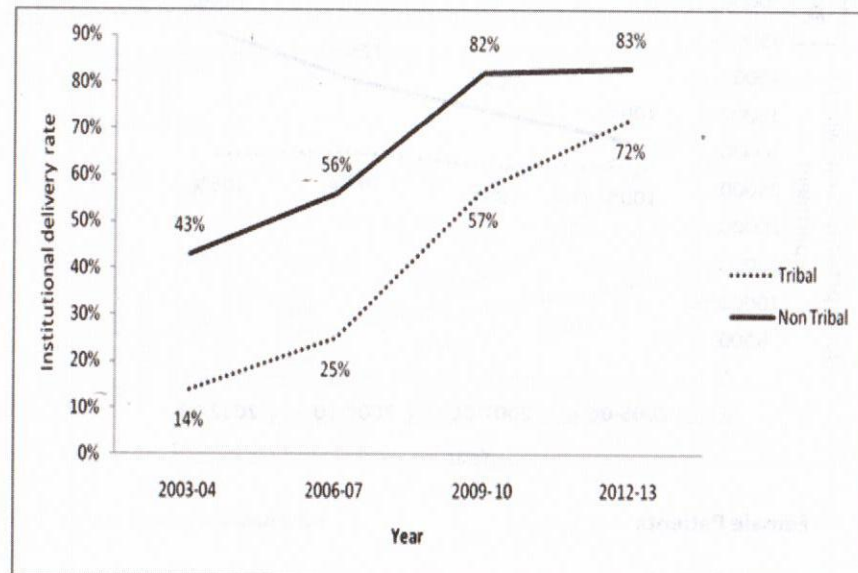


Table 11.1: Utilisation of hospital based services by Scheduled tribe and non-scheduled tribe patients at SEWA Rural Hospital in 2002-03 and 2012-13

Item	2002-03			2012-13		
	All patients	ST	Non-ST	All patients	ST	Non-ST
A. Utilisation of services in OPD*						
No. of OPD patients seen at SEWA hospital	59,327	24,344	34,983	75,275	37,874	37,401
% share	100.0	41.0	59.0	100.0	50.3	49.7
% increase in patients between 2002-03 and 2012-13				26.9	55.6	6.9
B. Utilisation of services as Inpatient						
No. of inpatients admitted to SEWA hospital	6,492	2,669	3,823	14,377	8,826	5,551
% share	100.0	41.1	58.9	100.0	61.4	38.6
% increase in patients between 2002-03 and 2012-13				121.5	230.7	45.2
C. Women delivering at SEWA hospital						
No. of mothers who delivered at SEWA hospital	808	383	425	2993	2121	872
% share	100.0	47.4	52.6	100.0	70.9	29.1
% increase in women who delivered between 2002-03 and 2012-13				270.4	453.8	105.2
D. Women who received ANC at SEWA hospital						
No. of women who received ANC at SEWA hospital	1889	825	1064	4815	3301	1514
% share	100.0	43.7	56.3	100.0	68.6	31.4
% increase in women who received ANC between 2002-03 and 2012-13				154.9	300.1	42.3

* Number of scheduled tribe patients seen at SEWA Rural outpatient department for 2005-06

(Source: SEWA Rural HMIS)

Table 11.2: Utilization of hospital based services by male and female patients at SEWA Rural Hospital in 2002-03 and 2012-13

Item	2002-03			2012-13		
	All patients	Male	Female	All patients	Male	Female
A. Utilisation of services in OPD*						
No. of OPD patients seen at SEWA hospital	59,327	28,064	31,263	75,275	29,652	45,623
% share	100.0	47.3	52.7	100.0	39.4	60.6
% increase in patients between 2002-03 and 2012-13				26.9	5.7	45.9
B. Utilisation of services as Inpatient						
No. of inpatients admitted to SEWA hospital	6,492	2807	3685	14,377	5211	9166
% share	100.0			100.0		
% increase in patients between 2002-03 and 2012-13				121.5	85.6	148.7

(Source: SEWA Rural HMIS)

Table 11.3: Number of hospital and out of hospital deliveries among scheduled Tribe and non-scheduled Tribe women of Jhagadia in 2003-04 and 2012-13 and un-adjusted odds ratio

Item	2002-03			2012-13		
	All patients	Male	Female	All patients	Male	Female
A. Utilisation of services in OPD*						
No. of OPD patients seen at SEWA hospital	59,327	28,064	31,263	75,275	29,652	45,623
% share	100.0	47.3	52.7	100.0	39.4	60.6
% increase in patients between 2002-03 and 2012-13				26.9	5.7	45.9
B. Utilisation of services as Inpatient						
No. of inpatients admitted to SEWA hospital	6,492	2807	3685	14,377	5211	9166
% share	100.0			100.0		
% increase in patients between 2002-03 and 2012-13				121.5	85.6	148.7

(Source: Prospectively collected data at household level)

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