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Assessment of the Availability of Maternal Health Services Among Tribal Communities of Kerala

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Abstract

The present study was conducted to assess the Availability of maternal health services among tribal communities of Kerala. Quantitative approach with descriptive research design was used. The sample consisted of heads of the health institutions from Attappadi tribal area, Palakkad district, consecutive sampling technique or total enumerative sampling was used in this study. The tool was used semi-structured interview schedule. The data related to availability of maternal health services collected from 03/12/2015 to 06/12/2015, from various health institutions. The area of availability of maternal health services such as available health institutions, availability of health personnels, health personnel involving in maternal health services, general services, antenatal care, intra-natal care, post-natal care, newborn care, family planning services, and other services in the hospitals. There were 10 institutions available for providing maternal health services to the selected tribal communities.

Keywords: Availability, maternal health services, health institutions, antenatal care, intra-natal care

INTRODUCTION

Maternal health refers to the health of women during pregnancy, childbirth, and the post-partum period. While motherhood is often a positive and fulfilling experience, for very many women it is associated with suffering, ill-health, and even death. Most maternal deaths and pregnancy complications can be prevented by quality antenatal, intra-natal, and post-natal care [1, 2].

India is among those countries which have a very high maternal mortality ratio. According to the estimates, the maternal mortality rate has reduced from 212 per lac live births in 2007–2009 to 178 per lac live birth in 2010–2012, a reduction of 34 points over a period of three years period. During the year 2012, about 47,000 women died of pregnancy related cause. It is mainly due to large number of deliveries conducted at home by untrained persons. In addition, lakhs of adequate referral facilities to provide emergency obstetric care for complicated cases also contribute to high maternal mortality and morbidity [3, 4].

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Worldwide, every year approximately eight million women suffer from pregnancy-related complications. Over half a million of them die as a result. One woman in 11 may die of pregnancy related complications in developing countries, compared to one in 5000 in developed countries. Here lies the major discrepancy in global health. It is further estimated that for one maternal death at least 16 more suffer from severe morbidities. Important causes of maternal death in the developing countries included hemorrhage, sepsis- and pre-eclampsia and unsafe abortion [5, 6].

Most of the tribal population have lack of the available health resources and the people have inadequate knowledge regarding the availability of health resources so, the assessment of availability of maternal health services among tribal women is important to know the health status of the tribal population and helps to prevent the complications related to maternal health.

OBJECTIVE OF THE STUDY

To assess the availability of maternal health services among women in selected tribal communities.

RESEARCH APPROCH

A quantitative approach was adopted in this study.

RESEARCH DESIGN

In the present study, a descriptive design was used.

POPULATION

Institutional heads of all the health institutions from Attappadi.

SAMPLE SIZE AND SAMPLING TECHNIQUE

Heads of the health institutions, consecutive sampling technique, or total enumerative sampling was used in this study. In this sampling technique, the investigator picks up all the available subjects who are meeting the preset inclusion and exclusion criteria. This technique is generally used in small-sized populations.

INSTRUMENTS/TOOL USED

Semi-structured interview schedule

DESCRIPTION OF THE TOOL

The data collected from the heads of the health institutions using semi-structured interview schedule. It included the items in the area of availability of maternal health services such as available health institutions, availability of health personnels, health personnel involving in maternal health services, general services, antenatal care, intra-natal care, post-natal care, newborn care, family planning services, and other services in the hospitals.

METHOD OF DATA COLLECTION

Formal written permission was obtained from the heads of the 10 health institutions in the Attappadi block to conduct the research study. Data were collected from heads of the health institutions regarding the availability of maternal health services, using semi-structured interview schedule. Data collection period was from 03/12/2015 to 06/12/2015.

AVAILABILITY OF MATERNAL HEALTH SERVICES

Section 1: Available Health Institution

Table 1 shows the health institutions providing maternal health services to the tribal communities of Attappadi. Government Tribal Speciality Hospital covers 98,330 population with a catchment area of 745 square kilometres (km^2) and is located 55–60 km from the selected tribal communities. Community health centre covers the 74,000 population with a catchment area of 456 km^2 and is located 30–32 km from the selected tribal communities. Primary health centre covers 24,000 population with a catchment area of 156 km^2 and is located 28–30 km from the selected tribal communities. Selected tribal communities have four subcentres. Subcentre-1 covers 4023 population with a catchment area of 8.42 km^2 and is located 6–8 km from the selected tribal community. Subcentre-2 covers 3500 population with a catchment area of 6.42 km^2 and is located 5–6 km from the selected tribal community. Subcentre-3 covers 3702 population with a catchment area of 5.56 km^2 and is located 4–5 km from the selected tribal community. Subcentre-4 covers 3800 population with a catchment area of 7.42 km^2 and is located

6–7 km from the selected tribal community. Ayurveda hospital which was covers 20,000 population with the catchment area of 52 km^2 and is located 30–32 km from the selected tribal community. Private hospital-1 covers 35,000 population with a catchment area of 26 km^2 and is located 30–32 km from the tribal communities. Private hospital-2 covers 20,000 populations with a catchment area of 18 km^2 and is located 15–18 km from the tribal communities. There is one community health centre three primary health centres and 28 subcentres present for the entire Attappadi block. Ideally, each community health centre covers the population of 80,000; one primary health centre covers the population of 20,000–30,000 population and each subcentre covers the population of 2500 in hilly areas.

Table 1. Distribution of available health institutions providing maternal health services in selected tribal communities of Attappadi (n = 10).

Institutions	Population covered	Catchment area	Distance from the tribal community
Government Tribal Speciality Hospital (GTSH)	98,330	745 sq. km	55–60 km
Community Health Centre (CHC)	74,000	456 sq. km	30–32 km
Primary Health Centre (PHC)	24,000	156 sq. km	28–30 km
Subcentre-1(SC_1)	4023	8.42sq. km	6–8 km
Subcentre-2(SC_2)	3500	6.24sq. km	5–6 km
Subcentre-3(SC_3)	3702	5.56sq. km	4–5 km
Subcentre-4(SC_4)	3800	7.42sq. km	6–7 km
Ayurveda Hospital (AH)	20,000	52sq. km	30–32 km
Private Hospital-1(PH_1)	35,000	26sq. km	30–32 km
Private Hospital-2(PH_2)	20,000	18sq. km	15–18 km

Section 2: Availability of Health Personnel in the Health Institutions

Table 2 shows that GTSH had 14 doctors, 24 staff nurses, one lady health supervisor, one public health nurse, and 4 nursing assistants. It is a 150 bedded hospital with 35 beds for maternal health. In CHC there were 8 doctors, 9 staff nurses, one lady health supervisor, one public health nurse, and 3 nursing assistants. It is a 42 bedded hospital. In the PHC there were 2 doctors, one staff nurse, and one nursing assistant. Inpatient's facility was absent in the PHC. Each subcentre had one junior health inspector and two junior public health nurses (JPHNs). Ideally each subcentre has one JPHN and one junior health inspector, but Attappadi comes under a special project and an additional JPHN is present in all subcentres. The Ayurveda hospital had one doctor, 4 staff nurses, and 2 nursing assistants. Private hospital-1 had 2 doctors, 8 staff nurses, and 4 nursing assistants and it is a 20–30 bedded hospital. Private hospital-2 had only one doctor, 4 staff nurses, and 2 nursing assistants and it is a 15–20 bedded hospital.

Section 3: Availability of Other Health Personnel Involved in the Maternal Health Services

Table 3 shows that there were public health managers. One was for the Government Tribal Speciality Hospital and the other one was for the community health centre. One female health assistant and one male health assistant, three female health workers and three male health workers, and one animator were present in the primary health centre. Female health assistant supervises the work of the female health workers and male health assistant supervises the male health workers. Female and male health workers conduct the home visiting in the particular area and submit the report to their supervisors. The animator supervises the functions of each Anganwadi. One Anganwadi is for 1000 population. Each Anganwadi has one Anganwadi worker and one helper. There were 8 Anganwadis, 8 Anganwadi workers and 8 helpers for the selected tribal communities. There are 172 Anganwadis for the Attappadi block. There were 8 ASHA workers for the selected tribal communities. One ASHA worker was for every 1000 population. There were 80 ASHA workers for the Attappadi block. There were also four ST promoters and one traditional midwifery practitioner also for the selected tribal community. The traditional midwifery practitioner was elderly and so was not involved in any practices.

Section 4: Availability of General Health Services Provided by the Health Institutions

Table 4 shows that four institutions (GTSH, CHC, PH_1 and PH_2) had 24-hour maternal health services and inpatients facilities. But in the two private hospitals deliveries were conducted only in the

emergency situations. In the Attappadi block, there were only two hospitals (GTSH, PH_1) which had ambulance facilities and other hospitals utilised the services from GTSH and PH_1 during emergency situations. The Government Tribal Speciality Hospital, community health centre, primary health centre, and two private hospitals had referral services.

Table 2. Availability of health personnel in the health institutions (n = 10).

Institutions	Doctors	Staff nurses	Lady health supervisor	Public health nurse (PHN)	JPHN	Junior health inspector (JHI)	Nursing assistants
GTSH	14	24	1	1	–	–	4
CHC	8	9	1	1	–	–	3
PHC	2	1	–	–	–	–	1
Subcentre-1(SC1)	–	–	–	–	2	1	–
Subcentre-2(SC2)	–	–	–	–	2	1	–
Subcentre-3(SC3)	–	–	–	–	2	1	–
Subcentre-4(SC4)	–	–	–	–	2	1	–
Ayurveda Hospital (AH)	1	4	–	–	–	–	2
Private Hospital-1(PH1)	2	8	–	–	–	–	4
Private Hospital-2(PH2)	1	4	–	–	–	–	2

Table 3. Availability of other health personnel involved in the maternal health services.

Other health persons for selected tribal communities	Number
Public health manager GTSH and CHC	1 each
Female health assistant (FHA) in PHC	1
Male health assistant (MHA) in PHC	1
Female health worker (FHW) in PHC	3
Male health worker (MHW) in PHC	3
Animator in PHC	1
Anganwadi worker (AWW)	8
Anganwadi helper (AWH)	8
ASHA (Accredited Social Health Activist) worker	8
ST promoter (Schedule tribal promoter)	4
Traditional midwifery practitioner - not active	1

Table 4. Availability of general health services provided by the health institutions (n = 10).

General Health Services	GTSH	CHC	PHC	SC^1	SC^2	SC^3	SC^4	AH	PH^1	PH^2
24-hours maternal services	✓	✓	–	–	–	–	–	–	✓	✓
Inpatient's facilities	✓	✓	–	–	–	–	–	–	✓	✓
Ambulance facilities	✓	–	–	–	–	–	–	–	✓	–
Referral services	✓	✓	✓	–	–	–	–	–	✓	✓

Section 5: Availability of Antenatal Services at the Health Institutions

Table 5 shows that seven health institutions (GTSH, CHC, PHC, and SC_1 to SC_4) had facilities for registration of pregnancy and facilities for regular antenatal clinic. But the gynaecologists were present only in the GTSH and CHC. There were three gynaecologists in the GTSH and one in CHC. Only five institutions (GTSH, CHC, PHC, and PH_1 to PH_2) had blood and urine checking facilities and only two institutions (GTSH, PH_1) had ultrasound facilities. All the institutions (GTSH, CHC, PHC, SC_1 to SC_4 PH_1 and PH_2) except Ayurveda hospital had the facility for the supply of iron, folic acid, and vaccination. Only GTSH and CHC had the facility to manage high-risk pregnancy. Other hospitals were not equipped to manage the emergency and the gynaecologists were absent in other eight institutions. Health education was provided by all the institutions except Ayurveda hospital. The topic of health education programme was regarding the care of pregnancy, importance of nutrition, and avoidance of bad habits during pregnancy. Regarding home visiting, it was arranged through the PHC and the entire subcentres. Health workers team were included one doctor, JHI, JPHN, ASHA workers, AWW Anganwadis, and an animator. They were involved in visiting pregnant women once in a month which was arranged through

Anganwadis. Every high-risk cases were visited by health workers team once in a week. These high-risk groups were termed as “task force group”.

Table 5. Availability of antenatal services at the health institutions (n = 10).

Antenatal services	GTSH	CHC	PHC	SC^1	SC^2	SC^3	SC^4	AH	PH^1	PH^2
Registration of pregnancy	✓	✓	✓	✓	✓	✓	✓	–	–	–
Gynecologists	✓	✓	–	–	–	–	–	–	–	–
Regular antenatal clinics	✓	✓	✓	✓	✓	✓	✓	–	–	–
Blood and urine checking	✓	✓	✓	–	–	–	–	–	✓	✓
Ultrasound	✓	–	–	–	–	–	–	–	✓	–
Supply of iron and folic acid	✓	✓	✓	✓	✓	✓	✓	–	✓	✓
Vaccination	✓	✓	✓	✓	✓	✓	✓	–	✓	✓
Management of high-risk cases	✓	✓	–	–	–	–	–	–	–	–
Educational programme	✓	✓	✓	✓	✓	✓	✓	–	✓	✓
Home visiting	–	–	✓	✓	✓	✓	✓	–	–	–

Section 6: Availability of Intra-natal Services at the Health Institutions

Table 6 states that only four institutions (GTSH, CHC, PH_1 and PH_2) had facilities of normal delivery. Only GTSH and CHC had the facilities for the management of high-risk deliveries (vacuum deliveries and forceps deliveries) and caesarean facility, two health institutions (GTSH and CHC) had caesarean facility. Only two institutions (GTSH and PH_2) had paediatricians. Only GTSH had neonatal intensive and pre-term baby care facilities for the entire Attappadi block. Four institutions (GTSH, CHC, PH_1 and PH_2) had the facilities of registration of birth.

Table 6. Availability of intra-natal services at the health institutions (n = 10).

Intra-natal services	GTSH	CHC	PHC	SC^1	SC^2	SC^3	SC^4	AH	PH^1	PH^2
Normal delivery	✓	✓	–	–	–	–	–	–	✓	✓
High-risk delivery	✓	✓	–	–	–	–	–	–	–	–
Caesarean section	✓	✓	–	–	–	–	–	–	–	–
Paediatrician	✓	–	–	–	–	–	–	–	–	✓
NICU	✓	–	–	–	–	–	–	–	–	–
Care of pre-term babies	✓	–	–	–	–	–	–	–	–	–
Registration of birth	✓	✓	–	–	–	–	–	–	✓	✓

Section 7: Availability of Post-natal Services at the Health Institutions

Table 7 shows that only GTSH and CHC had facilities of management of complications during post-natal period. Four institutions (GTSH, CHC, PH_1 and PH_2) had baby-friendly hospital initiative (BFHI) programme and four institutions (GTSH, CHC, and PH_1 to PH_2) had inpatient’s facility for post-natal mothers. All the institutions except Ayurveda hospital had post-natal follow-up services. Home visiting was arranged by five institutions (PHC, and SC_1 to SC_4) and the health education was provided by seven institutions (PHC, SC_1 to SC_4, PH_1 and PH_2). The topics of health education included personal hygiene, importance of protein rich food, and prevention of bad habits. Seven institutions (GTSH, CHC, PHC, and SC_1 to SC_4) had vaccination facilities for the newborn through the outreach immunisation programme (ORI) which was conducted at Anganwadis. The two private hospitals also had vaccination facility. Immunisation card was provided by nine institutions (GTSH, CHC, PHC, SC_1 to SC_4, and PH_2) for the newborn.

Section 8: Availability of Family Planning Services at the Health Institutions

Table 8 shows only three health institutions (GTSH, CHC, and PHC) had the facilities of copper-T insertion. Seven health institutions (GTSH, CHC, PHC, and SC1to SC_2) had the facilities of free supply of oral contraceptives and condoms. Only GTSH and CHC had the facilities of permanent family

planning and sterilisation camp was arranged by four subcentres for promotion of permanent sterilisation among tribal women.

Table 7. Availability of post-natal services at the health institutions (n = 10).

Post-natal services	GTSH	CHC	PHC	SC^1	SC^2	SC^3	SC^4	AH	PH^1	PH^2
Management of complications	✓		–	–	–	–	–	–	–	–
BFHI programme	✓	✓		–	–	–	–	–	✓	✓
Inpatient's facilities	✓	✓	–	–	–	–	–	–	✓	✓
Supply of calcium and iron tablets	✓	✓	✓	✓	✓	✓	✓	–	✓	✓
Post-natal follow-up services	✓	✓	✓	✓	✓	✓	✓	–	✓	✓
Home visiting	–	–	✓	✓	✓	✓	✓	–	–	–
Educational programme	–	–	✓	✓	✓	✓	✓	–	✓	✓
Vaccination for the newborn	✓	✓	✓	✓	✓	✓	✓	–	✓	✓
Immunisation card for the newborn	✓	✓	✓	✓	✓	✓	✓	–	✓	✓

Table 8. Availability of family planning services at the health institutions (n = 10).

Family planning services	GTSH	CHC	PHC	SC^1	SC^2	SC^3	SC^4	AH	PH^1	PH^2
Copper-T insertion facilities	✓	✓	✓	–	–	–	–	–	–	–
Supply of oral contraceptive and condoms	✓	✓	✓	✓	✓	✓	✓	–	–	–
Permanent family planning facility	✓	✓	–	–	–	–	–	–	–	–
Conduction of camp for promotion of sterilisation.		–	–	✓	✓	✓	✓	–	–	–

Section 9: Availability of the Other Services at the Health Institutions

Table 9 shows only two institutions (GTSH, CHC) had free travelling facilities after delivery. Three institutions (GTSH, CHC, and PH_1) were involved in providing free delivery services for the tribal women. Free medications during and after delivery were provided by the eight institutions (GTSH, CHC, PHC, SC_1 to SC_2 and PH_1). Financial support was provided by two institutions (GTSH, CHC). It included Rs. 1650 for normal delivery and Rs. 3300 for caesarean delivery. Financial support was provided by two institutions (GTSH, CHC) – Rs. 500 after permanent family planning. Only two institutions (GTSH, CHC) had free nutritional facilities for inpatients in the hospital. The items of food were idli, milk, and one banana for breakfast, rice and curry for lunch and supper. There was special nutrition for antenatal and lactating mothers from Anganwadi. The food from Anganwadi included were egg-1, milk-1 glass, ragi powder-1 packet, and amrutham powder-1 packet once in every week. Community kitchen project a nutritional programme was also involved in the Attappadi tribal hamlets to increase the nutritional supplements of the tribal people. Through this project the beneficiaries were pregnant women, lactating mothers, and the under-fives. They received food once in a week which was prepared in any one of the houses and distributed to the beneficiaries. The rice, vegetables, and firewood were provided through the government fund.

Table 9. Availability of the other services at the health institutions (n = 10).

Other services	GTSH	CHC	PHC	SC^1	SC^2	SC^3	SC^4	AH	PH^1	PH^2
Free travelling facility after delivery	✓	✓	–	–	–	–	–	–	–	–
Free delivery services	✓	✓	–	–	–	–	–	–	✓	–
Free medications during and after delivery	✓	✓	✓	✓	✓	✓	✓	–	✓	–
Financial support after delivery	✓	✓	–	–	–	–	–	–	–	–
Financial support after family planning	✓	✓	–	–	–	–	–	–	–	–
Free nutritional facilities for inpatients	✓	✓	–	–	–	–	–	–	–	–

DISCUSSION AND CONCLUSION

In the present study regarding health institutions providing maternal health services, the Government Tribal Specialty Hospital, in Attappadi block covers the population of 98,330. The government of India launched National Rural health mission on 5th April 2005, for the period of 7 years and recently extended up to year 2017. The mission seeks to improve the rural health care delivery system. At block level, a hospital covers the population of 100,000.

Regarding the availability of doctors CHC had one gynaecologist and facilities for caesarean and newborn care. The District Level Health Survey 4 (2012-2013 DLHS-4) showed that 31. 4% of the CHCs had the availability of gynaecologist and 53.6% of the CHC had the facilities for caesarean. 27.1% of the CHCs had new born care facilities in the rural area [7, 8].

There were 8 ASHA workers, 8 AWW Anganwadis and helpers available for the selected tribal communities. Attappadi block had availability of 80 ASHA workers and 172 Anganwadis. According to primary health care delivery system in India, there is availability of one ASHA worker and one Anganwadi for 1000 population. In tribal and desert areas the norm could be relaxed to one ASHA per habitation [4].

Among 7 government institutions only two institutions had 24-hour maternal health care services. In CHC, there was availability of 24-hour services; but in the PHC, no provision of round the clock services. According to the strategies of NRHM, there is strengthening of PHC and CHC by proving round the clock services at the PHCs and CHCs. The DLHS-4 showed that only 28.3% of the PHC had 24-hour health services.

A report from the Indian Express revealed that out of 196 community kitchens in Attappadi, only 58 of them are functioning. In Agali panchayat, of the 81 community kitchens, only 12 are functioning.

But in another study, 70% of the women were visited at least twice in their home after delivery for post-natal care by JPHN [9, 10].

In another study showed that 76.2% had received 2 dose of TT injection, only 29% consumed prescribed iron and folic acid tablets.

Recommendations

On the basis of the present study, the following recommendations were made for further studies:

1. Similar studies can be conducted in similar settings with large sample.
2. A study can be conducted to assess the availability of maternal and neonatal health services among post-natal mothers in tribal community.
3. A study can be conducted to assess the effect of physical accessibility of maternal health services on utilisation of services among tribal pregnant women.
4. A cross-sectional study can be conducted to assess hindering factors related to availability of maternal health services among tribal women.

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