Original Research Article

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20195460

Referral pattern of pregnant women coming to Cheluvamba Hospital, Mysuru, Karnataka

Bharath Jagadeesha¹*, Veenashree Keragodu Ramakrishna²

¹Department of Community Medicine, Saveetha Medical College and Hospital, Chennai, Tamil Nadu, India ²Department of OBG, Columbia Asia Hospital, Bangalore, Karnataka, India

Received: 18 September 2019 Revised: 13 November 2019 Accepted: 14 November 2019

*Correspondence: Dr. Bharath Jagadeesha, E-mail: bharathlakshmisagara@gmail.com

Copyright: [©] the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Maternal morbidity and mortality remains a major challenge. At present pregnant women can visit any level of health care irrespective of severity of their health condition. Most of the burden of these pregnant women is on tertiary centers, hence depriving the seriously ill of the expert care. Most of the pregnancies can be managed at primary level itself. This study was therefore conducted in order to describe the referral pattern of pregnant women coming to Cheluvamba Hospital, Mysuru.

Methods: It was a cross sectional study conducted during September 2018 with sample size of 100. All the pregnant women who were referred in the second week of September 2018 were included in the study without using any sampling technique and data was collected by interview using the semistructured questionnaire.

Results: Mean distance travelled by study participants from their residence to Cheluvamba hospital was 42.1 ± 29.8 kilometers. Main obstetric and logistic reason for referral was because of hypertensive disorders and non-availability of doctors respectively. Average number of ANC visits and mean gestational age upon arrival at Cheluvamba hospital was 6.71 ± 2.3 visits and 37.4 ± 3.6 weeks respectively.

Conclusions: Most common obstetric reason for referral was hypertensive disorders. A structured referral system would help both the patient and the doctor in providing necessary obstetric care.

Keywords: Obstetric care, Referral pattern, Tertiary care, Primary health care

INTRODUCTION

Maternal morbidity and mortality remains a major challenge. A referral can be defined as a process in which a health worker at a one level of the health system, having insufficient resources (drugs, equipment, skills) to manage a clinical condition, seeks the assistance of a better or differently resourced facility at the same or higher level to assist in or take over the management of the client's case.¹

Identification and referral of high risk pregnancies are an integral part of maternal and child health services. An

effective referral system ensures a close relationship between all levels of the health system and helps to ensure people receive the best possible care closest to home. It also assists in making cost-effective use of hospitals and primary health care services. Support to health centers and outreach services by experienced staff from the hospital or district health office helps build capacity and enhance access to better quality care. In many developing countries, a high proportion of clients seen at the outpatient clinics at secondary facilities could be appropriately looked after at primary health care centers at lower overall cost to the client and the health system.² The health care system in India is plagued by overcrowding, lack of specialist doctors, paramedics and an effective referral system. There is a provision for referral of patients from sub centres, primary health centres, community health centres to sub district or district level and then to tertiary health facilities in medical college hospitals, super speciality hospitals and research institutes under the public health care in India. The actual practice of referral is entirely different than that is laid down in principle. At present pregnant women can visit any level of health care irrespective of severity of their health condition. Most of the burden of these pregnant women is on tertiary centers, hence depriving the seriously ill of the expert care. Most of the pregnancies can be managed at primary level itself.³

For a referral system to work at its best, relationships between service providers should be formalized and referral procedures should be agreed upon. All levels of the health system, including primary health care services, need to be functioning appropriately.⁴ This study was therefore conducted in order to describe the referral pattern of pregnant women coming to Cheluvamba Hospital, Mysuru.

Objectives

- To describe the referral pattern of the pregnant women coming to Cheluvamba hospital.
- To describe the associated factors influencing the referrals.

METHODS

A hospital based cross-sectional study was carried out in Cheluvamba Hospital, Mysuru. Study population being pregnant women visiting Cheluvamba Hospital, Mysuru for delivery or for complications of pregnancy. Inclusion criteria being those who are >18 years of age (to limit legal hurdles) and those who give informed consent. Booked cases (those who have undergone all the ANC checkups at Cheluvamba Hospital and taken Iron and Folic acid tables) were excluded as they don't belong to the referred women's category. Sample size of 100 was taken based on the average number of referrals in 1 week in the past 4 weeks. All the pregnant women who were referred in the second week of September 2018 were included in the study without using any sampling technique.

Data collection was done during 2nd week of September 2018 by interview using semi-structured questionnaire which contained various sections such as demographic details, obstetric and logistic reasons for referral, time duration and distance between the referrals, etc. Data collected were entered in MS-Excel and analyzed using Epi-info software. Descriptive statistical measures like percentage, mean, and standard deviations were used.

Operational definition

A referral can be defined as a process in which a health worker at a one level of the health system, having insufficient resources (drugs, equipment, skills) to manage a clinical condition, seeks the assistance of a better or differently resourced facility at the same or higher level to assist in or take over the management of the client's case.¹

RESULTS

In the present study average age of the study participants was 23.7 ± 3.9 years. Out of 100 study participants majority i.e., 83 (82.0%) had BPL ration card and 48 (48.0%) of them had high school education. Most of the study participants i.e., 31 (31.0%) belonged to class III socio economic status. Majority i.e., 45 (45.0%) of the study participants confirmed pregnancy at PHC near to them (Table 1).

Table 1: Sociodemographic details and place ofconfirmation of pregnancy of the study participants(n=100).

	Frequency	%				
Distribution of study	Distribution of study participants according to BPL					
(below poverty line) card status						
Have BPL ration card	83	83.0				
Don't have BPL	17	17.0				
ration card	17	1710				
Distribution of study participants according to their						
level of Education						
No formal education	3	3				
Primary school	20	20				
High school	48	48				
Pre-university	18	18				
education	10	10				
Degree holders	11	11				
Distribution of study						
economic status [modified BG Prasad classification]						
Class I	3	3				
Class II	21	21				
Class III	31	31				
Class IV	30	30				
Class V	15	15				
Distribution of study participants according to place						
of confirmation of pregnancy						
PHC	45	45				
CHC	4	4				
Taluk hospital	30	30				
District hospital	1	1				
Medical college	6	6				
Private clinic	3	3				
Home	7	7				
Maternity hospital	4	4				

Table 2: Reasons for referral of the study participants (n=100).

PrequencyPrepuncty			• /	
PHC2626CHC55Taluk hospital4040District hospital99Medical college77Private clinic22Home11Matemity hospital1010Obsteric reason for referral				
CHC55Taluk hospital4040District hospital99Medical college77Private clinie22Home11Maternity hospital1010Obstetric reason for referral11Hypertensive disorders2121Preterm labour55IUGR555IUFD333Abruptio placenta11Placenta provia222Rh oggative status333Severe amenia666Heart disease555PROM111111Mal presentation999Petal distress222Petroita ODM222Multiple gestation111Not availability of NCU181818No blood bonk111111No facility666Anestherist not available222Multiple gestation111111No lood bonk111111No lood bonk111111No diability of NCU181818No blood bonk111111No lood bonk222Cephatoperbic disproportion222No blood bonk1111 <td< td=""><td></td><td></td><td></td><td></td></td<>				
Taluk hospital4040District hospital99Miclical college77Private clinic22Home11Maternity hospital1010Obsterit reason for referral121Preterni labour55IUGR55IUFD33Abruptio placenta11Placenta previa22Rh negative status33Severe anemia55PROM1111Mal presentation55PROM1111Mal presentation55Presentation22Presentation55Postdarism99Fetal disress22Cephalopelvic disproportion22Cephalopelvic disproportion22Dottors not availability of NICU1818No availability of NICU1111No facility22Doctors not available22No tord analibility of NICU33No laboratory facility33No laboratory facility33No laboratory facility33No taralability of NICU33No facility specialiti 247/73434No facility specialiti 247/73434Previnabure movation22Restrict no facility <td< td=""><td></td><td></td><td></td><td></td></td<>				
District hospital99Medical college77Private clinic22Home11Maternity hospital1010Obstetric reason for referral121Pretern labour55IUGR55IUFD33Abruptio placenta11Placenta previa22Rh negative status33Severe anennia66Heart disease55PROM1111Mal previa22Probatign99Petern labour55PROM1111Mal previa22Probatign99Peter atisticase77Opstatism99Peter atisticase77Cephalopelvic disproportion22Cephalopelvic disproportion22Mutapuitability of NCU1818No lood bank1111No lood bank1111No lood preter1111No looperation facility22Octors not availability of NCU83No looperation facility33No looperation facility33No looperation facility22No looperation facility33No looperation facility33No looperation facility <td< td=""><td></td><td></td><td></td><td></td></td<>				
Medical college77Private clinic22Home11Maternity hospital1010Maternity hospital1010Maternity hospital1010Obstetric reson for referal2121Protern labour55IUGR55IUGR22Parterni labour11Placenta previa22Rh negative status33Severe anemia66Heart disease55PROM1111Mal presentation55Postdatismes22Postdatismes22Postdatismes22Postdatismes22Cephalopelvic disproportion22Cephalopelvic disproportion22No availability of NICU1818No blood bank1111No lodo dank1111No lodo dank22Doctrs not available22Doctrs not available22No ultrasound facility33No laboratory facility33	▲			
Private clinic22Home11Maternity hospital1010Obstetric reason for referralHypertensive disorders2121Pretern labour55IUGR55IUFD33Abruptio placenta11Placenta previa22Rh negative status33Severe anemia66Heart disease55PROM1111Mal presentation55Posidatism99Petal disress22Cephalopelvic disproportion22Cephalopelvic disproportion22Multiple gestation11Not availability66Logistic reason for referral11No availability of NCU1818No lobod bank1111No lobod bank1111No lubancing precisition22No operation theatre1111Building under renovation22No availability of NCU833No laboratory facility333No available222No operation theatre111111Building under renovation222No prescins to available333No laboratory facility333No laboratory fa				
Home11Materniy hospital010Obsteric reson for referal				
Maternity hospital1010Obstetric reason for referralUppertensive disorders2121Preterm labour55IUGR55IUGR11Preterm labour33Abruptio placenta11Placenta previa22Rh negative status33Severe anemia66Heart disease55PROM1111Mal presentation55PROM1111Mal presentation55Previous CS77Gestational DM22Cephalopelvic disproportion22Cephalopelvic disproportion22Cephalopelvic disproportion11No availability66Ansuthelity22Doctors not available22Doctors not available22Doctors not available22No availability of speciatirs 24/73434No laboratory facitity33No laboratory facitity33No laboratory facitity33No laboratory facitity33No laboratory facitity33No laboratory facitity33No laboratory facitity33Previous CS33Severe and the removation33No laboratory faciti				
Obstetric reason for referral 21 21 Hyperensive disorders 21 21 Preterm labour 5 5 IUGR 5 5 IUFD 3 3 Abruptio placenta 1 1 Placenta previa 2 2 Rh negative status 3 3 Severe anemia 6 6 Heart disease 5 5 PROM 11 11 Mal presentation 5 5 Postdatisms 9 9 Petral distress 2 2 Pebrile morbidity 4 4 Previous CS 7 7 Cestational DM 2 2 Caphalopelvic disproportion 2 2 Not availability of NICU 18 18 No lood bank 11 11 No lood bank 11 11 No loud ravailable 2 2 No loudracound facility		-	-	
Hypertensive disorders2121Preterm labour55Preterm labour55IUGR33Abruptic placenta previa11Placenta previa22Rh negative status33Severe anemia66Heart disease55PROM1111Mal presentation55PROM1111Mal presentation55Previous CS77Gestational DM22Cephalopelvic disproportion22Multiple gestation11Not availability66Logistic reason for referral1111No lood bank1111No lood bank1111No lood bank1111No lood ravialable22Doctors not available22No availability of Socialist 24/73434So to redusing Cheluvamba hospital22Availability of specialist 24/73434Peedback from friends and family22Avite by referral source6161Low cost33Gastational DM22Cephalopelvic filty66Logistic reason for choosing Cheluvamba hospital11Availability of specialist 24/73434So utrasound facility22Avitability of specialist		10	10	
Pretern labour55IUGR55IUFD33Abruptio placenta11Placenta previa22Rh negative status33Severe anemia66Heart disease55PROM1111Mal presentation55Postidatism99Fetal distress22Previous CS77Gestational DM22Cephalopelvic disproportion22Cephalopelvic disproportion1111Not availability of NICU1818No lood bank1111No lood bank1111No loog ration theatre1111No operation theatre22No availability of NICU83No lood bank1111No lood bank1111No lood bank1111No lood bank22No availability of NICU22No availability of speciality 222No lood bank1111No lood bank22No lood bank22No available22No lood bank1111No lood bank22No lood bank22No lood bank22No lood bank22No lood bank22No lood		21	21	
IUGR55IUFD33Abruptio placenta11Placenta previa22Rh negative status33Severe anemia66Heart disease55PROM1111Mal presentation55Posidatism99Petal distress22Febrile morbidity44Previous CS77Gestational DM22Cephalopelvic disproportion22Multiple gestation11No availability of NICU1818No blood bank1111No lood bank1111No lood bank1111No lood bank22Doctors not available22Doctors not available22No operation theatre1111Building under renovation22No availability of NICU33No availability of specialist 24/73434Previdus Group facility33Advice by referral source6161Low cost333Gravidity of the pregnant women who were referred161Low cost3333333101010				
IUFD33Abruptio placenta previa11Placenta previa22Rh negative status33Severe anemia66Heart disease55PROM1111Mal presentation55Postdatism99Febrile morbidity44Previous CS77Gestational DM22Cephalopelvic disproportion22Multiple gestation11Not availability66Logistic reason for referral111No ICU facility66Anesthetist not available22No outrasound facility33No ultrasound facility33No laboratory facility33No laboratory facility33No tavailability of special st24/73434Peedback for friend and family22No tavailability of special st24/73434Peedback for friends and family22Advice by referral source6161Low cost33Gravidity of he pregnant women who were referred11515123333333333333333333333444<				
Abruptio placenta11Placenta previa22Rh negative status33Severe anemia66Heart disease55PROM1111Mal presentation55Postdatism99Fetal distress22Febrile morbidity44Previous CS77Gestational DM22Cephalopelvic disproportion22Multiple gestation11Not availability66Logistic reason for referral				
Placenta previa22Rh negative status33Severe anemia66Heart disease55PROM1111Mal presentation55Postlatism99Fetal distress22Febrile morbidity44Previous CS77Gestational DM22Cephalopelvic disproportion22Multiple gestation11Not availability66Logistic reason for referral111No lavo landbility66Logistic reason for referral1111No lood bank1111No lood bank1111No loud bank1111No ultrasound facility66Ansenthetist not available22No operation theatre1111Building under renovation22No availability of specialist 24/73434Feedback from frieds and family22Availability of specialist 24/73434Feedback from frieds and family22Advice by referral source6161Low cost33Gatility of the pregnant wome who were referred11151512333333333310010444				
Rh negative status33Severe anemia66Heart disease55PROM1111Mal presentation55Postdatism99Fetal distress22Febrile morbidity44Previous CS77Gestational DM22Cephalopelvic disproportion22Multiple gestation11Not availability66Logistic reason for referral11No lood bank1111No lood bank12<		-		
Severe anemia 6 6 Heart disease 5 5 PROM 11 11 Mal presentation 5 5 Postdatism 9 9 Fetal distress 2 2 Ebrile morbidity 4 4 Previous CS 7 7 Gestational DM 2 2 Cephalopelvic disproportion 2 2 Multiple gestation 1 1 Not availability 6 6 Logistic reason for referral 1 1 No availability of NICU 18 18 No blood bank 11 11 No ICU facility 6 6 Octors not available 43 43 No ultrasound facility 2 2 No olord available 3 3 No ultrasound facility 3 3 No laboratory facility 3 3 No laboratory facility 34 3				
Heart disease55PROM1111Mal presentation55Postdatism99Petal distress22Febrile morbidity44Previous CS77Gestational DM22Cephalopelvic disproportion22Multiple gestation11Not availability66Logistic reason for referral1No availability of NICU1818No lood bank1111No ICU facility66Anesthetis not available22Doctors not available22No operation theatre1111Building under renovation22No laboratory facility33No tavailable22Reason for choosing Cheluvamba hospital22Reason for firends and family22Advice by referral source6161Low cost33Gravidity of the pregnant women who were referred11151512333331010	-			
PROM1111Mal presentation55Postdatism99Fetal distress22Febrile morbidity44Previous CS77Gestational DM22Cephalopelvic disproportion22Multiple gestation11Not availability66Logistic reason for referral11No lobod bank1111No ICU facility66Anesthetist not available22Doctors not available22Doctors not available22No laboratory facility33No laboratory facility33No laboratory facility of specialits 24/73434Feedback from friends and family22Advite by referral source6161Low cost33333333333101010				
Mal presentation55Postdatism99Fetal distress22Febrile morbidity44Previous CS77Gestational DM22Cephalopelvic disproportion22Multiple gestation11Not availability of NICU1818No blood bank1111No ICU facility66Anesthetist not available22Doctors not available22No operation theatre1111Building under renovation22No available22No availability of specialist 24/73434Feedback from friends and family22Advite by referral source6161Low cost333J1010J1010				
Postdatism 9 9 Fetal distress 2 2 Febrile morbidity 4 4 Previous CS 7 7 Gestational DM 2 2 Cephalopelvic disproportion 2 2 Multiple gestation 1 1 Not availability 6 6 Logistic reason for referral Non availability of NICU 18 18 No blood bank 11 11 No ICU facility 6 6 Anesthetist not available 2 2 Doctors not available 2 2 No operation theatre 11 11 Building under renovation 2 2 No tavailable 2 2 No available 2 2 No available 2 2 No ultrasound facility 3 3 No tavailable 2 2 Reason for choosing Cheluvamba hospital 4 <t< td=""><td></td><td></td><td></td><td></td></t<>				
Fetal distress22Febrile morbidity44Previous CS77Gestational DM22Cephalopelvic disproportion22Multiple gestation11Not availability66Logistic reason for referral11No availability of NICU1818No blood bank1111No ICU facility66Anschettist not available22Doctors not available4343No olarasound facility22No operation theatre1111Building under renovation22Not available22No tavailable22No tavailable22No tavailable22Availability of specialist 24/73434Feedback from friends and family22Advice by referral source6161Low cost33333333333331010444				
Febrile morbidity44Previous CS77Gestational DM22Cephalopelvic disproportion22Multiple gestation11Not availability66Logistic reason for referral818No availability of NICU1818No blood bank1111No ICU facility66Anesthetist not available22Doctors not available22Doctors not available22No ultrasound facility22No lobardard1111Building under renovation22No tavailable22Reason for choosing Cheluvamba hospital33Advice by referral source6161Low cost333Gravidity of the pregnant women who were referred515123333333101010				
Previous CS 7 7 Gestational DM 2 2 Cephalopelvic disproportion 2 2 Multiple gestation 1 1 Not availability 6 6 Logistic reason for referral				
Gestational DM22Cephalopelvic disproportion22Multiple gestation11Not availability66Logistic reason for referral111Non availability of NICU1818No blood bank1111No ICU facility66Anesthetist not available22Doctors not available22Doctors not available22No operation theatre1111Building under renovation22No tavailable22No tavailable22No tavailable22No operation theatre1111Building under renovation22No tavailable22No tavailable22No tavailable22No tavailable22No tavailable22No tavailable22No tavailable22No laboratory facility33No tavailable22Advice by referal source6161Low cost33Gravidity of the pregnant women who were referred11515123333333331010444				
Cephalopelvic disproportion22Multiple gestation11Not availability66Logistic reason for referralNon availability of NICU1818No blood bank1111No ICU facility66Anesthetist not available22Doctors not available4343No ultrasound facility22No operation theatre1111Building under renovation22No tavailable22No tavailable22No tavailable22No operation theatre1111Building under renovation22No tavailable22Reason for choosing Cheluvamba hospital22Availability of specialist 24/73434Feedback from friends and family22Advice by referral source6161Low cost332333333333333333333331010				
Multiple gestation 1 1 Not availability 6 6 Logistic reason for referral				
Not availability66Logistic reason for referralNon availability of NICU1818No blood bank1111No ICU facility66Anesthetist not available22Doctors not available4343No ultrasound facility22No operation theatre1111Building under renovation22No tavailable22No tavailable22No stavailable22No operation theatre1111Building under renovation22No laboratory facility33Not available22Reason for choosing Cheluvamba hospital				
Logistic reason for referral Non availability of NICU 18 18 No blood bank 11 11 No ICU facility 6 6 Anesthetist not available 2 2 Doctors not available 43 43 No ultrasound facility 2 2 No operation theatre 11 11 Building under renovation 2 2 No laboratory facility 3 3 Not available 2 2 No laboratory facility 3 3 Not available 2 2 Availability of specialist 24/7 34 34 Feedback from friends and family 2 2 Advice by referral source 61 61 Low cost 3 3 Gravidity of the pregnant women who were referred 1 51 1 51 51 2 3 33 33 33 3 33 33 33				
Non availability of NICU 18 18 No blood bank 11 11 No ICU facility 6 6 Anesthetist not available 2 2 Doctors not available 43 43 No ultrasound facility 2 2 No operation theatre 11 11 Building under renovation 2 2 No tavailable 3 3 Not available 2 2 No laboratory facility 3 3 Not available 2 2 Availability of specialist 24/7 34 34 Feedback from friends and family 2 2 Advice by referral source 61 61 Low cost 3 3 Gravidity of the pregnant women who were referred 51 51 2 33 33 33 3 3 33 33		6	6	
No blood bank 11 11 No ICU facility 6 6 Anesthetist not available 2 2 Doctors not available 43 43 No ultrasound facility 2 2 No operation theatre 11 11 Building under renovation 2 2 No laboratory facility 3 3 Not available 2 2 No laboratory facility 3 3 Not available 2 2 Reason for choosing Cheluvamba hospital 2 2 Availability of specialist 24/7 34 34 Feedback from friends and family 2 2 Advice by referral source 61 61 Low cost 3 3 Gravidity of the pregnant women who were referred 51 51 2 33 33 33 3 33 33 33				
No ICU facility66Anesthetist not available22Doctors not available4343No ultrasound facility22No operation theatre1111Building under renovation22No laboratory facility33Not available22Reason for choosing Cheluvamba hospital22Availability of specialist 24/73434Feedback from friends and family22Advice by referral source6161Low cost33T51512333331010444				
Anesthetist not available22Doctors not available4343No ultrasound facility22No operation theatre1111Building under renovation22No laboratory facility33Not available22Reason for choosing Cheluvamba hospital22Availability of specialist 24/73434Feedback from friends and family22Advice by referral source6161Low cost33Gravidity of the pregnant women who were referred5151233333331010444				
Doctors not available4343No ultrasound facility22No operation theatre1111Building under renovation22No laboratory facility33No tavailable22Reason for choosing Cheluvamba hospitalAvailability of specialist 24/73434Feedback from friends and family22Advice by referral source6161Low cost33Gravidity of the pregnant women who were referred5151233333331010444				
No ultrasound facility22No operation theatre1111Building under renovation22No laboratory facility33Not available22Reason for choosing Cheluvamba hospitalAvailability of specialist 24/73434Feedback from friends and family22Advice by referral source6161Low cost33Gravidity of the pregnant women who were referred5151233333331010444				
No operation theatre1111Building under renovation22No laboratory facility33Not available22Reason for choosing Cheluvamba hospital22Availability of specialist 24/73434Feedback from friends and family22Advice by referral source6161Low cost33Gravidity of the pregnant women who were referred51512333331010444				
Building under renovation22No laboratory facility33Not available22Reason for choosing Cheluvamba hospitalAvailability of specialist 24/73434Feedback from friends and family22Advice by referral source6161Low cost33Gravidity of the pregnant women who were referred5151233333331010444				
No laboratory facility33Not available22Reason for choosing Cheluvamba hospitalAvailability of specialist 24/73434Feedback from friends and family22Advice by referral source6161Low cost33Gravidity of the pregnant women who were referred5151151513331010444				
Not available22Reason for choosing Cheluvamba hospitalAvailability of specialist 24/73434Feedback from friends and family22Advice by referral source6161Low cost33Gravidity of the pregnant women who were referred51512333331010444				
Reason for choosing Cheluvamba hospitalAvailability of specialist 24/73434Feedback from friends and family22Advice by referral source6161Low cost33Gravidity of the pregnant women who were referred5151151513331010444				
Availability of specialist 24/7 34 34 Feedback from friends and family 2 2 Advice by referral source 61 61 Low cost 3 3 Gravidity of the pregnant women who were referred 51 51 1 51 51 2 33 33 3 10 10 4 4 4		2	2	
Feedback from friends and family22Advice by referral source6161Low cost33Gravidity of the pregnant women who were referred51512333331010444				
Advice by referral source 61 61 Low cost 3 3 Gravidity of the pregnant women who were referred 51 51 1 51 51 2 33 33 3 10 10 4 4 4				
Low cost 3 3 Gravidity of the pregnant women who were referred 51 51 1 51 51 2 33 33 3 10 10 4 4 4				
Gravidity of the pregnant women who were referred 51 51 1 51 51 33 33 33 33 33 33 34 34 4				
1 51 51 2 33 33 3 10 10 4 4 4		3	3	
2 33 33 3 10 10 4 4 4	Gravidity of the pregnant women who were referred			
3 10 10 4 4 4				
4 4 4		33	33	
	3	10	10	
5 2 2				
	5	2	2	

Mean distance travelled from their residence to Cheluvamba hospital was 42.1 ± 29.8 kilometers. Main obstetric reason for referral was because of hypertensive disorders. Main Logistic reason for referral was because of non-availability of doctors at the referral source. Average time taken to reach Cheluvamba hospital was 61.3 ± 39.4 minutes. Major reason for choosing Cheluvamba hospital was due to advice given at referral source (Table 2). Average number of ANC Visits and mean gestational age upon arrival at Cheluvamba hospital was 6.71 ± 2.3 visits and 37.4 ± 3.6 weeks respectively.

DISCUSSION

In a study conducted by Devineni et al 100 pregnant women referred from various centers in a 3 month period most common diagnosis at referral was medical disorders complicating pregnancy (45%) among which hypertensive disorders accounted for 34%, followed by severe anemia (17%) which is similar to the present study where the main reason for referral was hypertensive disorders and the time taken to reach the referral center ranged from 3 hrs to 18 hours which is more than the present study the difference may be due different geographical location of the study centers and availability of transport facilitites.⁵

In a study conducted by Maskey et al, most common diagnosis at referral was medical disorders complicating pregnancy (38%) among which cardiac disease accounted for 20%, followed by hypertensive disorder (17%) which is similar to the present study.⁶

In a study conducted by Charu et al, majority of referrals were for hypertensive disorders (26%) and preterm labour (26%) which is similar to the present study.⁷

In a study conducted by Kant, et al, the main logistic reason for referral was non availability of NICU whereas in our study main logistic reason was non availability of specialist doctors followed by non-availability of NICU, the difference may be due different geographic locations of the studies.⁸

Major strength of the present study is the place of study since it's a government tertiary care hospital, it reflects the situation of other govt. institutions in the Southern India. Since the data collection was done for only 1 week, situation over the wide period of time doesn't reflect in this study.

CONCLUSION

Most common obstetric reason for referral was Hypertensive disorders followed by PROM. Most common logistic reason for referral was non availability of doctors followed by non-availability NICU. Primary level healthcare should be strengthened to provide necessary obstetric care. A structured referral system would help both the patient and the doctor in providing necessary obstetric care.

ACKNOWLEDGEMENTS

We acknowledge all the participants who have given information for this study.

Funding: No funding sources Conflict of interest: None declared Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

- 1. World Health Organization. Management of health facilities: Referral systems, 2010. Available at: https://www.who.int/management/facility/referral/en /. Accessed on 8 December 2018.
- 2. Academia. Establishing Referral System in Healthcare- Tabish S A. 2017. Available at http:// www.academia.edu/33337495/Establishing_Referral _System_in_Healthcare. Accessed on 8 December 2018.
- 3. Godlee F. Put patients first and give the money back. BMJ. 2015;351:h5489.
- 4. Anil KG, Shweta T, Sudip B, Amarjeet S. Health system strengthening-focussing on referrals: an analysis from India. JOJ Nurse Health Care. 2017;2(4):555592.
- 5. Devineni K, Sodumu N. A study of spectrum of referral pattern at a tertiary teaching hospital towards better obstetric care. IAIM. 2016;3(8):193-8.
- 6. Maskey S. Obstetric referrals to a tertiary teaching hospital of Nepal. NJOG. 2015;19(1):52-6.
- 7. Charu R, Kamal G, Neelu S. Review of referred obstetric cases-maternal and perinatal outcome. Bombay Hospital J. 2010;52(1):52-6.
- Kant S, Kaur R, Malhotra S, Haldar P, Goel AD. Audit of emergency obstetric referrals from a secondary level hospital in Haryana, North India. J Fam Med Prim Care. 2018;7:137-41.

Cite this article as: Jagadeesha B, Ramakrishna VK. Referral pattern of pregnant women coming to Cheluvamba Hospital, Mysuru, Karnataka. Int J Community Med Public Health 2019;6:5146-9.