

A Cross-Sectional Study on Utilization of 108 EMRI Obstetric Care Services for Institutional Delivery in Gandhinagar District of Gujarat.

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Abstract: Maternal health care includes Antenatal, Intranatal care and Postnatal care. Quality intranatal care is critical to achieve the aim of a healthy mother and a healthy baby at the end of a pregnancy which is available only at health facility. Distance to reach the health facility is an important barrier for the institutional delivery. GVK Emergency Management and Research Institute (GVK EMRI), is emerge as blessings for expectant mothers to remove this kind of distance barrier. This study is done to know utilization of 108 EMRI Services and practice about health seeking behavior for institutional confinements in Gandhinagar district.

A total 1000 mothers were interviewed in this cross sectional retrospective study from the 4 talukas of Gandhinagar district. Among them 97.40% were delivered in health institution. Among them 39.02% of mothers had utilized EMRI 108 services for institutional delivery. 20-24 years was the most common age group for confinement and also in utilization of 108 services. The result of study shows that utilization of this service is common among schedule tribe people, mothers who were studied up to primary level and among labourer and farmers. The findings of study suggest that there is still lack of awareness regarding utilization of 108 services for institutional deliveries and government should aware people that call for 108 is more safe measures instead of calling for hired vehicle and to achieve outcome aim of pregnancy for all the mothers – “healthy mother and healthy baby”.

Key words: 108 EMRI, Institutional delivery, Pregnancy, Transportation.

I. Introduction

GVK Emergency Management and Research Institute (GVK EMRI), is a major path finder in Emergency Management Services. It was established in April 2005 in Public Private Partnership with aim to support millions of medical emergency and saving lives with quick response and GVK EMRI as a premier Research and Training Institute. This has been established by Emergency Response System that coordinates every emergency through a single toll free number 1-0-8. When upon called an emergency, there is a dispatch of an ambulance with trained staff along with, to provide quality pre-hospital care and transport of patient to the hospital. Today, 108 is synonymous with the best-in-class emergency service and has been acknowledged as the most efficient, speedy, reliable, and caring service provider in its category.

Distance can act as significant factor in delay in seeking medical care, which is one the three delays which are “Delay in deciding to seek care, Delay in reaching care, Delay in receiving care”. Indirectly, transportation also affects others two delays in receiving adequate care. Since the risk of pregnant women cannot be predicted, each case should be treated as potential emergency and arrangement for referral transport is to be made. Many studies on Emergency management of obstetric care have stressed on the importance of referral transport and how the distance proves to be significant factors in seeking medical care.¹

In view of the limited number of studies had been carried out for the evaluation of transport system for institutional delivery in Gujarat and none in Gandhinagar, the present study was carried out with the aims to study the Utilization of 108 EMRI Services for Institutional Delivery and to know awareness and practice about health seeking behavior for institutional confinements in Gandhinagar district.

II. Material And Methods

2.1 Study Design: the community based Cross Sectional retrospective study.

2.2 Study Period: January 2012-July 2012.

2.3 Study Area: this study was conducted in Gandhinagar district which has 4 talukas named Gandhinagar, Mansa, Kalol, and Dehgam.

2.4 Sample Size: Considering the prevalence of 108 EMRI service utilization for pregnancy related cases were 33% as reported by “ Study of emergency response service – EMRI model 2009-10 ”, 10% allowable error and 10% non response rate, sample size calculated was 1000.

2.5 Data Collection: sampling was done by multistage sampling and from 4 talukas of Gandhinagar district, 2 villages were selected by random sampling. Uvarsad & Rupal villages from Gandhinagar talukas, Itadra & Varsoda villages from Mansa talukas, Rancharda & Saij villages from Kalol talukas and Sampa & Sanoda villages from Dehgam talukas were selected as study area. From each village 125 mothers who delivered birth of child had been interviewed after taking informed consent about utilization of GVK EMRI or private services for their deliveries. Informed consent was taken before filling of pre – validated questionnaire.

2.6 Data Analysis: data entry was done in Microsoft Office Excel Database and descriptive statistic and bi-variate analysis was done in Epi Info 7.

III. Results

3.1: Number of Deliveries according to place

Out of total 1000, 974 mothers were delivered in the health facility while 26 mothers were delivered at home. (Table 1)

3.2: Utilization of vehicles to reach the hospital

974 mothers had used 108 services for Institutional deliveries. (Table 2)

3.3: Age-wise utilization of transportation facility by mothers for Deliveries

Majorities (35.70 %) of institutional deliveries were found in the age group of 20-24 years and utility of EMRI 108 Services is also high in the same age group. (Table 3)

3.4: Caste-wise utilization of transportation facility by mothers for Deliveries:

Table 4 shows that out of total 1000 mothers, use of 108 services is high among Schedule tribe population (52.50%) which is followed by schedule caste mothers (42.22%).

3.5: Educational status -wise utilization of transportation facility by mothers for Deliveries:

Table 5 Reveal that utilization of 108 services is high among mothers who are educated up to primary level while utilization of personal vehicles is high among mothers who are studied up to graduate.

3.6: Occupational status-wise utilization of transportation facility by mothers for Deliveries

Use of 108 services for institutional deliveries was high among mothers who were working as a labourer or as a farmer. (Table 6)

3.7: Socio economic class-wise utilization of transportation facility by mothers for Deliveries

Table 7 shows utilization of 108 services for institutional delivery was high among mothers who belongs to socio-economic class 4 and 5 (73.33% and 54.12%)

3.8: Distance from residence to health facility

Out of 1000 total mother, 656 mothers were lived in < 10 km and 344 mothers were lived in > 10 km area distance from the nearby health facility. Use of 108 services is more among mothers who were living in more than 10 km from the health facility. (Table 8)

Table 9: Sources of information to the mothers regarding 108 EMRI services

Table 9 Shows that, 48.6% mothers knew that 108 EMRI services use as a transport for delivery, among them most common source of information regarding this knowledge was ASHA and Anganwadi workers (AWW).

Table 10: Reasons for not utilizing 108 services

Among all the mothers (n=620) who did not call for 108 services for institutional delivery, most common (43.55%) reason revealed by them was, they didn't feel the need to call for ambulance. (Table 10)

IV. Discussion

Pregnancy care consists of prenatal, intranatal and postnatal healthcare for expectant mothers. Target outcome of each and every pregnancy is always healthy mother and healthy baby. Institutional delivery is very much important and crucial regarding this successful outcome. Poor transport facility to reach the hospital is one of the several factors that are responsible for bad outcome of pregnancy in the developing country like India. So, Present study was carried out to increase our knowledge about the different kind of transport services utilization by expectant mother for the purpose of delivery.

According to present study, total 97.40 % deliveries were conducted in the Health Facility. This data was comparable with study of **vital statistic of Gujarat 2010-2011**² which showed 91.80 % service utilization. Study done in Gambia by **Anna Jallow**³ showed 30.04 % mothers had institutional delivery. Female awareness regarding the importance of health facility in the delivery of safe child is responsible for this high statistics. But still we are looking for 100% institutional delivery.

108 EMRI services to reach out the facility used by 39.02% of mothers in the present study which is quite higher when it compared with study done in Goa by **Priynka Chaman**⁴ in 2012 in which the use of 108 EMRI services only for 7.50% expectant mothers. The result in the present study showed that, the people (48.60%) know about 108 EMRI services that can be used as transportation of expectant mother to the health facility but there is still need of awareness activity to increase the use of this service during medical emergencies like pregnancy.

The study conducted in Gambia³ showed majority (32.55%) of the female in the age group of 20-24 years which is comparable with our findings (35.70% of expectant mothers belong to age group of 20-24 years) and also utilization of 108 EMRI service was high in the same age group (13.55%).

The study done by **A S Singh**⁵ showed that utilization of 108 EMRI service for institutional delivery was most commonly (34.35%) used by mothers who belongs to Other Backward Class (OBC) while in our study found that it was more common in Schedule tribe (ST) mothers (52.50%). In Gandhinagar district 108 EMRI service has instil trust and acceptance among this community people.

Utilization of 108 services was more commonly used by primary educated (48.11%) expectant mother in our study while other study showed it was more common among secondary educated mothers, which was done in southern India (**Navaneetham K et al 2002**)⁶

In the study result of **Worku Awoke**⁷ showed that 70.90 % housewives used health facility for delivery while present study showed 45.90 % utilization among the group of housewife. Use of personal vehicle was high among working mothers and housewife and possible reason is source of extra income make them convenient for better health standard.

A mother belongs to socio economic class 4 and 5 were using more government 108 services for institutional delivery as compared to mothers who belong to class 1 and 2. Possible reason is persons from more economically strong background have their own vehicle for easy transport.

Distance can act as significant factor in delay in seeking medical care, which is one the three delays which are “Delay in deciding to seek care, Delay in reaching care, Delay in receiving care”. In our study 65.60% mothers were living within 10 km of nearby health facility but still distance of more than 10 km from near health facility for 34.40% expectant mother is matter of concern.

In the present study, 48.60% mothers had Knowledge about 108 services utilize as transport for pregnancy and among them most common source of information was ASHA and AWW. Active work of the both grassroots worker is appreciable for the communication of this valuable in formations. In present study 27% mothers did not required to call to 108 EMRI services due to heath facility nearby home, the result is comparable with similar study done by **Jagadeesha**.⁸

V. Conclusion

Perinatal period of mother health care is very much crucial. It's a basic right of women to have healthy and safe institutional delivery without a problem of distance and transportation. The findings of study suggest that there is still lack of awareness regarding utilization of 108 services for institutional deliveries and government should aware people that call for 108 is more safe measures instead of calling for hired vehicle to achieve outcome aim of pregnancy for all the mothers – “healthy mother and healthy baby”.

VI. Tables

Table 1: Number of Deliveries according to place

Place of Delivery	No. of Deliveries	Percentage
Health Facility	974	97.4
Home	26	2.6
Total	1000	100

Table 2: Utilization of vehicles to reach the hospital

Type of Vehicles used	Number	Percentage
108 services	380	39.02
Hired vehicles	352	36.14
Personal vehicles	242	24.84
Total	974	100

Table 3: Age-wise utilization of transportation facility by mothers for Deliveries

Age Groups	Personal Vehicles No. (%)	Hired vehicles No. (%)	108 Services No. (%)	Total Institutional Deliveries No. (%)	Total Home deliveries No. (%)	Total deliveries No. (%)
15-19	10 (01.03)	06 (00.61)	98 (10.06)	114 (11.40)	6 (09.60)	120 (21.00)
20-24	65 (06.67)	160 (16.43)	132 (13.55)	357 (35.70)	3 (00.30)	360 (36.00)
25-29	91 (09.34)	138 (14.17)	107 (10.98)	336 (33.60)	4 (00.40)	340 (34.00)
30-34	72 (07.39)	45 (04.62)	36 (03.69)	153 (15.30)	7 (00.70)	160 (16.00)
35-39	04 (00.41)	03 (00.31)	07 (00.72)	14 (01.40)	6 (00.60)	20 (02.00)
Total	242 (24.84)	352 (36.14)	380 (39.02)	974 (97.40)	26 (02.60)	1000(100.00)

Table 4: Caste-wise utilization of transportation facility by mothers for Deliveries:

Caste	Personal Vehicles No. %	Hired vehicles No. %	108 Services No. %	Total institutional Deliveries No. %	Total Home deliveries No. %	Total deliveries No. %
SC	11	29	38	78	12	90
	12.22	32.22	42.22	86.67	13.33	100.00
ST	2	12	21	35	5	40
	5.00	30.00	52.50	87.50	12.50	100.00
OBC	90	161	201	452	8	460
	19.57	35.00	43.70	98.26	1.74	100.00
OPEN	139	150	120	409	1	410
	33.90	36.59	29.27	99.76	0.24	100.00

Table 5: Educational status -wise utilization of transportation facility by mothers for Deliveries

Education Status	Personal Vehicles No. %	Hired vehicles No. %	108 Services No. %	Total institutional Deliveries No. %	Total Home deliveries No. %	Total deliveries No. %
Illiterate	10	69	81	160	10	170
	5.88	40.59	47.65	94.12	5.88	100.00
Primary	46	135	178	359	11	370
	12.43	36.49	48.11	97.03	2.97	100.00
Secondary	123	122	70	315	5	320
	38.44	38.13	21.88	98.44	1.56	100.00
High secondary	37	20	43	100	0	100
	37.00	20.00	43.00	100.00	0	100.00
Graduate	26	6	8	4	0	40
	65.00	15.00	20.00	10.00	0	100.00

Table 6: Occupational status-wise utilization of transportation facility by mothers for Deliveries

Occupation	Personal Vehicles No. %	Hired vehicles No. %	108 Services No. %	Total institutional deliveries No. %	Total Home deliveries No. %	Total deliveries No. %
Employed	88	143	72	303	0	303
	29.04	47.19	23.76	100.00	0.00	100.00
Housewife	130	169	160	459	12	471
	27.60	35.88	33.97	97.45	2.55	100.00
Students	4	8	9	21	1	22
	18.18	36.36	40.91	95.45	4.55	100.00
Labourer	20	29	50	99	3	102
	19.61	28.43	49.02	97.06	2.94	100.00
Farmer	0	3	89	92	10	102
	0.00	2.94	87.25	90.20	9.80	100.00

Table 7: Socio economic class-wise utilization of transportation facility by mothers for Deliveries

Socio-economical class	Personal Vehicles No. %	Hired vehicles No. %	108 Services No. %	Total institutional Deliveries No. %	Total Home deliveries No. %	Total deliveries No. %
Class 1	46	19	33	98	0	98
	46.94	19.39	33.67	100.00	0.00	100.00
Class 2	105	135	110	350	0	350
	30.0	38.6	31.4	100.0	0.0	100.0
Class 3	80	157	103	340	7	347
	23.05	45.24	29.68	97.98	2.02	100.00
Class4	7	15	88	110	10	120
	5.83	12.50	73.33	91.67	8.33	100.00
Class 5	4	26	46	76	9	85
	4.71	30.59	54.12	89.41	10.59	100.00

Table 8: Distance from residence to health facility

Distance from Health facility	Personal Vehicles No. %	Hired vehicles No. %	108 Services No. %	Total institutional Deliveries No. %	Total Home deliveries No. %	Total deliveries No. %
< 10 Km	170	270	207	647	9	656
	25.91	41.16	31.55	98.63	1.37	100.00
> 10 Km	57	97	173	327	17	344
	16.57	28.20	50.29	95.06	4.94	100.00
Total	227	367	380	974	26	1000
	22.70	36.70	38.00	97.40	2.60	100.00

Table 9: Sources of information to the mothers regarding 108 EMRI services

Knowledge about 108 services utilize as transport for pregnancy	No.	%
Yes	486	48.6
No	514	51.4
Total	1000	100
Sources of information regarding 108 services	No.	%
Newspaper	33	6.79
TV/ Radio	25	5.14
Health Staff (MO, LHV, FHW, MPW)	148	30.45
ASHA and AWW	178	36.63
Neighbour	38	7.82
Others	64	13.17
Total	486	100.00

Table 10: Reasons for not utilizing 108 services

Reasons for not utilizing 108 services	No. (%)
Did not feel the need to call for ambulance	270 (43.55 %)
Did not know about procedure to call 108	132 (21.29 %)
Did not have Facility to contact	98 (15.81%)
Others	120 (19.35%)
Total	620 (100.00 %)

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