

QUALITY OF ANTENATAL CARE IN A SELECTED RURAL AND URBAN PRIMARY HEALTH CENTRE IN DHARMAPURI DISTRICT

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Abstract

Introduction: Eventhough the maternal health services has been scaled up in recent years adequate utilization of services has not been achieved yet and services provided varies from region to region. So this study has been planned to explore the differences in quality of service provision in rural and urban primary health centres .

Objectives : To assess the quality of services rendered to antenatal mothers in rural and urban primary health centres in Dharmapuri district.

Methodology : A community based cross-sectional study was done among 100 antenatal mothers in a selected rural and urban primary health centre area each, in Dharmapuri. A pre-validated semi-structured questionnaire was used to interview the Antenatal mothers. The data was entered in MS Excel and analyzed by SPSS 16.

Results : The mean age of Antenatal mothers in rural area was 23.3yrs with SD of 3.4yrs and in Urban area the mean age of AN mothers was 23.2 yrs with SD of 3.3yrs. 14% were teenage pregnancy both in Rural and Urban areas. Quality of the services was found to be better in rural areas compared to urban areas , with statistically significant rural-urban difference was seen in 1) Adequacy of antenatal visits with respect to their gestational age (p value < 0.01), 2) Information about their weight status regularly(p value < 0.05), 3) Receiving Td injection during first antenatal visit (p value < 0.05), 4) counseling about referral hospital (p value < 0.05) and 5) Birth preparedness (p value < 0.05).

Key words : Quality of care, Antenatal, Rural, Urban, Primary health centre.

INTRODUCTION

Approximately 800 women die of pregnancy-related complications every day. Most maternal deaths can be prevented with high quality maternal health services.¹ It has been estimated that increased coverage and quality of antenatal care could avert 71% of neonatal deaths, 33% of stillbirths and 54% of maternal deaths in low-and-middle income countries.² It is necessary improve the quality of services to attain the SDGs. There are two interventions that can be done in reducing the mortality rate, namely Antenatal Care (ANC) and intrapartum services (labor and birth).³ Inadequate ANC services, both coverage and quality will provide a poor pregnancy outcome. Within a country, ANC utilization also differs according to the mother's age, education, occupation, household income, parity, place of residence, cost and availability of services. However, it is unclear whether there are rural-urban differences in ANC utilization. According to NFHS-4 data adequate antenatal care in urban setting is 32.9% and in rural areas it is 19.5%.⁴ The utilization percentage will be improved if quality of care is adequate. The purpose of this study is to find out the quality of antenatal care in terms of service provision in a rural and urban settings.

METHODOLOGY

This is a community based cross-sectional study done in Bairanatham rural primary health centre and Dharmapuri

urban primary health centre of Dharmapuri district. The PHCs were selected by multi-stage simple random sampling, among the districts with MMR higher than the state(63), Dharmapuri district with MMR of 65⁵ was selected by simple random sampling . Among the 9 blocks in Dharmapuri district, one urban primary health Centre is selected and one rural primary health centre were selected by simple random sampling. Antenatal mothers those who were registered in PHC and had atleast 2 antenatal visits were included in the study. Antenatal mothers registered in those PHCs were interviewed at their door steps using a semi-structured questionnaire.

After obtaining Institutional Ethical approval and permission from the District Health authority, study was carried out. Sample size was calculated based on NQAS/LAQSHYA criterion, for certification of primary health centre the quality of care should be 60% ,using the formula ($n = Z^2 \times pq/d^2$) the sample size has been calculated to be 100 . 100 AN mothers registered in each PHC and who had atleast 2 AN visits were selected randomly from the AN



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Article ID: 2022:02:01:06

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register of the Village Health nurses and Urban health nurse and the questionnaire was administered at their door steps after obtaining their consent.

First part of the questionnaire includes socio-demographic details, gravida and number of AN visits. Second part of the questionnaire includes service provision such as whether their height, weight, and blood pressure was measured, whether they had urine, blood tests, and whether they received Td vaccine, iron supplements, anti helminthics, counseling regarding referral hospital, birth preparedness identifying a trained birth attendant for delivery, identifying a health facility for emergency, arranging for transport for delivery and / or obstetric emergency, and reduction of OPE, signs of pregnancy complication, nutritious diet were administered to AN mothers. The data was analysed using SPSS- 16.

RESULTS

The mean age of Antenatal mothers in rural area was 23.3 yrs with SD of 3.4 yrs and the average distance from PHC to their residence was 4.8 kms with SD of 2.5kms, with respect to Urban area the mean age of AN mothers was 23.2 yrs with SD of 3.3 yrs and the mean distance of PHC was 3.8 kms with SD of 2.4kms.

Table 1: Frequency Distribution of Socio-demographic characteristics

Variables	Category	Rural (n=100)	Urban (n =100)
Age	< 20 yrs	14	86
	≥ 20 yrs	14	86
Occupation	Working	3	11
	House wife	97	89
Education	Primary	1	0
	Middle school	5	5
	High school	15	23
	Higher secondary	31	38
	Graduate	48	34
Socio –economic status	I – Upper class	12	9
	II – Upper middle class	17	32
	III - Middle class	32	28
	IV - Lower middle class	29	27
	V – Lower class	10	4
Distance of home from PHC	≤ 5 kms	68	75
	> 5kms	32	25

Table 1 depicts the socio-demographic characteristics of the study participants. Teenage pregnancy both in Rural and Urban areas remains the same 14% in both . Regarding employment status, 11% of AN mothers were employed in Urban area and in rural area 3% of them were employed. Almost all the AN mothers were literate in both areas. The highest percentage in each area i.e, one third of AN mothers in Rural area belongs to middle class and one third of urban

area mothers belong to Upper middle class more than two third of AN mothers residing in rural areas had their PHC within 5 kms distance whereas in Urban areas three fourth of AN mothers had their PHC within 5 kms.

Table 2: Difference in Quality of Antenatal Care variables received between Rural and Urban mothers

Variables	Category	Rural (n=100)	Urban (n =100)
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	> 5kms	32	25

Table 2 depicts bivariate analysis done to find out the difference in quality of Antenatal care in rural and urban PHCs. A statistically significant rural-urban difference was seen in adequacy of antenatal visits with respect to their gestational age, which shows that 91% of rural mothers were getting adequate antenatal visits compared to urban mothers (79%) with a p value of **0.017**. About 93% of mothers attending rural phc and 89% of mothers attending urban PHC had their weight measured. Among them 80% of rural mothers and 67% of urban mothers were informed about their weight status regularly with a significant rural-urban difference (p value = **0.037**).

Eventhough all of them were tested for blood pressure , urine and blood both in rural and urban PHCs only 76% rural mothers and 71% of urban mothers were informed about their BP status. Similarly 77% of rural mothers and 71% of urban were informed about urine test results. Blood test results had been informed to 68% of rural mothers and 69% of urban mothers, almost 97% of mothers in rural areas were given Td injection while in urban areas only 89% of mothers had received the injection during their first antenatal visit and this difference was statistically different (**p value = 0.027**)

Regarding toilet sanitation only 54% of rural mothers and 53% of urban mothers felt satisfied and 76% of rural mothers and 78% of urban mothers experienced waiting hours of more than 2hrs during each visit.

Table 3 : Difference in Quality of Antenatal Care variables received between Rural and Urban mothers

Health education	Rural (n=100)	Urban (n =100)	χ^2 value	P value
Informed about referral hospital	85	73	4.340	0.037
Informed about Birth preparedness	80	66	4.972	0.026
Informed about signs of pregnancy complication	56	53	2.677	0.102

Table 3 shows difference in quality of antenatal care variables received between Rural and Urban mothers with regards to health education activities. Significant rural-urban difference was seen in providing counseling about referral hospital and birth preparedness. Thus shows that 85% of rural women were aware of their referral hospital in case of emergencies when compared to 73% of urban mothers with a significant p value of **0.037**. Four Fifths of rural women were familiar with birth preparedness when compared only two third of urban mothers with a significant p value of **0.026**. Only 69% of mothers were informed about nutritious diet both in rural and urban areas.

DISCUSSION

This study results shows that provision quality of antenatal care services was better in rural areas when compared to urban areas. This may be due to poor awareness among public about availability of range of services, insufficient linkages between community health workers, community link leaders and public and most importantly easy accessibility to private clinics. As per NFHS -4 report 66.4% of mothers in urban areas had adequate antenatal visits whereas only 44.8% rural mothers had adequate visits⁴ which is in contrast to our study which shows rural mothers had adequate antenatal visits compared to urban areas.

A study done by Nurul fauziah in Indonesia showed that based on weight measurement, rural health centres are better than urban health centers with significant difference ($p = 0.038$)⁶ but our study shows no significance in weight measurement. Nevertheless there is a significant difference among rural health centre and urban health centre in providing information on it.

Measuring blood pressure are similar to the study done on quality assessment of the practice of focused antenatal care (FANC) in rural and urban primary health centres in Ekiti State, Nigeria which showed no significant rural-urban difference⁷ and the same study showed significant rural-urban difference in urine and blood analysis, rural health centres are doing better than urban health centres which is contrast to our study results as it showed no significant

difference.

A study on quality of Antenatal Care at Rural and Urban Primary Health Centre in Jenepono Regency, Indonesia showed no significant rural-urban difference regarding Td injection.⁶ Another study done at Ekiti state showed significant rural-urban difference (p value = 0.001),⁷ which is similar to our study with significant difference in the mothers receiving Td injection during their first visit.

A study done among urban slum mothers regarding birth preparedness in Indore showed 52.2% were less prepared and while in our study 34% of mothers in urban areas were less prepared and there is a significant rural-urban difference.¹² The study showed that 31% of mothers were less informed about nutritious diet both in rural and urban areas which similar to the study done in Kenya which showed 31.9% of mothers were lacking nutrition education.⁷

CONCLUSION

Rural health centre is performing better than urban primary health centre. As Tamil Nadu is one of the most urbanized states in the country, urban population growth has posed enormous challenges in meeting the people's health care. A strategic urban-specific approach is required in terms of human resources, infrastructure and regular outreach services to track missed out and new patients, since population is not static in urban areas compared to rural counterpart. Regular training to community health workers to insist on health education session for antenatal mothers.

ACKNOWLEDGEMENT

We would like to express our gratitude to Local health authorities of Dharmapuri district, Incharge medical officers of PHC and family for the support to complete this study.

CONFLICT OF INTREST : Nil

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