External contributory factors for maternal health care in Anuradhapura and Polonnruwa Districts 2008-2010:

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The external contributory factors for maternal health care in Anuradhapura and Polonnruwa Districts 2008-2010

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Abstract

Introduction: Maternal mortality ratio (MMR) in Sri Lanka has decreased from 405 per 100,000 live births in 1955 to 39.3 per 100,000 live births in 2006. Family Health Bureau (FHB) statistics indicate there is a large inter-district disparity of MMR in Sri Lanka

Objectives: To compare the external contributory factors leading to maternal mortality and morbidity in the districts of Anuradhapura &Polonnaruwa. And, also to compare the availability of staff in maternal care in the above 2 districts.

Method: A retrospective analysis of data collected from the RDHS offices and hospital statistics units of Anuradhapura &Polonnaruwa districts, regarding the health care personnel & MMR in each district in 2008-2010.

Study was carried out from March to May 2011.

Results: Number of pregnant mothers per PHM was higher in Anuradhapura district (AD) compared to Polnnaruwa district (PD). Number of deliveries per each midwife was higher in Anuradhapura teaching hospital (ATH) compared to Plonnaruwa General hospital (PGH). Available health care staff in obstetric wards in ATH is low compared to PGH. The MMR was better in AD compared to PD in the years of 2008-2010.

Conclusion: Human resources have been unequally distributed among the 2 districts in the years 2008-2010. As a result ATH is burdened with a heavy work load. Yet the MMR in AD in 2008-2010 was lower than PD.

Introduction

At first glance, Sri Lanka would appear to be poorly equipped to commit to maternal health care. The country has faced years of internal conflict, and more than one-third of Sri Lankans live below the poverty line. Yet providing health care to women in clinics and hospitals, and in their homes, has resulted in the reduction of the country's maternal mortality rate by 87% in the past 40 years.

Maternal mortality ratio (MMR) in Sri Lanka has decreased from 405 per 100,000 live births in 1955 to 39.3 per 100,000 live births in 2006 (figure 1).It is reported that 72-75% of these maternal deaths are preventable, and in most cases correctable conditions were not detected until the woman has become pregnant, while some conditions were detected only during delivery[1]. Also Family Health Bureau(FHB) statistics indicate there is a large inter-district disparity of MMR in Sri Lanka (figure 2).

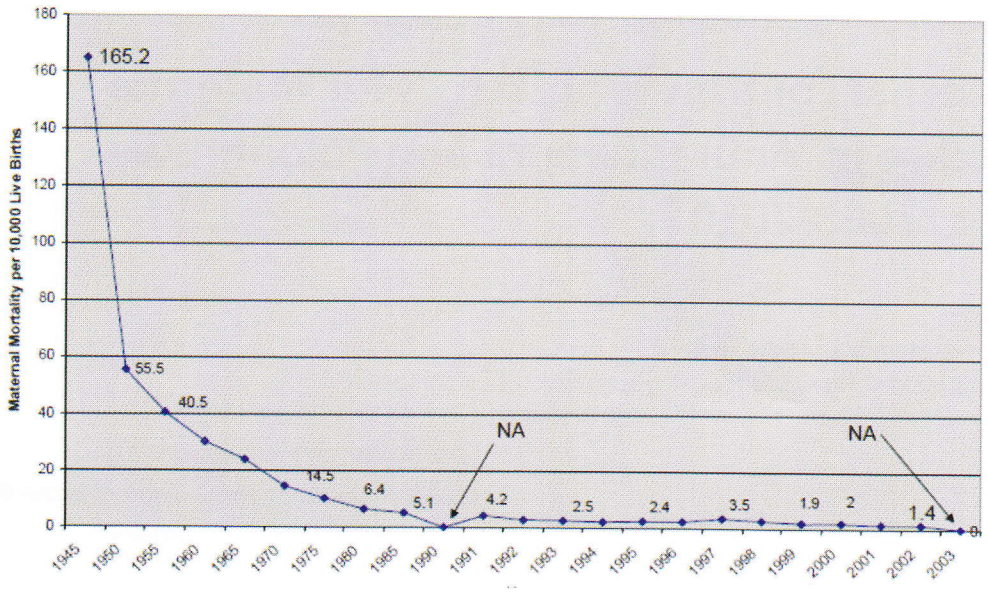

Figure 1: **MMR per 10,000 live births from 1945-2003in Sri Lanka**

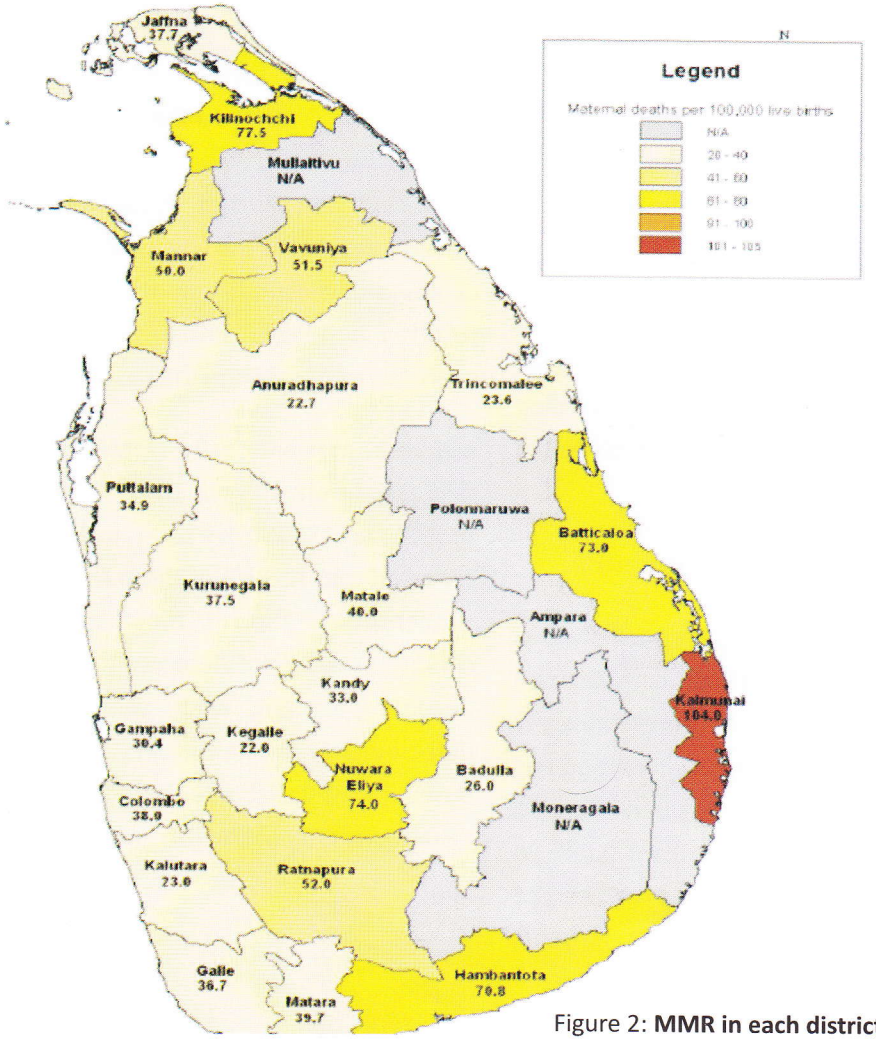

Figure 2: **MMR in each district of Sri Lanka 2004**

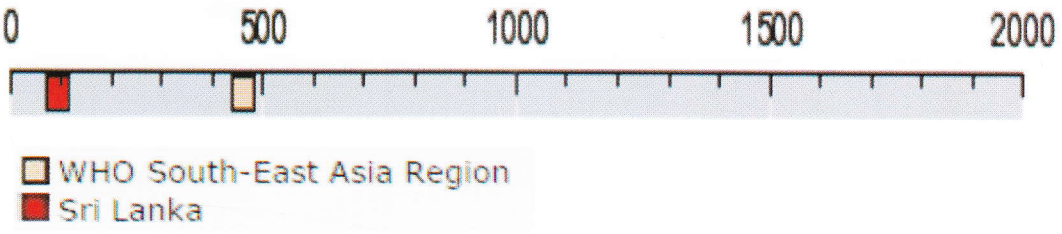

Figure 3 **MMR in Sri Lanka compared to South East Asia, 2006 WHO country report**

Sri Lanka has one of the best MMR in south East Asia region. India's maternal mortality rate stands at 450 per 100,000 live births & in Pakistan MMR is 260 per 100,000 live births in 2008 (WHO country report).

Data collected from the RDHS offices and hospital statistics units of Anuradhapura & Polonnaruwa districts, regarding the health care personnel & MMR in each district in 2008-2010.

Methodology

Study was carried out from March to May 2011.

Data collection was carried out among registered pregnant mothers in the north central province (NCP) from 2008 to 2010.

Results

Year	Anuradhapuradistrict	Polonnaruwadistrict
2008	74	69
2009	73	64
2010	76	61

Table 1.Eligible families per public health midwife (PHM)

Year	Anuradhapura district	Polonnaruwa district
2008	2463	572
2009	637	512
2010	640	512

Table 2.Number of pregnant mothers per PHM

Year	Anuradhapura teaching hospital (ATH)	Polonnaruwa general hospital (PGH) + BH
2008	**1187**	**230**
2009	1186	299
2010	1547	237

Table 3.Number of deliveries per each midwife

Year	ATH	PGH + BH
2008	7714	2071
2009	7709	2687
2010	7734	2135

Table 4.Number of pregnant mothers per VOG

Staff	Anuradhapura (ATH)			Polonnaruwa (GH , BH)		
	2008	2009	2010	2008	2009	2010
Number of VOGs	2	2	2	3	3	3
Number of Doctors	10	10	10	11	12	13
Number of Nurses	12	12	15	23	23	23
Number of Midwifes	13	13	10	27	27	27
Number of Minor staff	7	8	7	10	10	10
Number of obstetric wards	2	2	2	2	2	2

Table 5.Available health care staff in ATH, PGH &PollonnaruwaBH in obstetrics wards

Year	Anuradhapura (ATH)	Polonnaruwa (GH &BH)
2008	1543	565
2009	1542	672
2010	1547	493

Table 6.Total deliveries per doctor

Year	Anuradhapura district	Polonnaruwa district
2008	51	56
2009	62	97
2010	65	76

Table 7.Total maternal deaths per 100,000 pregnancies

BH	Distance from ATH	Admissions per month	% of transfers to ATH
Padaviya	82Km	71	40% (28/71)
Kebithigollewa	82Km	72	71% (51/72)
Thmbuttegama	37Km	78	35% (27/78)

Table 8.comparison of admissions to and transfers from maternity wards in BHs in Anuradhapura districts

Discussion

Anuradhapura teaching hospital (ATH) is the main hospital providing specialists obstetric care, in Anuradhapura district, until the end of 2010. 98% of all deliveries of Anuradhapura district are done at

ATH[5]. The drainage area of the district is the largest in Sri Lanka.

Tables 1,2,3,4&5 indicates that patient staff ratio is higher in Anurdhapura district compared to pollonnaruwa district. Number of eligible families per PHM & number of pregnant mothers per PHM were higher in Anurdhapura district (table 1 & 2). As per table 3number of deliveries per each midwife is 1547 in ATH compared to 237 PGH in the year 2010. This highlights the increased work load at ATH to midwives. This is the same when comparing patient doctor ratio and consultant (VOG) patient ratios in all three years.

There are 3 designated base hospitals (BH) in Anuradhapura district. They are Padaviya, Kebithigollewa and Thmbuttegama base hospitals. Located 82Km, 67Km & 37Km distance, respectively from the ATH. Only Thambuthegama base hospital has one consultant obstetrician and a paediatrician (appointed in 2011), while the other 2 base hospitals lack specialists services in maternal & child health (untilMay 2011). These BHs are understaffed and under resourced to carry out specialised maternal care at the time of this study. Many women are transferred to ATH for delivery.

Statistics in January to May 2011, indicates that the average admission to maternity ward was 73 mothers per month in all 3 BHs. Out of these admissions 40% from PadaviyaBH & 71% from Kebethigollewa BH, were transferred to ATH.There were only 35% transferresfrom Thambutthegama BH for maternity care (table 8).

Polonnaruwa district which is smaller in sizecompared to Anuradhapura, has one base hospital at Madirigiriya 30Km away from the general hospital Polonnaruwa. The drainage area is smaller and the population is less too,compared to Anuradhapura district[6].

Conclusion

From the above data we can infer that the human resources have been unequally distributed among the 2 districts and as a result ATH is burdened with a heavy work load. However the MMR is comparatively less in Anuradhapura district (table 7). There is an increasing trend of MMR form 2008-2010 in both districts. If the staff patient ratio is improved there would be better out come in maternal care at ATH.

There is a huge fluctuation in Polonnaruwa district's MMR during these 3 years. A separate research should be done to find out the underlying causes for this trend in Polonnaruwa district. Also why the MMR is high in polonnaruwa district when patient staff ratio is low compared to Anuradhapura district.

Referrances:

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5. Family Health Bureau, 2007, Medium Term Plan on Family Health.
6. Medical Statistics Unit, Department of Health, 2007, Annual Health Statistics Sri Lanka.

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5. RDHS office Anuradhapura &Polonnaruwa districts.
6. General hospital Polonnaruwa statistics unit
7. Base hospitalsThambuttegama, Kebathigollewa & Padaviya Staff.
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