Child Health Status of Nepal: Social Exclusion Perspective

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Abstract

Introduction: Nepal has achieved a spectacular success in child health over the last decades but the achievement is not uniform across different social groups. Therefore, there is urgent need to identify the groups who are excluded from access of child health services which would give us population at risk to prioritize and utilize the scarce resources available in health sector more effectively and efficiently. **Methods:** The study was descriptive type and was based on review of secondary data of different studies done in past. The study used World Bank framework of dimension of exclusion to analyze social exclusion in child health in Nepal. The health differentials in child health across different social groups were analyzed using simple descriptive analysis like percentage and ratios. The trends of the child health disparities over the ten years were done comparing the data of NFHS1996 and NDHS 2006. **Results:** The study showed there were disparities in child health status by ethnicity, location, wealth status. In most of the cases, the trends of disparities are increasing for mortality indicators and malnutrition status. Interestingly, the gaps in accessibility indicators of child health services are becoming narrowed down. **Conclusion:** This study showed the discrepancies in child health status in different social groups. The inequality in childhood mortality and malnutrition are increasing over the period for different groups where as it is decreasing for accessibility indicators of childhood health services.

Key words: Child health status, inequality, social exclusion, social groups.

Introduction

Nepal has achieved a spectacular success in child health over the last decades. Under five mortality is reduced from 118 in 1996 to 61 in 2006. Infant mortality rate is reduced from 79 to 48 during this period. Immunization coverage is increased from 43% in 1996 to 83% in 2006.[1,2] The most likely causes of the decline in child mortality are improvement in management of diarrhea and Acute Respiratory Infection (ARI), improved immunization and Vitamin A supplementation[3]. If the present progress continues, it seems likely that Nepal will achieve Millennium Development Goal (MDG) related to child health. However, the achievement is not uniform across different social groups. Therefore, there is urgent need to identify the groups who are excluded from access of child health services. Identification of excluded groups would give us population at risk to prioritize and utilize the scarce resources available in health sector more effectively and efficiently. Since the interim constitution has proclaimed provision of universal health right[4], the issues of social exclusion and inequity in health are becoming more pronounced in health sector development of Nepal. This paper tries to critically analyze the child health status of Nepal from social exclusion lens. Social exclusion has been a prominent feature of Nepali history and is rooted in the traditional state and society of Nepal. It is a process through which individuals or groups are wholly or partly excluded from full participation in the society in which they live[5].

Methods

The study was descriptive type and was based on review of secondary data of different studies done in past. Basically the study did further analysis of Nepal family Health Survey (NFHS)1996, and Nepal Demographic and Health Survey (NDHS) 2006 data to critically analyze social exclusion in child health. Besides, the documents published by Ministry of Health (MOH), United Nation Development Program (UNDP), Department for International Development

(DFID) and the World Bank were also reviewed. The electronic journals and reports were accessed using Pub med/Medline and Google scholar to prepare this paper. The study used World Bank framework of dimension of exclusion[6] to analyze social exclusion in child health in Nepal. The framework summarized the dimension of exclusion on following four areas: caste/ethnicity, gender, location and poverty. Location was further divided in to area of residence, ecological zone and development region. This study used main child health indicators- mortality indicators, prevalence of childhood illness, childhood nutritional status, child health service coverage like Vitamin A and immunization coverage as a measure of child health status. The health differentials in child health across different social groups were analyzed using simple descriptive analysis like percentage and ratios. The trends of the child health disparities over the ten years were done comparing the data of NFHS1996 and NDHS 2006. In this study, poorest/wealthiest ratio, rural/urban ratio and female/male ratio were used to summarize the level and trend of inequality over the time period.

Results

Caste/ethnicity

Very limited data was available on caste/ethnicity wise child health status. Nepal Human Development Report (NDHR) 2001 showed that the *Brahman* (52.5), *Chhetri* (77.8) and *Newars* (56) have the lowest infant mortality rates compared to the *Dalits* (116.5) and Muslims (108.6). Similarly under-five mortality was also much lower for *Brahmans* (69) and *Newars* (75) compared to *Dalits* (171), *Muslims* (158) and *Tamangs* (141)[6,7]. The immunization coverage on *Dalit* children was a mere 43%, which was less by approximately 20% than the national average[8].

Gender

Infant mortality was slightly higher for girls (61) than boys (60). But, under-five mortality rate for girls (78) was lower than boys (80). Similarly neonatal mortality for male was higher (39) than female children (37). There was slight difference in nutritional status of children between male and female children. Prevalence of diarrhea was slightly higher for male (12.8%) than female children (10.9%). Immunization coverage for males was slightly higher (84.9%) than females (80.6%). (Table 1). Gender wise there was no significant difference in Vitamin A coverage, treatment of ARI. [1]In most of the indicators, the gender inequality was reducing except prevalence of diarrhea and medical treatment of ARI and diarrhea. (Table 1)

Location

There was huge gap between urban and rural child mortality rates. Infant mortality for rural and urban area

was 64 and 37 respectively. The gap was increasing over the decades with rural/urban ratio 1.56 in 1996 to 1.72 in 2006.The rural/urban inequality was also increasing in case of under-five and neonatal mortality. (Table 2)

The stunting for children in rural area was higher (51.1%) than urban area (36.1%) with increasing inequality over the period. (Table 2) Similarly stunting was higher in children from the mountain (62%) than terai terai regions (46.3%).The situation of acute malnutrition was highest in terai (17%). The children in mid western region had highest (58%) and eastern region had lowest stunting rate (40%). Eastern terai had lowest (37%) and Western Mountain had highest stunting rate (67%)[1].

There was no difference in prevalence of diarrhea and ARI in rural and urban area. Ecological zone wise, the terai region had lower (4%) ARI prevalence than, the mountain regions (6%). Developmental region wise, central region had lowest (4%) and far western had highest ARI prevalence (7%). Prevalence of diarrhea was highest for the mountains (16%) and lowest for the terai (11%). Sub-region wise, mid-western region (7%) had lowest prevalence of diarrhea and eastern mountain region had the highest (23%).[1]

Immunization coverage was slightly lower for rural area (82.4%) than urban area (86.3%) but the trend showed that gap to be reducing. The rural/urban ratio in immunization coverage in 1996 was 0.58 which was 0.95 in 2006. (Table 2) Immunization coverage was higher for the terai (86%) than the mountains (71%). Western mountain had lowest (74%) and far western terai (94%) had the highest immunization coverage. Vitamin A coverage was higher for rural areas (89%) than urban areas (81%) where as there was no big difference according to ecological zone and development region.[1]

Poverty

Infant mortality rate was highest among the poorest quintile (71) than that in the wealthiest quintile (40). Similarly, under-five mortality rate was highest in poorest quintile (98) than wealthiest (47).There was growing income inequality in child survival: in 1996, infant mortality in the poorest quintile was 50% higher than that in the wealthiest; by 2006 it was 78% higher. Similar trend was observed in under-five mortality. (Table 3) Neonatal mortality rate was highest in poorest (43) than wealthiest (26).[1] Inequality in levels of severe stunting had increased over time, with poorest/wealthiest ratio was increased over the study period from 1.86 in 1996 to 3.08 in 2006.[9] No significant difference in prevalence of ARI and diarrhea was seen between poorest and wealthiest households. Immunization coverage was low for lowest quintile (68%) compared to that in the wealthiest quintile (93.5%). Medical

treatment of ARI and diarrhea was high among highest quintile with decreasing gaps over the period. (Table 3) No significant difference in Vitamin A and de-worming coverage was seen between poorest and wealthiest households[1].
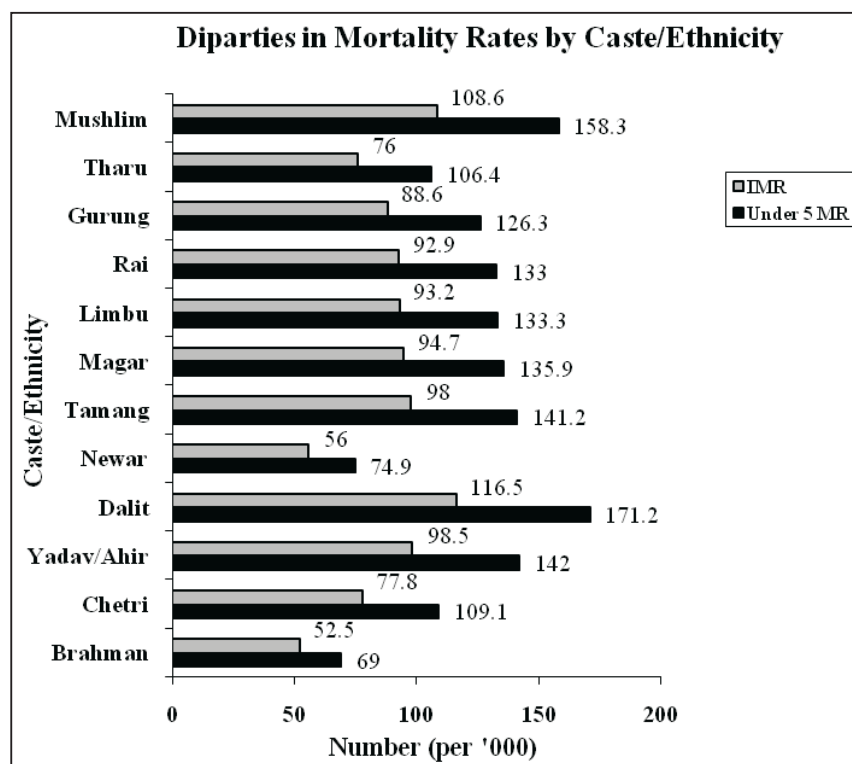

Fig 1: Disparities in Mortality Rates by Caste/Ethnicity*

Table 1: Gender differentials in child health**

Indicators	Year	Male	Female	Ratio of Female/Male
Under 5 mortality rate	1996	142.8	135.5	0.95
	2006	80	78	0.98
Infant mortality rate	1996	101.9	83.7	0.82
	2006	60	61	1.02
Neonatal mortality rate	1996	65.6	50.4	0.77
	2006	39	37	0.95
Stunting rate	1996	46.6	50.2	1.08
	2006	49.0	49.6	1.01
Immunization coverage	1996	46.7	39.9	0.85
	2006	84.9	80.6	0.95
Prevalence of ARI	1996	34.6	33.6	0.97
	2006	5.6	4.9	0.88
Prevalence of diarrhea	1996	28.7	26.2	0.91
	2006	12.8	10.9	0.85
Coverage of medical treatment of ARI	1996	18.2	18.2	1
	2006	42.2	43.8	1.04
Coverage of medical treatment of diarrhea	1996	14.7	12.9	0.88
	2006	29.1	24.3	0.84

*Source: *NHDR 2001, **NFHS 1996 & NDHS 2006*

Table 2: Rural vs. Urban Child Health Status

Health services	Year	Urban	Rural	Ratio of Rural/Urban
Under5 mortality rate	1996	82.2	143.4	1.74
	2006	47	84	1.78
Infant mortality rate	1996	61.1	95.3	1.56
	2006	37	64	1.72
Neonatal mortality rate	1996	43.1	59.3	1.37
	2006	25	40	1.6
Stunting rate	1996	35.4	49.3	1.39
	2006	36.1	51.1	1.41
Immunization coverage	1996	71.1	41.5	0.58
	2006	86.3	82.4	0.95
Prevalence of ARI	1996	30.4	34.3	1.3
	2006	5	5.3	1.06
Prevalence of diarrhea	1996	23.8	27.7	1.16
	2006	11.5	11.9	1.03
Coverage of medical treatment of ARI	1996	28.5	17.6	0.62
	2006	53.7	41.5	0.77
Converge of medical treatment for diarrhea	1996	18.3	13.6	0.74
	2006	28.4	26.7	0.94

Source: NFHS 1996 & NDHS 2006

Table 3: Wealth Differentials in Child Health Status

Health services	Year	Lowest	Highest	Low/High ratio
Under 5 mortality rate	1996	156	83	1.88
	2006	98	47	2.09
Infant mortality rate	1996	96	64	1.5
	2006	71	40	1.78
Immunization coverage	1996	32.4	71.1	0.46
	2006	68.0	93.5	0.73
Prevalence of diarrhea	1996	-	-	-
	2006	13.3	11.7	1.14
Prevalence of ARI	1996	-	-	-
	2006	5.5	5	1.1
Coverage of medical treatment of ARI	1996	11.7	26.7	0.44
	2006	36	54	0.67
Coverage of medical treatment for diarrhea	1996	9.5	18.3	0.52
	2006	21.4	31.8	0.67

Source: NFHS 1996 & NDHS 2006

Discussion

The study shows that there is inequality in child health status by cast/ethnicity, poverty, residence, ecological zone and development region. The above results showed that there were disparities in child mortality by ethnic origins, rural/urban, and wealth status. The data also showed the disparities in child mortality is widening over the period for rural/urban and poorest/wealthiest. The gender wise data showed comparatively a low under-five and neonatal mortality among girls children than boys. If we look at the trends, the gender gap in child mortality is reducing. DHS study conducted at Cambodia showed that at every period, male children experienced higher mortality than female children[10]. The excess mortality among male children is a universal phenomenon presumably due to a higher biological risk of death during the first months of life. Different studies showed discrepancies in child mortality by ethnicity, gender, area of residence and wealth status[10, 11, 12,13,14,15].

If we look at the nutritional status of children, the disparities by rural/urban, poorest/wealthiest was existed and the trends of disparities were widening over the period. The situation of stunting in Western Mountain was devastating far above the national average. Terai had high acute malnutrition. There was no data available according to ethnicity. Similarly, there were no marked difference in prevalence of diarrhea and ARI according to rural/urban and wealth status. The prevalence of both child hood diseases was comparatively low among female children.

Finally, when we looked at the accessibility indicators like immunization and Vitamin coverage, mixed results could be seen. There were discrepancies in immunization coverage by ethnicity, gender, location and wealth status. Similar findings were shown by various other studies[15, 16]. However, Vitamin A coverage was uniform across all socio-economic groups. Similarly, data on medical treatment of ARI and Diarrhea showed the gaps by rural/urban and wealth status. In all accessibility indicators, the gaps across different social groups were narrowing over the period.

Above finding show that, there are disparities in child health status by ethnicity, location and wealth status. In most of the cases, the trends of disparities are increasing for mortality indicators and malnutrition status. Interestingly, the gaps in accessibility indicators of child health services are becoming narrowed down for example immunization coverage, Vitamin A coverage and medical treatment for child hood diseases. The reducing gap in accessibility indicators over the years might be due to the expansion of child health services up to community level in recent times.

This study used data from secondary sources mostly from NDHS and analysis was descriptive in nature. Data on some variables like ethnicity was not adequately available. More in-depth study on the socio-economic differentials on child health status using standard statistical tools is necessary.

Conclusion

This study showed that there are discrepancies in child health status in different social groups. The inequality in childhood mortality and malnutrition are increasing over the period for different groups where as it is decreasing for accessibility indicators of childhood health services.

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