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Situation Analysis of Child Health and its Related Policy in Nepal

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Abstract

The main aim of this paper is toassess the current situation of child health based onchildhood mortality, nutritional status, and vaccination coverage and also reviews theexistinggovernment policies in relation to improve the child health. The studyshows Nepal has achieved significant improvement in the child health situation as measured by the impressive progression of childhood mortality level, improved nutritional status and vaccine coverage and micronutrient intake. For this achievement Government of Nepal, has progressively introduced policies programme and strategies to make improvement in the health status of women and children and all Nepali Citizens.

Key words: Child Health, Malnutrition, Immunization and Policy.

1. Introduction

The population of Nepal is composed primarily of young people. More than half (57%) of the population falls in age15-59 categories and about 35 percent of its present population is under 15 years of age and nearly 10 percent population remain in-group 0-4 years of age (CBS,2014).

Infant and child mortality rates are important indicators of a countries socio economic development and quality of life and health status. Childhood mortality in general and infant mortality in particular is often used as broad indicators of social development or as specific indicators of health status.

Nepalese children under age five face multiple obstacles for survival and development, exposure to infectious diseases, malnutrition, and poor hygiene and sanitation and lack of a healthy environment compromise early childhood development (NDHS, 2011).

Nepal remains one of the most malnourished countries in the world. Malnutrition reduces a child's survival chances, causes permanent impairment of physical and cognitive development, and perpetuates poverty by reducing achievement in school and future earnings (NDHS,2016).

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Government of Nepal, has progressively introduced policies programe and strategies to make improvement in the health status of women and children and all Nepali Citizens. Nepal has taken initiatives that have achieved significant reductions in infant, child and maternalmortality, while improving equity of access to health services. Over the past decade, the country has success in reducing child mortality largely due to the implementation or the CB-IMCI program with vitamin A supplementation and the immunization program (NPC, 2015).

In this study child population belongs to age group 0-4 years or below 5 years of age, and it attempts toanalyze the current situation of child health based on child mortality, nutritionalstatusand vaccination coverage andreviews theexisting government policies, plan and programto improve the health of children in Nepal.

2. Objective

The overall objective of this article is to assess the situation of child health, review the existing government policies, and program to improve child health in Nepal.

3. Methodology and Data Source

The paper follows descriptive and analytical method based on the existing data collected by New Era for the MoHP as conducted national level surveys known as National Demographic Health Survey. The data from these sources are used to examine the trend and pattern of childhoodmortality, nutritionalstatus, and vaccination coverage.Furthermore, this paper is based on review of existing policy documents, literature mainly books, journal, article reports and websites.

4. Significance of the Study

This study is based on quantitative analysis of child health situation in Nepal. A basic understanding about theses aspects are beneficial to readers, teachers, researchers and other stakeholder.

5. Situation Analysis of Childhood Mortality.

Childhood mortality rates are expressed by conventional age categories and are defined as follows:

Neonatal Mortality(NN): Probability of dying within the first month of life Post Neonatal Mortality (PNN): it is the difference between infant an neonatal mortality rates.

Infant Mortality (1qo): probability of dying between birth and the first birthday

Child Mortality (4q1): Probability of dying between the first and fifth birthday.

Under Five Mortality (5q0): Probability of dying between birth and fifth birthday.

Rates are expressed as death per 1000 live births, except in the case of child mortality, which is expressed as deaths per 1000 children surviving to age one, and post neonatal mortality, which is the difference between infant and neonatal mortality rates(UNFPA, 2014).

5.1 Early Childhood Mortality Rates

Childhood mortality includesthe Neonatal, Infant, Child, and Under 5 Mortality rate. These are known as the majorindicators used to measure the trend and situation of childhood mortality of the country. To examine the trends data are presented since 1996 to 2016.

Data of the table 1 shows Neonatal mortality in the most recent period (2016) is estimated 21 per 1000 live birth decreased from 50 in 1996. The infant mortality rate in the five-year preceding the survey is 32 death per 1000 live birth and the under 5 mortality rate for the same period is 39 death per 1000 live birth. This means that one in every 30 children dies before reaching age one and one in 25 die before reaching their fifth birthday.Data shows the improving trends in all phases of childhood mortality rates at the National level over the past twenty years. A similar pattern is observed in all indicators of childhood mortality.

The Sustainable Development Goal targets related to neonatal and under 5 mortality in Nepal are 12 and 20 deaths per 1000 live births respectively, by 2030 (NPC, 2015)

Table 1: Trends in Neonatal, Infant, Child, and Under 5 Mortality Rates 1996-2016

Years	Neonatal, Mortality Rate	Infant Mortality Rate	Child Mortality Rate	Under 5 Mortality Rate
1996	50	78	43	118
2001	39	64	29	91
2006	33	48	14	61
2011	33	46	9	54
2016	21	32	-	39

Source: NDHS 2001, NDHS 2011, NDHS 2016.

5.2. GeographicDifferences in Childhood MortalityRate:

In this section childhood mortality is examined by ecological zones, rural urban residence and provinces. There are large inequities in terms of geographical locations. Data shows, children born in rural area are more likely to die before their 5th birthday then those born in

urban area. All the indicators of childhood mortality are higher in rural area as compared with urban. It may be due to the limited access of essential medicine and poor living condition in rural area.Moreover, there are wide differences in infant and under 5 mortality by ecological zones.Among them the proportion of childhood mortality observed high in mountain zone and low in hill zone.

Table 2: Childhood Mortality by Geographic Differences, 2016

Background	Neonatal Mortality rate	Infant Mortality Rate	Child Mortality Rate	Under 5 Mortality Rate
Urban	16	28	6	34
Rural	26	38	7	44
EcologicalZones				
Mountain	35	57	6	63
Hill	23	32	6	38
Terai	28	41	8	49
Provinces				
Province 1	22	31	5	36
Province 2	30	43	10	52
Province 3	17	29	7	36
Province 4	15	23	4	27
Province 5	30	42	3	45
Province 6	29	47	12	58
Province 7	41	58	12	69

Source: NDHS 2016.

Similarly data also showsinequities inchildhood mortality by states. Among the seven states the risk of childhood mortality observed highest in state 6 and state 7 and lowest in state 4 followed by state 3.

5.3 Early Childhood Mortality by Socio Economicand Demographic Characteristics

This section deals with the differential in childhood mortality by the education of mother and the economic status of household and by the demographic characteristics such as sex of child, age of mother at the birth of child, and birth order of children. These characteristics of both mother and child play an important role in the survival probability of children.

Data of the table 3 shows the indicators of childhood mortality as Neonatal Mortality, Infant Mortality Rate, Child Mortality Rate and Under 5 Mortality Rates are negatively associated with,mother's education and the household wealth status. Children born in the poorest

household and byilliterate women are 3 times higher likely to die before reaching their 5th birthday. The likelihood of dying decreases with an increase in each of these two variables.

Table 3: Early Childhood Mortality by Socio Economic Demographic Characteristics 2016

Background characteristics	Neonatal Mortality Rate	Infant Mortality Rate	Child Mortality Rate	Under 5 Mortality Rate
Mothers Education				
no education	36	50	10	60
SLC and above	12	18	3	21
Wealth Quintile				
Lowest	36	50	12	62
Middle	26	42	4	46
Highest	12	20	4	24
Childs Sex				
Male	24	31	5	36
Female	17	34	7	41
Mothers Age at Birth				
<20	39	54	7	61
20-29	21	33	7	40
30-39	31	42	7	48
40—49	-	-	-	-
Birth Order				
1	30	43	6	48
2-3	19	29	7	35
4-6	29	44	12	56
7+	99	116	9	124

Source: NDHS, 2016.

The data also shows boys are more likely to die then girls in the first month of their lives i.e24 and 17 per 1000 live births for male and female neonates respectivelyand as children grow older girls child are more likely to die than boys. Infant,child mortality and under 5 mortality is slightly higher among female children. Table 3

Similarly, data reveals younger (<20years) and older mother had an increased likelihood of her child dying as compared to mother aged 20-29 years. Likewise, the mortality chance of

child is higher between first birth and birth of order seven or above than among birth of order two or three. It indicates higher order of birth increases the risk of childhood mortality.Table 3**.**

6. NutritionalStatus of Children in Nepal

Children's nutritional status is a reflection of their overall health.Adequate nutrition is critical to children's growth and development. When children have access to an adequate and nutritious foodsupply, are not exposed to repeated illness and are well cared for, they reach their growth potential and are considered well nourished.Under nourished children are more likely to die for common childhood ailments, and for those who survive, have recurring sickness and faltering growth. The nutritional status of children is measured by the height and weight of all children under age five. (UNICEF,2014).

This section review the nutritional status of children based on three nutritional status indicators, weight -for -age (Underweight) ,height- for- age(Stunting), and weight-for height(wasting).

6.1 Weight- for- Age is used to measure both acute and chronic malnutrition.Children whose weight for age is below minus two standard deviation(-2SD)are considered as underweight and less than three standard deviation are classified as severely underweight.Table 4 shows, overall twenty seven percent under age 5 are under weight and 5 percent childrenwere classified as severely underweight. This proportion is slightly higher from male children (5.8%) then female children (5.0%).

6.2 Weight- for- Height can be used to assess wasting and overweight status.Children whose weight is below minus two standard deviation (-2SD) considered thin (wasted) or acutely malnourished and less then minus three standard deviation (-3SD) considered as severally wasted.Children more than two standard deviation (+2SD) above then median weight for height are considered over weight. Data in table 4 shows overall 10 percent of children are wasted and 2 percent are severely wasted on which female children are more likely to be wasted (9.8%) then male children (9.5%).

6.3 Height-for- Ageis a measure of linear growth**.** Children whose height for age is below minus two standard deviation from the median of reference population are consideredshort for their ageand are classified as stunted or chronically malnourished and children who are below minus three standard deviation (-3SD) considered as severelystunted. It reflects failure to received adequate nutrition over a long period. Table3 shows,nationally 36percent of children under age five arestunted and 12 percentare

severelystunted.This proportion is higher in male children (36%) then in female children (35.7%).

Table 4: Nutritional Status of Children in Nepal, 2016

	Weight for Age		Weight for Height		Height for Age	
2016	Underweight % below		Wasted % below		Stunted % below	
	-2SD	-3SD	-2SD	-3SD	-2SD	-3SD
Total	27.0	5.4	9.7	1.8	35.8	12.0
Male Children	26.7	5.8	9.5	2.1	36.0	11.5
Female Children	27.4	5.0	9.8	1.6	35.7	12.5
Total	27.0		10.0		36.0	

Source: NDHS, 2016.

Of the total 36 percent of under five year olds are stunted, 27 percent are underweight and 10 percent wasted indicating early chronic malnutrition. It shows there is still a long way to go to meet the SDG target of reducing stunting to 31 percent and underweight to 25 percent among children under 5 by 2017 (NPC,2015).

7. Trends in Immunization Coverage

Immunization is important to save the lives of children.Universal immunization of children against the six vaccine preventable diseases-tuberculosis,diphtheria, Whooping cough, Tetanus, polio, and measles- is crucial to reducing infant and child mortality. According to WHO guidelines, children are considered fully immunized when they have received one dose of the vaccine against tuberculosis,(BCG), three doses each of the DPT and polio vaccines, and one dose of measles vaccine**(** NDHS,2011).

Immunization coverage in Nepal has improved over the past 20 years doubling from 43 percent in 1996to 87 percent in 2011 and 78 percent in 2016.The percentage of children age 12-23 months who did not receive any of the six basic immunizations decreased from 20 percent to 1 percent over the same period.

Table 5: Trends in Vaccination Coverage Among Children 12-23 Months, 1996-2016

Years	BCG(%)	DPT3(%)	Polio(%)	Measles(%)	AllVaccine (%)	None(%)
1996	76	54	51	57	43	20
2001	85	72	92	71	66	1
2006	93	89	91	85	83	3
2011	97	92	93	88	87	3
2016	98	86	88	90	78	1

Source: **NDHS 2001, NDHS 2011, NDHS 2016.**

Data of the table 5 shows a marked increase in the coverage of polio vaccine since 1996 to 2001, that increased from 51 percent to91 percent in 2001 and marked decreased who did not received any vaccine during the same period (20%-1%). Eighty-six percent and 88 percent ofchildren have received the third doses of the DPT3 and polio vaccines, respectively. Coverage ofvaccination against measles rubella is 90percent.

8. AnemiaPrevalencein Children

Anemia is a condition that is marked by low levels of hemoglobin in the blood and is a serious concern for children because it can impair cognitive development, stunt growth, and increase morbidity from infectious diseases. Children with hemoglobin levels below 11.0 g/dl were defined as anemic (NDHS,2016).

Data reveals, overall, 53 percent of children in Nepal are suffered from some degree of anemia 26 percent were classified as mildly anemic, 26 percent were moderately anemic, and less than1 5were severely anemic. The prevalence of anemia decreases with age, ranging from a high of 74 percent among children age 12-17 months to a low of 36 percent among children age 48-59 months. Anemia prevalence varies by states, from a low of 43 percent in State 3 to a high of 59 percent in State 2(NDHS,2016).

8.1 Micronutrient Intake Among Children

Micronutrient deficiency is a major contributor to childhood morbidity and mortality. Childrencan receive micronutrients from foods, fortified foods, and direct supplementation. Data shows eighty-six percent of children age 6-59 months received vitamin A supplements in the 6 months. Children who are age 12 months and older are more likely to receive vitamin A supplements than infants do. Only 24 percent of children consume iron-rich food, 24 percent of children meet a minimally acceptable diet, and95 percent of children live in households that consume iodized salt.(NDHS,2016).

9. Policies, Strategies, Plans and Programme

Government of Nepalhas formulateddifferent policies, strategiesand programmes of its population, particularly of childrenand women, to improve the health status of women and children. Some of them are as follows:

9.1 Constitution of Nepal2015

Constitution of Nepal,2015 has taken healthas a fundamental rights of the people.

9.2 National Health Policy 1991

The Ministry of Health and Population adopted a National Health policy in 1991 to bring about an improvement in the health condition of the Nepalese people. Priority was given to those programmes, which directly help reduce infant and child mortality rates.

9.3 National Health policy 2071

It has also given high priority on the programme that have direct impact on MNCH and is mainly focused on universal health coverage, community participation, Human resource for

health, alternative medicine, EC/BCC, multi-sectorial coordination, accountability, Public Private Partnership (PPP) etc.(www.mohp.gov.np)

9.4 Millennium Development Goals

Among 8 goals, Goal 4: Reduce Child Mortality and Goal 5: Improve maternal health, set by the MDGs motivated increased focus and investment in maternal and child health programing to reduce the under 5 mortality rate by two thirds and maternal mortality ratio by one half by 2015from the 1990 levels.(UNICEF,2014)

9.5 Sustainable Development Goals

Among of the various goals, SDG-2 End hunger,achieve food security and improved nutrition and promote sustainable agriculture and SDG-3 Ensure healthy lives and promote well-being for all at all ages are related to health related policy (NPC,2015).

10. Strategies

10.1 National Neonatal Health Strategy 2004

The main aim of this strategy has to **i**mprove health and survival of newborn babies in Nepal**.**It has made the several **s**trategic Interventions such as Policy,BCC,Strengthening Health Service Delivery,Strengthening Program Management, ResearchCrosscutting Issues.

10.3 National Nutrition Policy and Strategy 2004

The overall goal of this strategy is achieving nutritional well-being of all people to maintain a healthy life and has set the objectives asProtein-energy Malnutrition Control, Iron Deficiency Anemia Control, Iodine Deficiency Disorder Control, Vitamin A Deficiency Control, and Low Birth Weight Control to improve the health and nutritional status of women and child.

10.4 Nepal Health Sector Strategy (NHSS),2015-2020

Improved health status of all people through accountable and equitable health service delivery system is the main goal of this strategy.(www.mohp.gov.np)

11. Plans

Government of Nepal has articulated various plans and goals which relate to reproductive and child health vision for the future. They are

11.1 Nepal Health Sector Programme-Implementation Plan (2004-2009)

In the Essential Health Care Services, two outputs in the log frame relate to Maternal Health and Child Health viz.

- Decreasing unmet need for family planning and reducing TFR,
- Reducing Maternal and Newborn Mortality through increased coverage of quality antenatal care, skilled attendance at birth, newborn and postpartum care, and EOC.

11.2 Second Long Term Health Plan(1997-2017)

The major aim of this plan is to guide health sector development in the improvement of the health of the population whose health needs are often not met:Women and children, the rural population, the poor, the underprivileged and marginalized. It addressed Reproductive Health as one of the main interventions of the Essential Health Care Services.

11.3 National Safe Motherhood and Newborn Health-Long Term Plan 2006-2017

The overall goal of this plan is to improve maternal and neonatal health and survival especially among poor and socially excluded communities, with indicators drawn from the MDGs.

11.4 National Neonatal Long Term Plan (2005-17): To implement Neonatal Health Care Strategy and focused on utilization of neonatal health services and achieve sustainable increase in healthy newborn practices and decrease harmful practices

11.5 Multi Sector Nutrition Plan, 2013-2017

This plan is an attempt to address the issue of nutrition in a systematic and coordinated manner adopting a multi sector perspective. The goal of this plan is to improve the maternal and child nutrition, which will result in the reduction of MYIC under nutrition, in terms of maternal Body Mass Index and child stunting, by one third.

11.6 Nepal's Every Newborn Action Plan, 2017

Ministry of Health and Population endorsed Nepal's Every Newborn Action Plan in 2017 with aims to scale up the evidence based public health interventions by revising the community basedIntegrated management of childhood illness.It has set the goaltoreduce preventable newborn deaths in every province to less than 11 newborn deathsper 1000 live births by 2035 and reduce preventable stillbirths in every province to less than 13 stillbirths per 1000 total births by 2035.

12. Programmes

The Child Health Division of the Ministry of Health and Population (MOHP), Nepal has launched several child survival interventions, including various operational initiatives, to improve the health of children in Nepal. These include

- Expanded Program on Immunization (EPI),
- The Community-Based Integrated Management of Childhood Illnesses (CB-IMCI) program
- The Community-Based Newborn Care Program (CB-NCP),
- A micronutrients supplementation program,
- Vitamin A and deworming campaign
- National Immunization Programme
- AaamatathaNawajatSisuSurakchhya Program

- Neonatal care-Level 1,2,3
- National Nutritional Program
- National Immunization Programme

13. Conclusion

The study examine the situation of child healthbased on childhood mortality, nutritional status, and vaccination coverageand review the existing government policies and efforts to make the improvement in it.Study shows Nepal has achieved significant improvement in the child health situation as measured by these indicators. During the period 1996 to 2016 mortality of children below five years of age has decreased significantly from 118 per thousand to 39 per thousand live births, infant mortalityrate has also declined from 79 to 32 per thousand live births and immunization coverage in Nepal has improved over the past 20 years doubling from 43 percent in 1996 to 78 percent in 2016. The percentage of children age 12-23 months who did not receive any of the six basic immunizations decreased from 20 percent to 1 percent over the same period.Despite these 36 percent of under five year olds are stunted, and 27percent are under weight, indicating early chronic malnutrition in Nepal. Data alsoreveals, overall, 53 percent of children are suffered from some degree of anemia. Only 24 percent of children consume iron-rich food, 24 percent of children meet a minimally acceptable diet, and 95 percent of children live in households that consume iodized salt. It shows Nepalese children under five years age face obstacles for survival and development.

Moreover there are wide differences in childhood mortality by the different characteristics,such as proportion of childhood mortality observed high in mountain, and in rural area and province 7 due to limited access of medical facilities, poor living condition and sanitation. Likewise, mother's education and the household wealth status, both are negatively associated with mortality rates.

Government of Nepal, has progressively introduced policies programe and strategies to make improvement in the health status of women and children and all Nepali Citizens Despite the subsequent progress in health status, in recent decade there are grave challenge that required consistent and sustained efforts. The country needs to focus on improving quality of care from community levels to hospital based care alongside the important agenda of realizing the universal coverage of care.

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