Inequalities in Health and Nutritional Status in India: A Critical Review of NFHS and NNMB Datasets through a Public Health Perspective

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Public health is an art and science which promotes and protects the health of the individual and the community where they live, learn, work, and play. Public health aims to understand and influence the socioeconomic determinants of health and to study the structure of health systems as efficient channels for health services (PHFI, 2014). The national datasets show variations and inequalities in health status, health access, and nutritional status across socio-religious groups in India (Government of India, 2006, 2007a, 2007b, 2014). The statistical surveys documenting child mortality highlighted higher rates among SCs/STs, followed by Muslims. Similarly, stunting, wasting, underweight, and anaemia in children and adults are higher among Muslims with marginal differences between SCs/STs. National reports also documented a similar picture of low lower accessibility and utilization of health services among Muslims. Muslims are worse off than most other communities concerning child under-nutritional statuses. The study aims to understand inequality in health and nutritional status across different religious groups in India and its association with socioeconomic status. The study is based on a review of secondary data available on different socioeconomic variables, health status, nutritional status, and accessibility of health services, especially for Muslims. The relevant data from available large scale data sets are identified, compiled, and analyzed. To conclude, the study disclosed that health inequalities escalate according to social inequalities. The study provides a substantial base for future studies to look at other dimensions of public health among Muslims.

Keywords: *Inequalities, Public Health, Socioeconomic, Muslim, and India*

Introduction

The study analyzed the conditions of the largest religious minority community of Muslims in India from a public health perspective. Public health examines many factors such as the place where one lives, stratification (i.e., religion, caste, class, and gender), socioeconomic status and physical environment (Centers for Disease Control and Prevention, 2018). It is well documented that social identity or status affects health and nutritional status. The dataset enumerated that Muslims have poor socioeconomic conditions, and have experienced being alienated[1], deprived and discriminated against in different spheres of life across the country (Government of India, 2006).

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[1] Alienation is the process whereby people become foreign to the world they are living in.

It has been documented through different small-scale and few large-scale studies. The internal hierarchy and discriminatory practices along the lines of religion, caste, and gender have also been recognized and discussed. This internal hierarchy and discriminatory practices against Muslims have a wide range of differential experiences in navigating through public and private institutions. This differential experience of Muslims is discussed in the next segment of the paper. However, it is crucial to state and discuss in detail through evidence that Muslims represent underprivileged communities (Khan, 2011).

This paper proposed to identify and analyze different sources of large-scale secondary data collected by various state agencies. This paper also attempted to highlight inequalities between Muslims and other socio-religious groups. Inequalities are already revealed by reports and surveys and also highlighted Muslim conditions. Their experience of being alienated is reflected in their poor health status, nutritional status and access to health services. The primary sources of data such as the National Family Health Survey (NFHS), National Nutrition Monitoring Bureau (NNMB), and Census, etc. have been analyzed to show variation across religious and caste groups.

Methodology

The paper is a critical review article of NFHS and NNMB datasets with a rigorous literature review done to explore determinants of health and extract the information. Thematic analysis was also done to produce inextricably interlinked inequality and social identity and to generate main themes and sub-themes. Then, the paper was systematically structured, analyzed and concluded at the end.

Social Determinants of Health

Before going into examining health and nutritional status, one needs to understand the social determinants of health and how it is interlinked with social inequalities (Subramanian, Ackerson, Subramanyam, & Sivaramakrishnan, 2008). Social inequalities are a vital aspect of life chances. Life chances refer to positive and negative outcomes of an individual or community. For instance, education, employment, income, housing and health, and their outcomes depend on social factors (Short & Mollborn, 2015). People in higher caste and social classes have more chances to access resources and opportunities than lower-class people (Sengupta, 2016).

Inequalities shape life chances of income, wealth, power and status. India has shown accelerated growth economically, but human development has fared poorly (Fukuda-Parr, 2003). In India, inequalities are increasing, particularly across caste, and religion. Consequently, inequalities exist between those who follow foreign religions[2] (Islam and Christians) and India's so-called religion (Hindu, Sikh, Buddhist, and Jain). These social identities influence their health behaviour and access to health services as well, as will be explored in this study in subsequent sections.

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[2] Origin in foreign land and spread other country

Poverty and Social Identity

Poverty is one of the most significant determinants of health, which adversely affects health status (Thorat, 2010). It is both a cause and a consequence of poor health (Murray, 2006). The following section highlights the relationship between poverty and social identity. The Sachar Commission Report considers the extent of poverty. It is not the depth and intensity of poverty but means per capita expenditure ratio (Government of India, 2006).

The intensity of poverty is higher among SC/ST, which is closely followed by Muslims in urban areas. But the condition in rural areas is different; the intensity of poverty is lower among Muslims than in other religious groups. Muslims face deprivation more than others in urban areas. The report shows from 1987 to 2005 the levels of poverty decreased, but among the Muslim population, the poverty rate does not seem to have changed as much as in the other communities (Government of India, 2006, pp. 151-161).

Table 1: HeadCount Ratio and Gini Coefficient[3] for Socio-Religious Groups –Rural and Urban

Areas	Years	Socio-Religious groups	Hindu ST	Hindu SC	Hindu others	Muslim OBC	Muslim Others	Other religious groups	Total
Rural	2004-05	Percentage of poor	65.2	53.8	21.6	45.2	42.9	24.3	41.8
		Gini Coefficient	24.3	23.6	29.1	29.4	23.5	34	28.1
	2011-12	Percentage of poor	44.8	33.8	30.8	30.8	25.4	11.1	25.7
		Gini Coefficient	25.2	26.1	29.1	29.1	24.2	33.4	28.7
Urban	2004-05	Percentage of poor	40.4	40.7	9.9	49.1	39.4	12.9	25.7
		Gini Coefficient	35	29.9	34.7	29.5	34.1	36	36.4
	2011-12	Percentage of poor	27.3	21.8	4.8	26.5	19.3	7.1	13.7
		Gini Coefficient	36.8	31.8	37.1	31.2	33.6	38.7	37.7

Source: (Government of India, 2014, pp. 44-45)

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[3] Gini Coefficient is a measure of statistical dispersion intended to represent the income or wealth distribution of a nation's residents, and is the most commonly used measurement of inequality.

Table 1 shows that poverty levels are higher among Muslims than the country average over the years in rural areas. The gap is very high between rural and urban areas. However, it has been decreasing gradually over the years (Panagariya & More, 2014). Poverty is significantly higher among SC/ST than Muslims in rural areas and similar in urban areas. The percentage of poor has decreased (20.4%) among SC/ST than (14.4%) OBC Muslims, followed by (17.5%) other Muslims in rural areas from 2004-05 to 2011-12.

Muslims have higher poverty than the national average over the years in both rural and urban areas. Even Muslims have a considerable higher Gini coefficient which is showing inequalities among Muslims than the national average. According to the table, the Muslim Gini coefficient is more constant than SC/ST and others, but SC/ST Gini coefficient is increasing over the years. It can attribute that SC/ST accessing education or employment than Muslims which resulted in reservations and some the consumer expenditure hike. Poverty among Muslims continues to be at higher levels, but inequality is not increasing much because of lesser motion from lower class to higher, therefore their condition remains constant.

The gap between OBC Muslims and other Muslims in poverty indicators has gone up with marginal differences in rural contexts while a difference of 9.7% is observed in an urban context. Gini coefficient shows that poverty has slightly lower among Muslims than in other religious groups in urban areas (Government of India, 2014). While Gini coefficient has increased significantly in urban areas than in rural areas among Muslims over the years. However, surprisingly Gini coefficient is almost similar among OBC Muslims in both rural and urban areas. The inequalities analysis shows that the Muslims have consistently been on the same track over the years but are still worse than other religious groups.

Health Status across All Socio-Religious Groups

Health is a complex subject to tackle. Health status is affected by a complex range of factors and has multiple determinants such as physical, chemical, biological, and socio-economic factors (Sengupta, 2016). Much of the differential health status in society is because of differential socioeconomic conditions. Health status is also dependent on social and religious factors, educational attainment and economic aspects (Baah, Teitelman, & Riegel, 2019). Socioeconomic status and health status are interlinked. The following section tries to understand the health status of Muslims, with an attempt to understand this in relation to other social and religious groups by using different large-scale datasets available. Health status is discussed here through mortality rates, nutritional status and morbidity indicators (anaemia is used for assessing morbidity as data was easily accessible over a long duration of time).

Table 2: Child mortality by religion and wave of the National Family Health Survey for births from the five years previous to the survey

	Under-five Mortality Rate		Infant Mortality Rate		Child Mortality Rate		The proportion died to the survey data	
	Muslim	Hindu	Muslim	Hindu	Muslim	Hindu	Muslim	Hindu
NFHS-1	93.6	105.6	69.8	78.6	25.5	29.3	8.23	9.16
NFHS-2	76.3	93.3	56.8	69.4	20.7	25.7	6.82	8.20
NFHS-3	62.9	71.6	50.5	57.7	13.0	14.8	5.82	6.53
All waves	77.4	90.6	59.0	68.9	19.5	23.3	6.95	2.01

Source: (Government of India, 1995, 2000, 2007b)

Table 2 shows that Muslim advantage is pervasive across both periods. Mortality declines consistently elsewhere over time from NFHS-1 to NFHS- 3. Both experienced mortality decline, yet Muslims have a lower rate than Hindus. The under-five mortality rate shows better declination than other mortality rates. For example, the under-five mortality rate in Hindus had declined from 105.6 per 1,000 in NFHS-1 to 71.6 in NFHS-3, while Muslims had dropped from 93.6 in NFHS-1 to 62.9 in NFHS-3. Different rates among Muslims maintain relatively constant differences compared to rates among Hindus. The mortality rate is lower among Muslims than Hindus. Similarly, both infant mortality and child mortality are lower among Muslims than Hindus.

Table 3: Early childhood mortality rates by background characteristics of Urban/Rural

Religion	Hindu		Muslim		Christian		Sikh		B[4]/ Neo-Buddhist	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Neonatal mortality	30.9	40.3	21.6	34.1	11.3	31.5	*	35.9	*	43.0
Post neonatal mortality	13.3	18.2	13.9	18.2	5	10.1	*	9.7	*	9.8
Infant mortality	44.3	58.5	35.5	52.4	16.3	41.7	*	45.6	*	52.8
Child mortality	10.9	18.5	9.6	18.6	9.4	11.6	*	6.8	*	17.1
Under-five mortality	54.7	70.0	44.8	52.8	25.5	52.1	*	69.0	*	88.1

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[4] Buddhist

Note: All estimates are for the five years preceding the survey (approximately 1988-1992 for NFHS-1, 1994-1998 for NFHS-2, and 2001-2005 for NFHS-3). Totals include Jains, cases with missing information on education, religion, and caste/tribe, and cases in which the respondent does not know the caste/tribe, which are not shown separately.
( ) Based on 250-499 unweighted children surviving to the beginning of the age interval.
* Rate not shown; based on fewer than 250 unweighted children surviving to the beginning of the age interval.
1 Computed as the difference between the infant and neonatal mortality rates.

Source: (Government of India, 2007, p. 181)

Table 3 shows differences in mortality rates between Muslim and other religious groups in both rural and urban areas. Infant mortality (in rural areas) is highest among Hindus (58.5), followed by Buddhist/Neo-Buddhist (52.8), then Muslims (52.4), and similar is the trend in urban areas as well. On other hand, under-five mortality is highest in Buddhist/Neo-Buddhist (88.1), followed by Hindu (70.0), then Sikh (69.0), and then Muslim (52.1). Postneonatal mortality is higher among Muslims and Hindus (18.2), followed by Christian (10.1) and then Buddhist/Neo-Buddhist (9.8) in rural areas, while in urban areas Muslin is highest (13.9), and followed by Hindu (13.3). Childhood mortalities are marginally higher among Muslims (18.6) than Hindus (18.5) in rural areas.

Table 4: Prevalence of Anaemia

Anaemia status by haemoglobin level	Hindu	Muslim	Christian	Sikh	B/ Neo-Buddhist	Jain	Total
Prevalence of anaemia in Children 6-59 months India, 2005-06							
(10.0-10.9 g/dl) Mild	26.1	28.4	25.6	22.3	15.9	20.1	26.3
(7.0-9.9 g/dl) Moderate	40.7	38.5	32.5	35.9	49.9	36.1	40.2
(<7.0 g/dl) Severe	3	2.8	1.9	5.7	0.2	0	2.9
(<11.0 g/dl) Any anaemia	69.7	69.7	60	63.8	66	56.2	69.5
Prevalence of anaemia in women age 15-49 India, 2005-06							
(10.0-10.9 g/dl) Mild	39.1	38.3	32	27.6	35.4	29.9	38.6
(7.0-9.9 g/dl) Moderate	15	15.1	16.2	10.3	15.2	8	15
(<7.0 g/dl) Severe	1.8	1.3	2.2	1.3	1.9	0.9	1.8
(<11.0 g/dl) Any anaemia	55.9	54.7	50.3	39.2	52.5	38.8	55.3
Prevalence of anaemia in men age 15-49 India, 2005-06							
(10.0-10.9 g/dl) Mild	13.4	11.8	10.5	8.1	11.5	3.5	13.1

(7.0-9.9 g/dl) **Moderate**	10.1	8.7	9.6	7	9.4	1.6	10.2
(<7.0 g/dl) **Severe**	1.3	1.2	1	0.8	0.3	0	1.4
(<11.0 g/dl) **Any anaemia**	24.8	21.6	21	15.9	21.2	5.1	24.7
Prevalence of anaemia, based on haemoglobin levels, is adjusted for altitude using the formula in CDC (1998). Haemoglobin in g/dl = grams per decilitre. The total includes children with missing information on mother's education, religion, caste/tribe, mother's interview status, and mother's anaemia status, who are not shown separately. The table excludes Nagaland.							

Source: (Government of India, 2007, pp. 289-312)

Table 4 shows the prevalence of anaemia levels among 6-59-month-old children, 15-49 age men women and men, and the severity of anaemia across religious groups. Mild anaemia is higher in Muslims (28.4), followed by Hindus (26.1), and Muslims had even higher than the national average among children. Moderate anaemia is highest among Hindus (40.7), followed by Muslims (38.5).

Muslim show a lesser prevalence of severe anaemia (2.8), while the highest is in Sikhs (5.7), which is above the national average. Any anaemia prevalence rates are the same for Muslims (69.7) and Hindus (69.7), but slightly higher than the national average (69.5).

The table also indicates the level of anaemia in women and men. According to haemoglobin tested anaemic was found at 55.3 in women and 24.7 in men. Muslim women had slightly higher to moderate anaemia prevalence than Hindu women, even higher than the national average among Muslim women. Muslim women had a prevalence of mild and severe anaemia lower than other religious groups and the national average.

The prevalence of anaemia is highest among Hindus (13.4), followed by Muslims (11.8). Muslim men had lower than the national average in any degree of anaemia. Muslim men had a lower prevalence of anaemia than Muslim women (Government of India, 2007b). Muslim men even had a lower prevalence of anaemia than Muslim children. The prevalence of anaemia is highest among Hindus, both in men and women.

Table 5: Distribution (%) of <5 Year Children According to Nutritional Status* By Socio-Economic and Demographic Characteristics

Children's Nutritional Status (%)							
		Hindu	**Muslim**	**Christian**	**SC**	**ST**	**OBC**	**Other community**
Wt. For Age	**Under weight**	42.7	36.3	28.6	54	44.5	40.3	32.4
Ht. For Age	**Stunting**	43.9	38.9	26.6	54	46	41.6	34.6
Wt. For Ht.	**Wasting**	22.4	18.6	19.5	29	25	20	16.9
Adult Men BMI (%)							
Chronic Energy Deficiency (<18.5)		35.8	27.1	22.3	44	39.8	33.4	28.5
Normal (18.5 – 23)		45.3	44.8	42.6	45.2	45.1	45.2	45
Overweight (≥ 23)		18.9	28.1	35	10.8	15.1	21.4	26.4
Adult Women BMI (%)							
Chronic Energy Deficiency (<18.5)		35.8	26.2	19.8	48.1	39.5	32.4	27.8
Normal (18.5 – 23)		42.5	40.2	34.7	41.9	42.1	42.6	41.4
Overweight (≥ 23)		21.7	33.6	45.5	10.1	18.4	25	30.8

Source: (Government of India, 2012 pp. 168-174)

Table 5 shows the children's nutritional status, adult women, and men's BMI across religious groups. According to the table, Muslim children's nutritional status is better than other religious groups, and SC/ST nutritional status is at the bottom. The nutritional status of Muslim children is different from Hindu children across all three indicators: underweight, stunting, and wasting. The 'chronic energy deficiency' status of Muslim adult men is better than men from other religious groups, except Christian Men. The prevalence of overweight Muslims was 28.1%, which is higher than 18.9% of Hindus. Similar observations were made for women across both religious groups. The prevalence of overweight Muslim women was 33.6%, which is higher than 21.7% of Hindu women. Chronic energy deficiency status among Muslim men and women was better than Hindus. But Muslim men and women had a slight difference in BMI values when compared with SC/ST population.

Access and Utilization of Health Services across Religious Groups

The data based on the NFHS multiple-rounds highlighted considerable religious differences in health services access and utilization. The linkages between religion and health services access and utilization reveal that poverty is a complex issue which needs to be identified and addressed with a multidimensional approach (Sutton, 2008). Access to and utilization of the health services pattern across religious and social groups indicate their social exclusion if there is any.

Table 6: Antenatal Care

Per cent distribution of women who had a live birth in the five years preceding the survey by antenatal care (ANC) provider during pregnancy for the most recent live birth, according to background characteristics, India, 2005-06									
Religion	**Doctor**	**ANM/nurse /midwife/ LHV**	**Other health personnel**	*Dai*/T BA	*Anganw adi*/ICD S worker	**Oth er**	**No one**	**Missi ng**	**Tota l**
Hindu	50.0	23.7	0.8	1.2	1.9	0.1	22.3	0.0	100.0
Muslim	48.2	21.3	2.2	0.7	0.5	0.2	26.8	0.1	100.0
Christian	69.8	10.3	0.7	1.3	0.7	0.1	17.1	0.1	100.0
Sikh	57.8	25.8	1.5	4.8	0.2	0.1	9.8	0.0	100.0
B/Neo-Buddhist	58.2	23.9	0.1	2.0	2.8	0.0	12.9	0.0	100.0
Jain	95.8	3.5	0.0	0.0	0.0	0.0	0.7	0.0	100.0
Total	50.2	23.0	1.0	1.2	1.6	0.1	22.8	0.1	100.0
Note: If more than one source of ANC was mentioned, only the provider with the highest qualification is considered in this tabulation. The total includes women with missing information on education, religion, and caste/tribe, who are not shown separately. ANM = Auxiliary nurse midwife; LHV = Lady health visitor; TBA = Traditional birth attendant; ICDS = Integrated Child Development Services									

Source: (Government of India, 2007, p. 194)

Table 6 shows the variation of antenatal care services across religious groups. For antenatal services, Muslims received the least services from a doctor as compared to other religions while Muslims received the highest services from 'other' health personnel than other religious group. For antenatal care, receiving none of the services was maximum among Muslims (26.8%), even higher than the national average. The findings illustrated that Muslims received the lowest services in all forms of antenatal care services except services provided by other health personnel Anganwadi workers. Jain received the highest services from doctors and Sikh received the highest from ANM/Nurse/Midwife/LHV services. Buddhist/Neo-Buddhist received the highest from Anganwadi/ICDS workers.

Table 7: Antenatal Care Services and Information

Among women with a live birth in the five years preceding the survey who received antenatal care for the most recent live birth, the percentage receiving specific services and information on specific signs of pregnancy complications and where to go if there was a pregnancy complication, according to background characteristics, India, 2005-06

RELIGIONS	Percentage receiving selected services during antenatal care					Percentage receiving information on specific pregnancy complications			
	Weighed	Blood pressure measured	Urine sample taken	Blood sample taken	Abdomen examined	Vaginal bleeding	Convulsions	Prolonged labour	Where to go if experienced pregnancy complications
Hindu	63.2	63.0	57.8	59.3	72.3	16.6	15.7	20.2	41.6
Muslim	58.6	62.6	54.8	55.8	67.2	14.6	12.5	17.0	34.1
Christian	83.5	84.3	74.5	74.5	88.7	24.5	19.9	28.6	55.6
Sikh	63.0	75.1	73.9	74.0	79.6	22.9	20.1	31.1	59.3
B/ Neo-Buddhist	82.7	78.3	74.2	75.4	82.5	15.9	14.0	15.6	42.6
Jain	97.3	92.7	87.1	94.3	92.2	37.9	32.7	43.2	73.0
Total	63.2	63.8	58.1	59.5	72.0	16.6	15.4	20.1	41.1

Source: (Government of India, 2007, p. 198)

Table 7 shows the percentage of mothers who received antenatal care services. It shows that Muslim women received the least of all kinds of services in antenatal care, with only 58.6 per cent of Muslim women being weighed as a part of antenatal check-ups when the national average was 62.6 per cent. Moreover, other antenatal care services were also less among Muslim women as compared with other religious groups- only 62.6% had their blood pressure measured, and 54.8% of women had urine examinations. And, 55.8% gave an abdominal examination. In all indicators, Muslims were reported lowest among all religious groups, including the national average.

Muslim women were deprived of the necessary information as part of antenatal check-ups. In case of receiving information on specific pregnancy-related complications, Muslim women have less information, as 14.6 per cent of women were provided with information about the possible complexity of vaginal bleeding, and 12.5 per cent were informed about convulsions. And, 17.0 per cent were informed about prolonged labour. While the national average had 16.6, 15.4 and 20.1 per cent of women, respectively. Jain women were at the maximum receiving end, with maximum mothers being informed about the above-mentioned information during antenatal care.

Table 8: Place of Delivery

Per cent distribution of live births in the five years preceding the survey by place of delivery, and percentage delivered in a health facility, according to background characteristics, India, 2005-06								
	Health facility/institution			Home			Other[5]	Total	Percentage delivered in a health facility
	Public sector	NGO/ trust	Private Sector	Own home	Parents' Home	Other homes			
Hindu	18.4	0.5	20.3	50.9	9.3	0.4	0.3	100.0	39.1
Muslim	15.4	0.3	17.3	56.7	9.6	0.5	0.2	100.0	33.0
Christian	23.6	0.9	28.9	42.0	3.8	0.7	0.2	100.0	53.4
Sikh	15.1	1.2	42.0	32.3	9.2	0.1	0.1	100.0	58.3
B/ Neo-Buddhist	37.2	0.2	21.3	23.4	17.2	0.6	0.1	100.0	58.8
Jain	30.9	2.6	59.6	4.1	2.8	0.0	0.0	100.0	93.1
Total	18.0	0.4	20.2	51.3	9.2	0.5	0.3	100.0	38.7
Note: Total includes births with missing information on mother's education, religion, and caste/tribe, which are not shown separately.									

Source: (Government of India, 2007, p. 208)

Table 8 shows the forms of deliveries under the trained health professional across various religious groups. Muslim women had poor access and utilization of skilled health professionals for child delivery compared to other religious groups. On average, 15.4 per cent of Muslim women went to the public sector, 0.3 per cent to NGOs, and 17.3 per cent to the private, while on the national average, 18.0 per cent of women used the public sector, 0.4 per cent used NGOs, and 20.2 per cent used the private sector. Among Muslim women, 56.7 per cent delivered their child at home without any assistance from trained health professionals. Among those women who delivered at health facilities, Muslim women were at the lowest rate (33.0 per cent) in delivering their child at health facilities, followed by Hindu women at 39.1 per cent (including SC/ST). Even Muslim women who delivered their child at home were the maximum, even higher than the national average.

[5] Including missing

Table 9: Utilisation of ICDS Services: Immunisation and Health Checkups

Religions	Percentage of Children aged 0-71 months who received any immunizations from an AWC	Frequency of receiving health check-ups at an AWC				
		Not at all	At least once a month	Less often	Don't know/ missing	Total

Percentage of children under age six years in areas covered by an *Anganwadi* Centre (AWC) who received any immunizations through an AWC in the 12 months preceding the survey and per cent distribution of children under age six years in areas covered by an AWC by frequency of receiving health check-ups at an AWC in the 12 months preceding the survey, according to background characteristics, India, 2005-06

Religions	Percentage of Children aged 0-71 months who received any immunizations from an AWC	Not at all	At least once a month	Less often	Don't know/ missing	Total
Hindu	21.4	81.3	12.2	4.4	2.0	100.0
Muslim	12.7	86.9	7.7	3.7	1.8	100.0
Christian	18.1	83.3	10.6	4.5	1.6	100.0
Sikh	3.8	92.4	4.5	1.3	1.8	100.0
B/Neo-Buddhist	49.0	52.7	34.6	6.4	6.3	100.0
Jain	(15.2)	(100.0)	(0.0)	(0.0)	(0.0)	100.0
Total	20.0	82.2	11.5	4.3	2.0	100.0

Note: Total includes children with missing information on mother's education, religion, and caste/tribe, who are not shown separately.
( ) Based on 25-49 unweighted cases

Source: (Government of India, 2007, p. 257).

Table 9 shows the proportion of children who were served by an *Anganwadi* centre in the past 12 months and have received supplementary food, across different religious groups. Utilization of ANW service for at least a month was least taken up by Sikhs (4.5 per cent), followed by Muslims (7.7 per cent) as compared to the national average (11.5 per cent). The percentage of children aged 0-71 months who received any immunization from an ANW, had the least uptake by Muslim children (12.7 per cent) as compared to Hindu children (21.4 per cent), higher than the national average (20.1 per cent). Muslim children (3.7 per cent) were also least frequent in receiving any health check-ups, while Hindu children (4.4 per cent) were better, even higher than the national average of 3.7 per cent.

Table 10: Vaccinations by Background Characteristics

The percentage of children aged 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's report), and the percentage with a vaccination card seen by the interviewer, by background characteristics, India, 2005-06

RELIGION	BCG	DPT			Polio				Measles	All basic vaccination	No vaccination	Percentage With a vaccination card seen
		1	2	3	0	1	2	3				
Hindu	79.6	77.5	67.9	56.4	48.6	93.9	89.9	78.7	60.0	44.4	4.4	37.4
Muslim	69.7	66.9	58.3	47.8	45.0	90.3	84.5	76.6	49.6	36.3	7.3	36.4
Christian	82.1	81.6	76.3	65.1	52.9	90.0	87.3	77.6	68.0	56.3	9.4	44.0
Sikh	90.4	88.6	86.2	76.9	65.5	91.0	89.1	81.1	80.2	67.3	6.6	46.0
B/Neo-Buddhist	98.5	94.1	75.6	58.0	81.3	95.2	87.3	74.1	96.0	50.9	0.7	39.1
Total	78.1	76.0	66.7	55.3	48.4	95.1	88.8	78.2	58.8	43.5	5.1	37.5

Note: Total includes Jain children and children with missing information on religion and caste/tribe, which are not shown separately.
( ) Based on 25-49 unweighted cases.
1 Polio 0 is the polio vaccination given at birth.
2 BCG, measles, and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth).
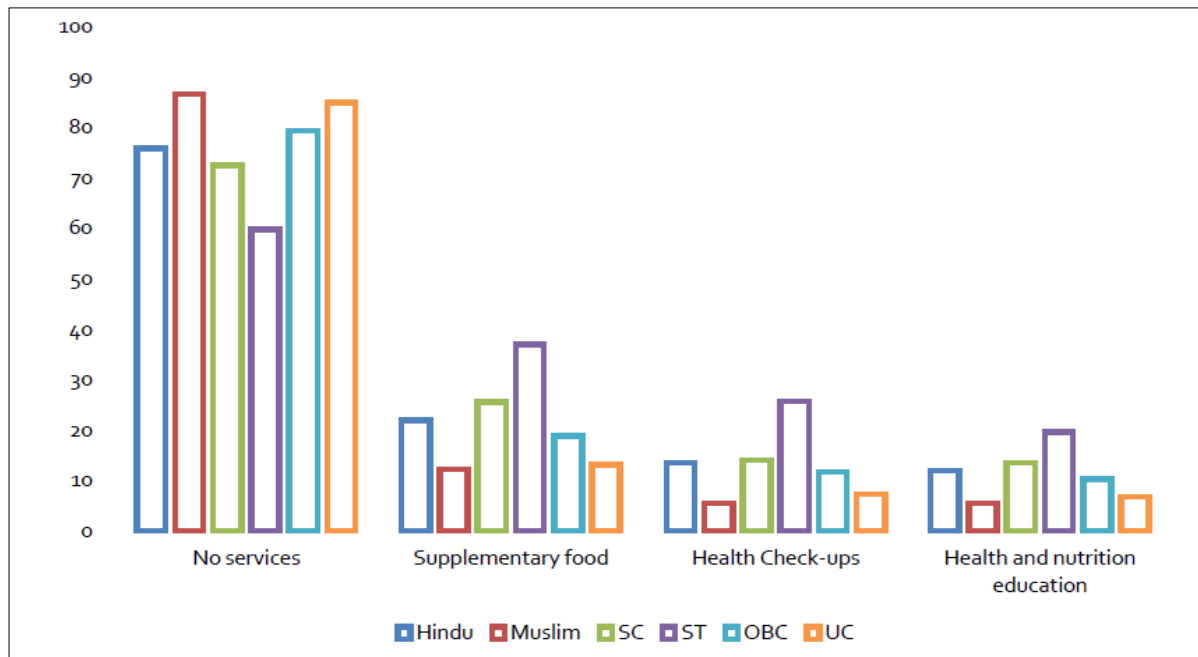
Source: (Government of India, 2007, p. 229)

Table 10 shows the percentages of 12-23 months children who received a specific vaccination. The 12-23 month age group was chosen for analysis because both international and Government of India guidelines specify that children should be fully vaccinated by the time they complete their first year of life (Government of India, 2006). Muslim children received 69.7 per cent of BCG vaccination, while the highest BCG vaccination was received among Buddhist/Neo-Buddhist (98.5 per cent) against the national average (78.1 per cent) of children being vaccinated.

Muslim children who received first, second and third doses of DPT were 66.9 per cent, 58.3 per cent, and 47.8 per cent respectively, which is the lowest among all religious groups and lower than the national average. Muslim children to have received polio zero, first, second and third doses were 45.0 per cent, 90.3 per cent, 84.5 per cent, and 76.6 per cent respectively. While the national average was 48.4 per cent, 95.1 per cent, 88.8 per cent, and 78.2 per cent respectively. Muslim children were in the lowest frequency to receive vaccination of DPT and polio vaccine as compared to other religious groups (Government of India, 2007b).

Muslim children (49.6 per cent) were even behind others in receiving measles vaccination. The findings of the table, for all primary vaccinations, including measles, Muslim children received the lowest percentage of coverage of all religious groups and also the national average. There was unavailability of categories, as mentioned by the Kundu report for analysis of inequalities (NFHS does have data on Hindus separately and SCs/STs too, but does not have segregated data on Muslims) (Government of India, 2014). Clubbing of Hindus together with SC/ST and clubbing of all Muslims as one category takes away the possibilities of studying inequalities and understanding the reasons behind them.

Figure 1: Utilization of ICDS Services among Mothers of Children (under 6 years) in Areas covered by an AWC, India, and NFHS-3

Source: (Government of India, 2014 p. 68)

Figure 1 shows the utilization of The Integrated Child Development Services (ICDS) scheme, covered by an AWC across all religious groups in India. Muslim women have reported being the slowest receiver of ICDS services. And, at least to go for health check-ups, adhere to health and nutrition-related education, and consume supplementary food. Meanwhile, STs women were reported highest received supplementary food and availed health check-ups and health nutrition education.

Inequalities in health and nutrition status widely exist in society between the high income and low-income groups. The paper highlighted social identity plays a significant role in accessing health services and is inextricably interlinked with inequality. And, these inequalities have a substantial impact on the well-being and health accessibility of any community. The influence of socio-economic inequalities on health-related issues has attracted considerable research interest. The findings of the study enunciate that health care services can increase by reducing economic inequalities. The effect of economic class on the occurrence of lack of access and time spent in lines was mediated by health services, reflecting their importance as a social determinant of health (Nunes, Thume, Duro, & Facchini, 2014).

Conclusion

Most studies have examined inequality in terms of education, economic opportunities, and income, but very few studies have examined the effects of social inequalities on health outcomes, especially among Muslims. This paper clearly illustrated inequalities across religious groups based on social identity and status in India. Datasets enumerated those Muslim conditions are worse than any other religious groups and are on a marginal difference with SC/ST. But on contrary, the condition of Muslims is not improving at the same pace as SC/ST. The paper also revealed inequalities in data collection and a lack of understanding of social stratification among Muslims. Muslims are a heterogeneous community. There is a need to obtain disaggregated data on Muslims. This paper has reflected on problems associated with available data, and tried to identify the representation of Muslims in national datasets, their socioeconomic condition, their association with access to health services and associated behaviour.

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