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Status of Infant and Young Child Feeding Practice and Its Association on Anthropometry in 6-24 Months Children in a Tertiary Care Hospital

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Key words:
Infant and Young Child Feeding, Complementary feeding, Exclusive breast feeding

Abstract

Background: *In developing countries, around 32% of under-five children are stunted, and 10% are wasted. Sub-optimal breastfeeding and inappropriate complementary feeding practices are important causes of malnutrition. The aim of the study. The aim of study was to observe the status of infant and young child feeding (IYCF) practices and its impact on anthropometry among the patients attending in SSMCMH, Dhaka.* ***Methods:*** *This observational study was conducted at Sir Salimullah Medical College and Mitford Hospital, Dhaka, over a period of 6 months from July 2021 to December 2021 after approval of protocol. A written structured questionnaire was applied for data collection. The collected data was analyzed and presented as tabulated form.* ***Results:*** *Among the children, 45% infants were found initiated breastfeeding within one hour, 59.3% infants maintained exclusive breastfeeding upto six completed months and 78% continued breastfeeding upto one year of age. The rate of the timely starting of complementary feeding was 51.3%. Among the children, 15.2% were severely underweight and 26.8% were moderately underweight; 9.3% were severely stunted, and 20% were moderately stunted; 6.5% were severely wasted and 15.5% were moderately wasted.* ***Conclusion:*** *It is demonstrated in this study that there is a significant positive effect of IYCF on nutritional status measured by anthropometry. But there needs more emphasis to improve the current IYCF practice to meet the goal of SDG. Mothers should be encouraged for initiation of breastfeeding within one-hour, exclusive breast feeding for 6 months and use nutritious foods during complementary feeding.*

Introduction:

Nutrition within the first 2 years of life is most crucial to the healthy growth of a child and a sustainable socio-economic development of the community. Adequate nutrition during infancy and early childhood is essential to ensure growth and development of children to their full potential. Poor nutrition also increases the risk of illness directly or indirectly.[1]

Globally an estimated 1.3 million lives are lost each year due to inadequate exclusive breast feeding and another 600 thousand from lack of continuation of breastfeeding with proper complementary

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feeding. In addition, improper infant and young child feeding cause one third ofmalnutrition. Studies have shown that inappropriate breast-feeding practice are associated with severe malnutrition in the under five children, lack any advantage in terms of weight gain and are associated with growth faltering. Malnutrition has significant health and economic consequences which include increased risk of death, illness and lower cognitive development among others.[2]

Breastmilk is a natural resource that has a major impact on child's health, growth and development and it is recommended for at least the first two years of child's life. Breast milk contains the nutrients that a baby needs and in right quantity. The nutrients are easily and quickly digested. Early initiation of breast-feeding increases chances of breast-feeding success, also it generally lengthens the duration of breast feeding.[3]

UNICEF and WHO are working to promote breast feeding in order to save and enrich the lives of children everywhere. In 2020, the "Global Strategy for Infant and young child Feeding" aims to revitalize efforts to promote, protect and support infant and young child feeding. It builds upon past initiatives in particulars the Innocentia Declaration and the Baby friendly Hospital initiative and addresses the needs of all children including those living in difficult circumstances such as infants of mothers living with HIV, low birth weight infants and infants in emergency situations.[3]

UNICEF and WHO jointly developed "The Global strategy for infant and Young Child Feeding" in 2003 and recommended that children should breastfed exclusively for the first six months of life and then continue breast feeding with proper complementary food upto 2 years of age and beyond.[4]

Updated indicators provided by WHO & UNICEE, to assess infant and young child feeding practices (2008) for measuring feeding of children at 0-24 months include some indicators which helps to assess the practical situation. These have been categorized into 8 core & 7 optional indicators. Core indicators are: i) early initiation of breast feeding, ii) Exclusive breast feeding for 6 months, iii) continued breast feeding at 1 year, iv) Introduction of solid, semi-solid or soft foods, v) Minimum dietary diversity, vi) Minimum meal frequency, vii) Minimum acceptable diet, viii) Consumption of iron-rich or iron fortified food. 7 optional indicators are: i) children ever breast fed ii) Continued breast feeding at 2 years , iii) Age appropriate breast feeding, iv) Predominant breast feeding under 6 months v) Bottle feeding vii) Milk feeding frequency for non breast fed children.[5]

Also, IBFAN Asia has developed WBTi (The World Breastfeeding Trends initiative) to assess the status and benchmark the progress of the implementation of the global strategy for IYCF. It is an innovative initiative, as a system for analysis of policy and program and Tracking, Assessing and Monitoring (TAM) the Global strategy for Infant and Young Child Feeding using a web based toolkit. In this system, Bangladesh achieved the score 123 out of 150 (BLUE), in 2015.[6]

According to Bangladesh Demographic health survey 2017 – 2018, shows the status of IYCF indicators of year 2017 are proportion of exclusive breast feeding for six months is 65%, Overall, 34% of children age 6-23 months are fed appropriately according to recommended IYCF practices; that is, they are given milk or milk products and foods from the recommended number of food groups & are fed at last the recommended minimum number of times. Overall infant and child feeding practices have improved considerably from the 2014 level (23%). The 4th HPNSP aims to ensure that 45% of children age 6-23 months will consume appropriate foods by 2022 according to recommended IYCF practices.[7]

Regarding child nutritional status in 2017, 22% of children under age 5 were underweight, 31% were stunted and 9% were severely stunted. The 4th HPNSP objective is to reduce the prevalence of stunting to 25% by 2022.[7]

Feeding practices vary with socioeconomic condition and are regulated by a variety of factors such as education, customs, taboos, ignorance, undesirable socio-cultural beliefs and misconceptions.[8]

In this proposed study, the study population was the patients of Sir Salimullah Medical college and MitfordHospital, one of the tertiary care hospitals of Dhaka city. So, in this study an attempt was made to evaluate the current situation of infant & young child feeding practice as well as their association on nutritional status by anthropometry.

Methods:

This is a observational studywhich was carried **in** and outpatient department (OPD) of Pediatrics of Sir Salimullah Medical College Mitford Hospital, Dhaka for Six months-from July, 2021 to December, 2021 among the Children 0f 6-24 months old. Before enrollment in this study informed written consent was taken from the guardian after full explanation of the purpose of the study. A structured questionnaire, incorporating all the necessary information was used for the data collection by the investigator himself. Before collection of data, questionnaire was translated into the local language to ensure all participants understood the question asked in the survey.

The questionnaire has included name, age, sex, address, specially feeding history (initiation of breast feeding, prelacteal feeding, exclusive breast feeding, complementary feeding, meal quality and meal frequency, continuation of breast feeding) and some causative factors like educational and occupational status of the mother, socioeconomic status of the parents, any disease of the mother or children, social customs / belief, total number of family members and his / her position among the children.

After collection of each day, the data were checked; followed by editing and cleaning to detect errors or omissions and to maintain consistency and validity of the data. Then the data were entered into the computer using Statistical Package for Social Sciences (SPSS-23 version) software (SPSS Inc, Chicago, IL, USA). The Chi-square test was used to analyze the data with a significance level of $p<0.05$.

Results:

A total number of 300 children were selected from the outpatient and inpatient department of pediatrics,Sir Salimullah Medical College and Mitford Hospital, Dhaka who fulfilled the inclusion and exclusion criteria were included in the study to find out the status of infant and young child feeding practices. Among them, 63.33% were boys and 37.66% were girls. 49.33% were 6-12 months of age, 31.66% were 13-18 months of age and 19% were 19-24 months of age. Most of the study population were middle class in their social status.

Table 1: Socio- demographic and economic characteristics

Characteristics	Frequency (%)
Age (months) of children	
6-12	49.33
13-18	31.66
19-24	19
Sex of Children	
Male	62.33
Female	37.66
Education Status of Mothers	
Illiterate	22.33
Primary	57
Secondary	12.33
Higher	8.33
Socio-economic status	
Poor	30
Middle	66.67
High	03.33

n=no of study population

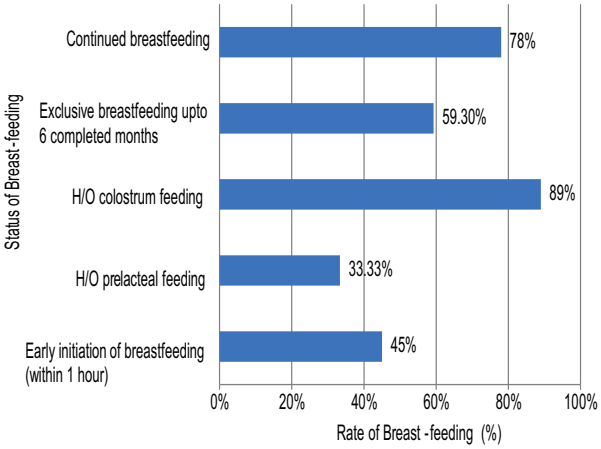

Figure-1: Status of breastfeeding indicators among children aged younger than 24 months (n=300).

In this study, early initiation of breastfeeding was 45%, history of (H/O) prelacteal feeding 33.33%, history of colostrum feeding 89%, exclusive breastfeeding upto 6 completed months 59.3% and continued breastfeeding 78%.

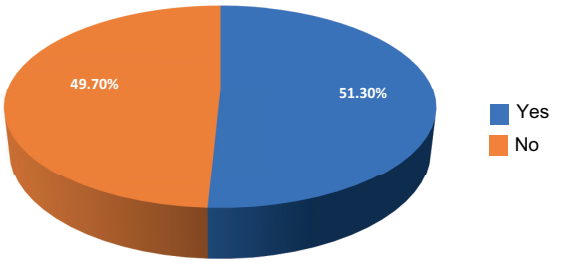

Figure-2: *Awareness of the mother about exclusive breast feeding and continued breast feeding (n=300).*

Pie chart showed the awareness of the mother about exclusive breast feeding and continued breast feeding. Only 51.30 of the mothers had adequate knowledge about exclusive breast feeding and continued breast feeding.

Table 3: *Bottle feeding status of children.*

Age (months) of introduction bottle feedings	Frequency (%)
Before 6 months	50 (16.67)
6-11 months	38 (12.67)
12-24 months	35 (11.67)
Total	123 (41)

The early introduction (before 6 months) of bottle feeding to children was 16.67%. Whereas 12.67% and 11.67% of the children were introduced bottle at their 6-11 months and 12-24 months respectively.

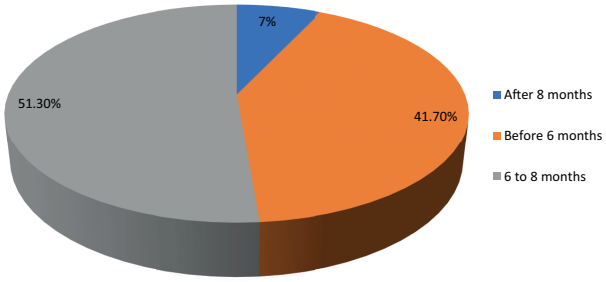

Figure-3: Age(months) of initiation of Complementary feeding (n=300).

Pie chart showed the early introduction (before 6 months)of complementary feeding to children aged 6-23 months was 41.7%. The timely starting of complementary feeding (6-8 months) was 51.3% and late initiation (after 8 months) was only 7%.

Table 4: Complementary feeding status (n=300)

IYCF indicators	Maintained	Not maintained
Minimum dietary frequency among 6-24 months children	42.23%	57.77%
Minimum dietary diversity among 6-24 months children	42.27%	47.73%
Minimum acceptable diet among 6-24 months children	40.4%	59.6%

Table-4 showed, Majority of children aged 6-24 months (44.67%) had given **minimum dietary diversity** (Children aged 6-23 months of age who receive foods from 4 or more groups) and (42.23%) had **minimum meal frequency**(children aged 6—23 months of age who receive solid, semi-solid, or soft foods for the minimum number of times or more: 2 for 6-8 months, 3 for 9-23 months, 4 for 6-23 months (if not breast fed).**Minimum acceptable diet**(Children aged 6-23 months of age who had both minimum dietary diversity and minimum meal frequency) was given (40.4%) children.

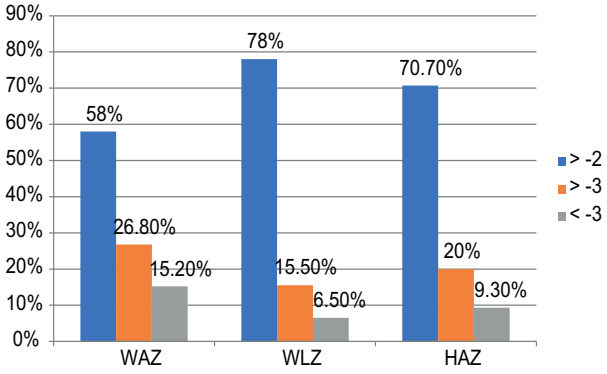

Figure-4: Nutritional status of children(n=300)

Of the children, 15.2% were severely underweight and 26.8% were moderately underweight; 6.5 were severely wasted, and 15.5% were moderately wasted; 9.3% were severely stunted, and 20% were moderately stunted.

Stunting is assessed via height-for-age (HAZ)is a measure of growth faltering. Children whose height-for-age Z-score is below minus two standard deviations ("2 SD) from the median of the reference population are considered short for their age (stunted). Children whose Z-score is below minus three standard deviations ("3 SD) from the median are considered severely stunted.

Wasting is assessed via weight-for-length (WLZ)which measures body mass in relation to body height or length and describes acute undernutrition. Children whose weight-for-height Z- score is below minus two standard deviations ("2 SD) from the median of the reference population are considered thin (wasted) and below minus three standard deviations ("3 SD)are considered severely wasted.

Underweight is assessed via weight-for-age whichis a composite index of height-for-age and weight-for-height that takes into account both wasting and stunting. Children whose weight-for- age Z-score is below minus two standard deviations ("2 SD) from the median of the reference population are classified as underweight and below ("3 SD) are considered severely underweight.

Table-5: Correlation between socio-demographic factors and exclusive breastfeeding.

Education of mothers	Exclusive breastfeeding		p-value
	Yes (%)(n=178).	No (%)(n=122).	
Illiterate	38 (57.3)	29 (42.7)	
Primary	102 (60.2)	69 (40.3)	
Secondary	25(67.5)	12(32.5)	.04
Higher	13(52)	12(48)	

Exclusive breastfeeding was positively associated with education of mothers

Table-6: Association between socio demographic factors and nutritional status (n=300)

Socio demographic factor	Nutritional status			P value
	Normal n= 212 (%)	Moderate stunting (n=60) (%)	Severe stunting (n=28) (%)	Male
150 (50)	27 (9)	10 (3.3)	.01	
Female	62(70.7)	33 (11)	8 (6)	
Total	212 (70.7)	60 (20)	28 (9.3)	

There is a significant association between sex of the children and nutritional status. Of the female children,6% were severely stunted,11% were moderately stunted. While 3.3% male children were severely stunted, and 9% were moderately stunted.

Table -7: Association between feeding status and nutritional status (n=300).

Sociodemographic factor	Nutritional status			P value
	Normal n= 212 (%)	Moderate stunting (n=60) (%)	Severe stunting (n=28) (%)	
Exclusive breastfeeding Upto 6 completedmonths	160 (89.8)	11 (6.2)	7(4)	0.01
Timely initiation of complimentary feedingMinimum acceptable diet among 6-24 months children	142 (92.2)85(40.2)	9 (5.8)9(15)	3(2)3(10)	

Table-7: Showed a significant association between feeding status of the children and nutritional status. Data was analyzed by using Chi-square Test. The p-value was 0.01. The result was significant at $p<0.05$.

Discussion:

Optimum infant and young child feeding practices especially early initiation and exclusive breastfeeding for the first six months of life help ensure young children the best possible start to life. Early and exclusive breastfeeding is now recognized as one of the most effective interventions for child survival. The present study revealed that 45% of the children born in the last 23 months were put to breast within one hour of the birth, Khan et al[9] in a study done in Delhi observed that 37.2% of children less than 24 months had early initiation of breastfeeding. Victor et al[10] from a secondary analysis of Tanzania Demographic and Health Survey showed that 46.1% of the mothers-initiated breastfeeding within one hour of birth. Latter et al[11] also observed similar findings in other developing countries, however, it was lower than that observed in Gazipur District, Bangladesh (77.3%).[12]

In our study, the rate of initiation of breastfeeding was high (45%) because of the intervention use. Results of a study in Ghana showed an association between the timing of breastfeeding and the survival of newborns. The study showed that 22% of all neonatal deaths could be prevented if all women have initiated breastfeeding within one hour of birth.[13]

In our study, we found that 59.3% of the infants were exclusively breast fed, whereas Bangladesh Demographic and Health Survey 2017-2018 showedthat Sixty-five percent of infants under age 6 months are exclusively breastfed which is markedly higher than that reported in 2014 (55%).[7]

Saxena and Kumar in Doiwala block, Dehradun, India observed that 77.4% had exclusive breast-feeding[14].

Exclusive breastfeeding for six months confers several benefits to the infant and the mother. According to the WHO growth standards, exclusively-breastfed children have more rapid growth in the first six months of life compared to life compared to infants of other age-groups.[15]

The continuation rate of breastfeeding is 78% after completion of one year. We found that Insufficient milk secretion and unawareness of the mother were the most common factors for discontinuing breastfeeding which is also reflected by significant increase in bottle feeding rate with increase in age of children.

In the present study, the proportion of infants aged 6-8 months who received solid, semi-solid or soft food, in addition to breast milk was better at 51.3% as compared to rural India (56.5%) and rural Punjab (70.0%) [16,17]. Minimum dietary diversity was observed in 44.67% of the children between 6 and 24 months.Also, a significant increase in prevalence of minimum dietary diversity with increase in age from 6 months to 24 months observed in the present study was similar to findings demonstrated in other studies.

In the present study, 51.3% of children, aged 6-24 months, were offered complementary feeding at the appropriate time. Khan et al showed in their study that Out of the 66 children aged between 6 and 9 months, about three-fourths (72.7%) were having complementary feeding. Of the 32 children aged 6–8 months, 20 (62.5%) were taking solid, semi-solid, or soft foods. This was found to be higher than that reported by NFHS-3 data at national level (44.2%)(18). In the present study, the rate of the early starting of complementary feeding was 41.7% and late initiation was 7%. The practice of responsive feeding, applying the principles of psychosocial care during feeding, is one of the important issues. Several intervention studies included feeding behaviors as part of the recommended practices and reported positive effects on child growth.

In this study, among the 300 children, 15.2% were severely underweight and 26.8% were moderately underweight; 6.5% were severely wasted and 15.5% were moderately wasted; 9.3% were severely stunted and 20% were moderately stunted. In the study, the cause of malnutrition could be the early introduction of complementary food. According to BDHS 2017 to 2018 showed that 34% of children age 6–23 months are fed appropriately according to recommended IYCF practices; that is, they are given milk or milk products and foods from the recommended number of food groups and are fed at least the recommended minimum number of

times. Overall, infant and child feeding practices have improved considerably from the 2014 level (23%). This improvement has occurred across all wealth quintiles. The 4th HPNSP aims to ensure that 45% of children age 6–23 months will consume appropriate foods by 2022 according to recommended IYCF practices. Feeding according to IYCF recommendations increases with child's age, mother's educational level, and socioeconomic status. Adherence to IYCF practices is better in urban areas than in rural areas (39% compared with 32%). The recommended IYCF practices are lowest in Sylhet (27%) and highest in Rangpur (41%).[7] NFHS-3 data from Delhi have reported that only 55% of children aged 6–23 months are fed the recommended minimum times per day and 48% are fed from the appropriate number of food groups. Only 34% are fed according to all three recommended practices. [18]

Exclusive breastfeeding was significantly associated with education of mothers. There was a high difference in the rate of exclusive breastfeeding among the literate and illiterate mothers. A study in Nigeria has shown that lack of education among many caregivers may hinder their ability to give care to their children. Amore-educated mother/caregiver raises a better-developed child in terms of mental and physical development compared to a less-educated mother, which also enhances the efficient use of time of mother or caregiver.

Present study showed that, 6% of the female children were severely stunted, and 11% were moderately stunted, while 3.3% male children were severely stunted and 9% were moderately stunted, and there was significant association between feeding status of the children and nutritional status.

Conclusion:

It is demonstrated in this study that there is a significant positive impact of IYCF on nutritional status measured by anthropometry. But there needs more emphasis to improve the current IYCF practice to meet the goal of SDG. Mothers should be encouraged for initiation of breastfeeding within one-hour, exclusive breast feeding for 6 months and use various types of foods during complementary feeding.

Limitations:

Single-center and the relatively short study duration might limit validity. Future multi-center studies with longer follow-up periods will provide more comprehensive insights.

Data Availability:

The datasets analysed during the current study are not publicly available due to the continuation of analyses but are available from the corresponding author on reasonable request.

Conflict of Interest:

The authors stated that there was no conflict of interest in this study.

Funding:

This research received no external funding.

Ethical consideration:

The study was approved by the Ethical Review Committee of Sir Salimullah Medical College Mitford Hospital (SSMCMH) Dhaka, Bangladesh. Informed consent was obtained from each participant or caregivers of the patients.

Author Contributions:

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; had agreed on the journal to which the article had been submitted; and agreed to be account able for all aspects of the work.

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References:

1. Tamramat I, Runsewe-A biodun,Francis S. Bondi. NFANT AND YOUNG CHILD FEEDING PRACTICES IN THE EAST END OF FREETOWN, SIERRA LEONE. Sierra Leone Journal of Biomedical ResearchAugust 2016;8(1):4

2. Muchina EN, PM Waithaka, Relationship Between Breastfeeding Practices and Nutritional status of children aged 0-24 months in Nairobi, Kenya. African Journal of Food Agriculture Nutrition and Development, 2010; 10(4):2358-2378.

3. WHO, UNICEF. Global Strategy for Infant and Young Child Feeding. Geneva: WHO, 2020:1-2

4. WHO, UNICEF. Global Strategy for Infant and Young Child Feeding. Geneva. WHO. 2003:1-12

5. WHO, UNICEF. Introduction. Infant and Young Child Feeding: Model chapter for text books for medical students and allied health professionals. Geneva: WHO, 2009

6. World Breastfeeding Trends Initiative (WBTi) Assessment 2020 in Bangladesh. https://www.world breastfeedingtrends.org/uploads/resources/document/ wbti-brochure-may-2019.pdf

7. Bangladesh Demographic and Health survey. Child Nutrition and Feeding Practices, Dhaka, 2017-2018: 42-48

8. Salim M. et al Infant and Young Child Feeding Practices upto two years of age and their nutritional status. Bangladesh Medical Journal 2012;41(1):14-19.

9. Khan Am, Kayina P Agrawal P, Gupta A, and at. A study on infant and young child feeding practices among mothers attending an urban health centre in East Delhi. Indian J Public Health. 2012; 56:301-304

10. Victor R, Balnes SK, Agho KE, and Dibley MJ. Determinants of breastfeeding indicators among children less than 24 months of age in Tanzinia: a secondary analysis of the 2010 Tanzania Demographic and Health Survey. BMJ Open 2013;3: e001529.

11. Lutter CK, Daelmans BMEG, de Onis MD, Kothari MT, Rule MT, Arimond M, et al. Undernutrition, poor feeding practices, and low coverage of key nutrition interventions. Pediatrics 2011;128(6): e1418-1428

12. Haider R et al. Effect of community-based peer counselors on exclusive breastfeeding practices in Dhaka, Bangladesh: a randomized controlled trial. Lancet, 2000,356:1643-1647.

13. Aidam B, Perez-Escamilla R, Lartey A. Lactation counselling increases exclusive breastfeeding rates in Ghana. Journal of Nutrition, 2005, 135:1691-1695

14. Kumar D, Goel NK, Mittal PC, Misra P. Influence of infantfeeding practices on nutritional status of under-five children.

15. WHO, UNICEF.Infant and Young Child Feeding. Geneva, WHO. 9 June 2021https://www.who.int/news-room/fact-sheets/detail/infant-and-young-child-feeding

16. International Institute for Population Sciences (IIPS) and Macro International. National Family Health survey (NFHS 3), India, 2005-06: Punjab. Mumbai:IIPS 2008

17. Ministry of Health and Family Welfare, Government of India. District Level Household and Facility Survey (DLHS 3), 2007-08: Facts Sheets India. Mumbai: International Institute for Population Sciences 2009

18. National Family Health Survey (NFHS-3), 2005–06: India: Vol. 1.Mumbai: International Institute for Population Sciences and Macro International; 2007 National Family Health Survey (NFHS-3), 2005–06: India: Vol. 1.Mumbai: International Institute for Population Sciences and Macro International; 2007.