

Periodical Assessment of Maternal Health Services in Village Health & Nutrition Day in Rural Areas of North 24 Parganas, West Bengal, India

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Abstract: **Background:** Village Health and Nutrition Day (VHND) being flagship programme in India, has been observed in different States in India as well as West Bengal. **Objectives:** The objective of the study was to assess periodically the maternal health services of VHND sessions in North 24 Parganas district, West Bengal. **Methodology:** Community based assessment was done using LQAS technique by interview of 207 mothers who have delivered within one year using semi-structured interview schedule since 2013 to 2017. SPSS has been used to analyze the data. **Results:** Mothers have been registered for antenatal care were 57% (118), 63.8% (132), 66.7% (138) and 72.9% (151) respectively over successively four years and never registered 8.7% (18), 5.3% (11), 3.9% (8) and 2.4% (5) respectively. Home delivery attributed 12.6% (26), 8.7% (18), 5.8% (12) and 3.4% (7) respectively. **Conclusion:** There is no difference in socio-economic status of the mothers. But the quality of maternal health services and awareness among them has been clearly improved on course of time.

Key Words: Maternal Health, LQAS, VHND

Date of Submission: 25-07-2018

Date of acceptance: 10-08-2018

I. Introduction

Integrated Nutrition and Health Project^[1] (INHP) developed the concept of Nutrition and health Day (NHD) and rolled out by two phases in 1996-2001 and 2002-2006. Since then it has been replicated across the country in various forms as Village Health and Nutrition Day (VHND)^[2] or Fixed Nutrition and Health Day (FNHD) under National Rural Health Mission (NRHM). It combines the principles of fixed-day, fixed-site provision of outreach services such as immunization, antenatal care, food supplements distribution, health and nutrition education with the principles of convergence of services and community participation and monitoring. It is considered as a platform for inter-sectoral convergence, managed by workers from both health and WCD departments and seeks the support of community institutions like SHGs, adolescent girls groups etc. According to the revised VHND guideline^[3] circulated by department of Health & Family Welfare, Government of West Bengal on December, 2010, VHND session is being held at the Sub-Centre area once in each month, on any Wednesday. Rest of the VHNDs will be held along with immunization session at three or four AWC on Thursday.

A number of studies^{[4], [5]} have been conducted on Fixed Nutrition and Health Day (FNHD) or Village Health and Nutrition Day (VHND). But a few studies^{[6], [7]} have focused on evaluation and convergence in between the related departments. Though VHND services take place almost regularly, there is still long way to deliver truly convergent services. In addition to that Knowledge of impact of all these services remains obscured.

To address this problem though 3rd Saturday convergent meeting, listing of drop-out beneficiaries, updating of due-list, Block level MIES meeting are going on, still huge gaps exist in the area of VHND. To attain sustainable success in maternal and child health outcomes, we wish to know how effectively and efficiently VHND programme is rolling out in North 24 Parganas.

II. Methodology

Study has been conducted in rural area of all 12 blocks of North 24 Parganas Health District from July, 2013 to June, 2017. Study population has been taken as women who have delivered within last 12 months. Those are seriously ill, not fit for response is being excluded from the study. It is a descriptive, observational follow up study to evaluate Village Health & Nutrition Day with special focus on maternal health services. Periodical assessment was done in successive four years. Maternal health service delivery was assessed by

interview of 207 mothers who have delivered within 1 year. Sampling with LQAS technique was used for assessing the key outcome indicator of Fully Immunized Children coverage. Principle investigator has collected information conducting interviews of beneficiaries using semi-structured interview schedule in the lot areas. The data has been computerized and cleaned for any missing information. SPSS software has been used to analyze the data. Clearance & approval has been obtained from Institutional (Medical College, Kolkata) Ethics Committee.

III. Results

Table 1: Socio-economic conditions of mothers who delivered within 1 year over study period

Variables		Observation period				Chi-Square	df	p value
		2013-14 (n=207) No (%)	2014-15 (n=207) No (%)	2015-16 (n=207) No (%)	2016-17 (n=207) No (%)			
Religion	Hindu	109 (52.7)	117 (56.5)	113 (54.6)	115 (55.6)	0.683	3	0.877
	Muslim	98 (47.3)	90 (43.5)	94 (45.4)	92 (44.4)			
Age	<18	24 (11.6)	18 (8.7)	15 (7.2)	20 (9.7)	10.751	9	0.293
	18 - 22	86 (41.5)	95 (45.9)	92 (44.4)	90 (43.5)			
	23 - 27	78 (37.7)	87 (42.0)	91 (44.0)	84 (40.6)			
	> 27	19 (9.2)	7 (3.4)	9 (4.3)	13 (6.3)			
Economic status	APL	146 (70.5)	135 (65.2)	138 (66.7)	142 (68.6)	1.520	3	0.678
	BPL	61 (29.5)	72 (34.8)	69 (33.3)	65 (31.4)			
Education	Just Literate	24 (11.6)	6 (2.9)	11 (5.3)	9 (4.3)	27.574	9	0.024
	Up to Primary School	50 (24.2)	57 (27.5)	43 (20.8)	47 (22.7)			
	Middle to High School	87 (42)	103 (49.8)	116 (56)	117 (56.5)			
	Above High School	46 (22.2)	41 (19.8)	37 (17.9)	34 (16.4)			

Socio-economic conditions of the women (n=207) who have delivered within last I year, their distribution according to religion shows that 52.7% (109), 56.5% (117), 55.6% (113) and 54.6% (115) mothers belong to Hindu families in the year 2013-14, 2014-15, 2015-16 and 2016-17 respectively and rest are Muslims (Table-1). Mothers who are less than 18 years of age comprises of 9.7% (24), 8.7% (18), 7.2% (15) and 11.6% (20) in the successive four years respectively. 6.3% (19), 3.4% (7), 4.3% (9) and 9.2% (13) mothers have age more than 27 years respectively. Majority of mothers belong to age group of 18 to 27 years. This table shows that 61 (29.5%), 72 (34.8%), 69 (33.3%) and 65 (31.4%) mothers of over four years respectively belong to Below Poverty Line (BPL) category.

Table 2: Distribution of services of mothers who delivered within 1 year over study period

Variables		Observation period				Chi-Square	df	p value
		2013-14 (n=207) No (%)	2014-15 (n=207) No (%)	2015-16 (n=207) No (%)	2016-17 (n=207) No (%)			
Registration weeks	<12	118 (57.0)	132 (63.8)	138 (66.7)	151 (72.9)	35.20	12	0,000
	12-24 weeks	52 (25.1)	46 (22.2)	35 (16.9)	39 (18.8)			
	>24-36 weeks	5 (2.4)	7 (3.4)	19 (9.2)	7 (3.4)			
	>36 weeks	14 (6.8)	11 (5.3)	7 (3.4)	5 (2.4)			
	Never registered	18 (8.7)	11 (5.3)	8 (3.9)	5 (2.4)			
JSY* benefit given		49 (23.7)	72 (34.8)	78 (37.7)	90 (43.5)	18.89	3	0.000
Place of delivery	Home	26 (12.6)	18 (8.7)	12 (5.8)	7 (3.4)	27.99	6	0.000
	Govt. Institution	103 (49.8)	105 (50.7)	128 (61.8)	143 (69.1)			
	Private Institution	78 (37.7)	84 (40.6)	67 (32.4)	57 (27.5)			
Birth weight of baby	<2.5Kg	32 (15.5)	27 (13.0)	16 (7.7)	12 (5.8)	17.34	6	0,008
	2.5-3.5Kg	168 (81.2)	166 (80.2)	176 (85.0)	177 (85.5)			
	>3.5Kg	7 (3.4)	14 (6.8)	15 (7.2)	18 (8.7)			

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Distribution of Mothers (Table-2) who have delivered within 1 year according to time of Antenatal Care Registration over study period, North 24 Parganas shows that 57.0% (118), 63.8% (132), 66.7% (138) and 72.9% (151) mothers attended antenatal clinic and registered there within 12 weeks of gestation respectively. Registration done within 12-24 weeks in case of 25.1%, 22.2%, 16.9% and 18.8% mothers respectively over successive four years respectively. 18, 11, 8 and 5 mothers over observation period didn't ANC registered at all over four years respectively They have got JSY benefit in the year 2013-14, 2014-15, 2015-16 and 2016-17, 23.7% (49), 34.8 (72), 37.7% (78) and 43.5% (90) cases respectively. Distribution of Mothers according to place of delivery over study period, North 24 Parganas shows that deliveries have been conducted at home in case of 12.6%, 8.7%, 5.8% and 3.4% cases whereas 49.8%, 50.7%, 61.8% and 69.1% took place at Govt. Institution and 37.7%, 40.6%, 32.4% and 27.5% took place at Private Institution respectively over successive four years. According to birth weight of baby, it is seen that 15.5%, 13.0%, 7.7% and 5.8% children had birth weight equal to or less than 2.5 Kg.

IV. Discussion

Socio-economic conditions of the women who have delivered within 1 year shows that there is no significant difference in respect of religion, age, economic status, and educational qualification of mother over the observation period i.e. the year 2013-14, 2014-15, 2015-16 and 2016-17. Regarding antenatal services mothers have taken shows that in the successive four years ANC registration within 12 weeks has been significantly increased which has a paramount importance in respect of fair outcome of the pregnancies. A community-based cross sectional study was undertaken by Barua Kabita et al^[8] from August 2013 to July 2014 in rural areas of three health blocks of Kamrup. Out of the 387 beneficiary mothers interviewed, 86% (333) were aware of the services provided in VHND. 76% of the beneficiary mothers who attended VHNDs utilized full antenatal check-up while only 44% availed post-natal check-up. A cross-sectional study^[9] conducted in Odisha during December 2009-November 2010. Personal interviews were conducted at the VHND sessions with 111 beneficiaries and 45 service providers using a semi-structured schedule to know their awareness, perception and practice regarding VHND sessions. Most of the health workers females and anganwadi workers consider health awareness as a key component of VHND. 52 % of HWFs & 41% of AWWs had misconception about additional roles and responsibilities. A qualitative study was conducted by Dr. V. D. Semwal et al^[10]. The study found that all VHNDs were organized at Anganwadi centers which are well-known places for everyone in the community. The day (Saturday) has already fixed however time and duration were not well communicated to the community. Another sensitive indicator like minimum 3 (three) or 4 (four) Antenatal Check-up (ANC) that all mothers supposed to get, there also huge gap exists. Total number of mothers having 3 ANC declined to total number of mothers having 4 ANC and surprisingly there is no significant difference in the successive four years. In spite of that mothers got the benefits of Janani Suraksha Yojana (JSY) in increasing trend over period of time. It is evident that home deliveries have been significantly reduced over four years. Continuous counseling about importance of institutional deliveries causes this deduction of home deliveries. Non availability of Nischay Jan, no time to go hospital, not aware about benefits of hospital delivery and refused admission by hospital & subsequently came back home are the causes of home delivery which is in same frequency over four years. There is no significant difference in weighing of baby in the observation period. But birth weight of the baby less than 2.5 Kg has been significantly increased in successive four years. VHND has a great roll on that in respect of proper counseling on nutrition. Frequency of initiation of breast feeding and exclusive breast feeding for six months have been significantly risen over four years. Another interesting point to be noted that preference for government or private institute of immunization of children, there is no significant difference seen over last four years.

V. Conclusion

It has been shown that there is remarkable improvement in maternal health services in VHND sessions and as a result outcome of these services has also been fetched positive inclination. It happens due to quality VHND sessions, mothers' meeting, proper counseling about benefits of institutional delivery, roll of proper nutrition during pregnancy and tracking of pregnant mothers to VHND session at earliest so that mothers could avail all benefits of antenatal care. As the principle investigator is evaluating the VHND all over the district, the quality has been improved on successive months.

Acknowledgement

We are grateful to The West Bengal University of Health Sciences, Salt Lake, West Bengal, India for giving permission for this study.

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Dr Sukanta Biswas" Periodical Assessment of Maternal Health Services in Village Health & Nutrition Day in Rural Areas of North 24 Parganas, West Bengal, India."IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 17, no. 8, 2018, pp 04-07.