'A COMMUNITY BASED INTERVENTIONAL APPROACH TO INTRANATAL AND NEONATAL HEALTH CARE'

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Abstract :

Objective : To assess the contribution of the interventions through the local change agent (Bal Parivar Mitra) towards achievement of health awareness among rural women regarding maternal child health through improvement and change in health practices.

Study design: Stratified multistage random sampling technique.

Study unit : Within the selected households lactating mothers were selected as study units.

Study area : The study was conducted in Jasra and Saidabad blocks of Allahabad district wherein MCHN Project is going on since July 2000.

Study variable : Maternal care, Intervention, Impact.

Statistical analysis : Ztest for testing significance of differences between two proportions (Z - test).

Results: Deliveries assisted by trained persons increased from 22.4% to 36.7%. Follow-up of '5-cleans' during pregnancy was among 43.3%. Birth registration increased from 19.2% in baseline to 35%, feeding of colostrum from 27.4% to 40.0%. Breastfeeding within half an hour after birth was among 23.3% followed by 16.7% within 1/2 - 12 hours. Proper warmth was given to 68.3% newborns and 58.3% babies were bathed after one day of birth.

Conclusions : The suggested intervention package through BPM seems to be a sustainable effort and several parameters of intranatal and neonatal health care are expected to be attained as long-term achievements.

Introduction :

Uttar Pradesh is the most populous state of India, where one sixth of the Indians reside. As of March 2000, the estimated population of the state was 170 million with a population density of 578 persons per sq km. This state consistently falls below the national standards in health, education and general quality of life indicators. For example, out of 170 million people of UP, 40% live below the poverty line and just 43% of the women can read. The State has 73% of its population residing in rural areas. Forty percent of the total population lives in communities of 500 people or less.

The Maternal Child Health and Nutrition (MCHN) Project was born as a strategic response to a serious situation, conceived in response to the challenges faced by the state in improving the situation of the mother and the child. The Government of UP has initiated this district community based project with wide participation from Directorate of Health and Family Welfare, Panchayat Raj Institution (PRI), Directorate of Integrated Child Development Services (ICDS), Departments of SPM of the Medical Colleges in the state and UNICEF. The project strategy is based on the principle of community participation and child

nutrition and health care practices at family level, creating demand in the community for appropriate preventive health and nutrition services as well as improving response to convergent quality services.

The main feature of this program is a fairly simple idea - as always available, agent of change in human form - a member of the community itself, popularly known as Bal Parivar Mitra (BPM), literally a "friend of child and family".

Each BPM works for 50-60 families among which 15-20 families are "at-risk" i.e. those having: newly wed females, pregnant women, lactating mothers, children below 2 years and severely malnourished children below 6 years. They promote selected behavioral practices for improved maternal and childcare and infant feeding practices at household level.

This study is an attempt to observe the changes brought about by the BPM regarding intranatal and neonatal health care among the rural population.

Material & Methods :

The study was conducted in Jasra and Saidabad blocks of Allahabad district wherein MCHN Project is going on since July 2000. A stratified multistage random sampling technique was used in the present study. Within each block to be studied, samples of four villages were selected as primary stage unit. Within selected villages, a sample of 80 households registered by BPMs were selected as second stage units. Within the selected households, lactating mothers were selected as study units.

The optimum sample size was decided on the basis of a pilot survey results wherein it was found that about 72% households were aware of some major MCHN practices. On the basis of 95% confidence level and 5% permissible error, optimum sample size was decided to be 634. It was planned to confine the survey in total 8 clusters depending upon time and cost constraints and accordingly it was decided to select 80 households per cluster in order to attain the optimum sample size and so a total of 640 households were finally included in the study from 8 selected villages.

Results :

According to table 1, out of total 640 households, BPMs had visited 570 (89.1%) households. Among these households, 215 (37.7%) were visited twice a month, 138 (24.2%) once monthly, 121 (21.2%) more than four times a month and 96 (16.8%) households had been visited three or four times per month.

Table 1 : Distribution of Households by Functioning of BPMs and Services Offered.

Functioning of BPMs	Frequency	Percentage
Household visited by BPM	570	89.1
Total households surveyed	**640**	
Number of visits per month:		
Once	138	24.2
Twice	215	37.7
Three / Four times	96	16.8
>Four times	121	21.2
Base	**570**	
Services received by households:	363	63.7

Base	**573**	
***Services offered:**		
ORS packet	30	8.3
Iodine testing of salt	224	61.7
Vitamin - A for children	44	12.1
IFA tablets	112	30.8
Family welfare methods	157	43.2
Base	**363**	
Satisfaction from services offered:		
Fully	318	87.6
Partial	43	11.8
Not at all	2	0.6
Total	**363**	**100.0**

*Multiple responses

Out of 570 households visited by BPMs, 363 (63.7%) respondents received services offered by BPMs. Most households had iodine testing of salt 224 (61.7%) done followed by advice regarding family planning methods 157 (43.2%). IFA tablets were received by 112(30.8%) households, Vitamin-A was given to children of 44 (12.1%) families and ORS packets were received by 30 (8.3%) households. Among 363 families who availed the services offered by BPMs, 318 (87.6%) were fully satisfied and 43 (11.8%) partially satisfied. Only 2 (0.6%) households were not at all satisfied by the services offered.

Out of the surveyed households, all newly married females (married less than two years), pregnant women and lactating females were regarded as 'at-risk' married females and the demographic characteristics were taken from them.

Table 2 : Demographic Characteristics of 'At-risk' Married Females.

General characteristics	Frequency (N-212)	Percentage
Age (in years):		
15-19	16	13.3
20-24	36	30.0
25-29	37	30.6
30-34	17	14.1
35-39	11	9.0
40-44	3	2.4
45-49	1	0.6
Mean age (in years) =	**25.47± 5.84**	
Education:		
Illiterate	83	68.6
Primary school	15	12.4
Middle school	10	8.3
High school	7	5.7
Intermediate	3	2.5
>> Graduate	3	2.5
Occupation:		
Housewife		76.9
Agriculture	16	13.2
Laborer	11	9.1
Others	1	0.8
Age at marriage (in years):		
≤-11	1	0.8
12-14	11	9.1
15-17	39	32.2
18-20	55	45.6
21-23	12	9.8
24	3	2.5
Mean age (in years) =17:74 ±2.59		
Age at consummation of ma riage (in years):		
12-14	8	6.6
15-17	3 6	29.8
18-20	61	50.4
21-23	13	10.7
> 24	3	2.5
Mean age (in years) = 17.99 ± 2.39		

As per **Table 2**, out of total 121 'at-risk' married females, maximum 37 (30.6%) were in the age group of 25-29 years closely followed by 36 (30.0%) in 20-24 years 17 (14.1%) in 30-34 years, 16 (13.3%) in 15-19 years. The mean age was found to be 25.47 years. Most of the married females were illiterate 83 (68.6%) followed by 15 (12.4%) educated upto primary school level. Majority of the married females 93 (76.9%) were housewives followed by 15 (12.4%) working in fields and 11 (9. 1 %) laborers. Out of total 121 married females, most 55 (45.6%) got married in the age group 18-20 years followed by 39 ('32.2%) at 15-17 years. The mean age of marriage was observed as 17.74 years. Most of the females 61 (50.4%) had consummation of their marriage in the age group of 18-20 years followed by 36 (29.8%) at 15-17 years. The mean age for consummation of marriage was 17.99 years.

Table 3 : Opinion of Married Females regarding Right age for Marriage and First Pregnancy.

Opinion of married	Frequency (N=121)	Percentage
Females regarding :		
Right age of marriage (in years) :		
12-14	1	0.8
15-17	20	16.5
18-20	95	78.5
21-23	5	4.2
Total	**121**	**100.0**
Mean age (in years) 18.17 ± 1.33		
First pregnancy (in years):		
15-17	6	5.0
18-20	91	76.9
21-23	18	14.8
≥ 24	4	3.3
Total	**121**	**100.0**
Mean age (in years) 19-90 ± 1.52		

As shown in table 3, majority of married females 95 (78.5%) had the opinion that the right age for marriage was 18-20 years followed by 20 (16.5%) who stated it as 15-17 years. The mean age for the marriage was regarded as 18.17 years. Most 93 (76.9%) of the married females had an opinion that first pregnancy should take place in the age group 18-20 years followed by 18 (14.8) at 21-23 years. The mean age for first pregnancy was found as 19.90 years.

According to table 4, out of total 121 * married females, 53 (47.7%) had no knowledge of any method of family planning. Out of the rest 68, 46 (67.6%) females were aware of oral contraceptive pills (OCP's) closely followed by 45 (66.2%) about condoms.

Table 4 : Married Females According to Awareness and Source of Knowledge about Methods of Family Planning.

Characteristics	Frequency	Percentage
***Awareness:**		
None	53	47.7
Base	**121**	
Condoms	45	66.2
OCPs	46	67.6
Cu-T	11	16.2
Female sterilization	17	25.0
Male sterilization	1	1.5
Base	**68**	
*Source:		
Family	17	25.0
Radio	8	11.8
TV	22	32.3
Magazines	8	11.8
BPM	37	54.4
AWW	3	4.4
ANM	16	23.5
Base	**68**	

Multiple responses

Out of total 68 females who knew about family planing methods, 37 (54.4%) got the knowledge from BPMs followed by 22 (32.3%) through the television. 17 (25.0%) gained knowledge from family members closely followed by 16 (25.5%) who were informed by ANM.

Table - 5 : Married Females according to Support from Husband in matters of Family Planning.

Opinion regarding family planning	Frequency	Percentage
Support of husband:		
Yes	66	54.5
No	20	16.5
Don't know	3 5	29.0
Total	**121**	**100.0**

As per table 5, out of total 121 females, maximum 66 (54.5%) got full support of their husband in matters of family planning and 20 (16.5%) did not get this support. 35 (29%) said that they were not aware of views of their husband in matters of family planning.

According to **table 6,** majority 53 (88.3%) women had delivered at their homes and only 2 (3.3%) had deliveries at PHC/CHC, At time of baseline survey, delivery at homes was 84.7% and rest 15.3% at the hospital.

TABLE - 6 : DISTRIBUTION OF LACTATING MOTHERS ACCORDING TO INTRANATAL AND POSTNATAL CARE RECEIVED

Postnatal Care	Frequency (N=60)	Percentage	Percentage (Baseline)	'P- value'
Place of delivery:				
Home	53	88.3	84.7	
PHC/CHC	2	3 3	15.3	
Private Hospital	5	8.4		
Birth attendant:				
Doctor	9	15.0		
ANM	1	1.7		
TBA	11	18.3		
BPM	1	1.7		
Untrained person	38	63.3		
'5-cleans' during delivery:	26	43. 3		
Registration of birth:	21	3 5. 0	19.2	P < 0.05
IFA tablets after delivery:	25	41.7	18.3)	P < 0.001

Among total 60 lactating women, majority 38 (63.3%) had untrained persons as attendant during delivery followed by I I (18.3%) mothers whose babies were delivered by trained birth attendant. Out of 60 lactating mothers, proper '5 cleans' during delivery were followed in 26 (43.3%) deliveries. 21

(35.0%) mothers got their babies registered after birth, which was only 19.2% during baseline survey.

This was a significant improvement [z = 2.70, P < 0.05]. Among the lactating mothers, 100 IFA tablets were consumed by 25 (41.7%) mothers after delivery in comparison to 18.3% at the time of baseline survey. This was a highly significant improvement [z = 3.92, P < 0.001].

According to **table 7,** out of total *60 lactating mothers, 24 (40.0%) gave colostrum to their newborn in comparison to 27.4% during the baseline survey. There was significant improvement in this respect [z = 1.965, P < 0.05]. 41 (68.3%) of the total 60 lactating mothers gave adequate warmth immediately after birth. Among babies weighed within 24 hours after birth, 20 (33.3%) mothers followed this practice in comparison to 22.1% during baseline. There was no significant improvement among the practice of weighing after interventions.

TABLE - 7 : DISTRIBUTION OF LACTATING MOTHERS BY NEW BORN CARE AND INFANT FEEDING PRACTICES

New Born Care	Frequency (N=60)	Percentage	Percentage (Baseline)	'P-value'
Colostrum given:	24	40.0	27.4	P < 0.05
Warmth of the newborn:	41	68.3		
Babies weighed within 24 hours of birth:	20	33.3	22.1	P > 0.05
Time at initiation of breast eding (in hou s):				
< ½	14	23.3		
½ -12	10	16.7		
≥ 12 - 48	4	6.7		
> 48	32	5 53.3		
Pre-lacteal feed:				
Water	9	15.0	16.7	
Honey	11	18.3	19.4	
Ghutti	10	16.7	22.6	
Milk (cow, goat etc.)	16	26.7	34.6	
Frequency of breastfeeding:				
On baby's demand	45	75.0		
6-8 times/day	7	11.7		
4-6 times/day	7	11.7		
< 4 times/day	1	1.6		
Babies having first bath (in days):				
1	25	41.7		
2	2	3.3		
3	10	16.7		
4	4	6.7		
5	3	5.0		
6	5	8.3		
≥7	11	18.3		
Exclusive breast feeding till 6 months:	17	28.3	15.0	P < 0.05

Majority 32 (53.3%) of the lactating mothers started breastfeeding after two days of delivery followed by 14 (23.3%) who started within half an hour after birth. Out of total 60 lactating mothers, maximum 16 (26.7%) gave animal (cow, goat, etc.) milk as the first feed followed by 11 (18.3%) who gave honey. At time of baseline the above figures were 34.6% and 19.4% respectively. Ghutti was given by 10 (16.7%) mothers followed by sugar water given by 9 (15.0%) mothers. At the start of interventions, the corresponding figures for Ghutti and sugar water were 22.6% and 16.7% respectively.

Most 45 (75.0%) lactating mothers fed their babies whenever they cried, followed by 7 (11.7%) who gave feed 6-8 times per day and 4-6 times per day each. Out of total 60 lactating mothers, majority 25 (41.7%) gave first bath to baby on the first day of birth followed by 11 (18.3%) who bathed on seventh day or later. 17 (28.3%) of the total 60 mothers gave exclusive breastfeeding till 6 months. The corresponding figure for this exclusive feeding was 15.0% during the start of interventions. There was significant improvement in this respect [$z = 1.965$, $P < 0.05$].

TABLE - 8 : DISTRIBUTION OF MOTHERS BY SOURCE OF KNOWLEDGE ABOUT POSTNATAL AND INFANT CARE

Knowledge about	*Source of knowledge (N = 60)										
	Family		BPM		AWW		ANM		Others		Base
	No.	%	No.	%	No.	%	No.	%	No.	%	
'5-cleans' during delivery	7	26.9	12	46.2	1	3.8	2	7.7	7	26.9	**26**
Birth registration	8	38.1	9	42.9	2	9.5	6	28.6	2	9.5	**21**
Initiation of breastfeeding	41	68.4	11	18.4	2	3.3	5	8. 3	4	6.7	**60**
Warmth of the newborn	27	65.9	12	29.7	2	4.9	2	4.9	4	9.8	**41**
Colostrum feeding	5	20.8	18	75.0	1	4.2	3	12.5	1	4.2	**24**
Weighing of the newborn <24hrs	4	20.0	7	35.0	2	10.0		15.0	5	25.0	**20**
Day of bathing baby	49	81.7	13	21.7	1	1.7	4	6.7	1	1.7	**60**
Frequency of breastfeeding	54	90.0	6	10.0	0	0.0	0	0.0	0	0.0	**60**
IFA tablets during lactation	7	33.3	17	81.0	0	0.0	6	28.6	1	4.8	**25**

According to **table 8,** out of total 60 lactating mothers, 26 had received the information regarding '5cleans'. Among them, 12 (46.2%) received the information from BPM followed by 7 (26.9%) each from family and media. Out of total 21 mothers receiving knowledge about registration of birth of newborn, maximum 9 (42.9%) received from BPM closely followed by 8 (38.1%) from family members. Out of total 60, maximum 41 (68.4%) mothers received counseling regarding initiation of breastfeeding from family members followed by 11 (18.4%) from BPMs. Among the total 41 mothers, the knowledge regarding keeping the newborn warm was received by most 27 (65.9%) mothers from family members followed by 12 (29.7%) from BPMs. Out of 24 mothers who knew regarding colostrum feeding, 18 (75.0%) had received the knowledge from BPM followed **by 5 (20.8%) by** family members. Among 20 mothers having knowledge regarding this, most 7 (35.0%) mothers were informed by BPMs followed by 5 (25.0%) by media. Out of total 60 lactating mothers, majority 49 (81.7%) mothers were imparted knowledge from family members regarding the day of bath to the baby followed by 13 (21.7%) from the BPMs. Most of the mothers 54 (90.0%) were informed by family members regarding frequency of breastfeeding to the baby and rest 6 (10.0%) mothers by BPM. Out of 25 mothers who knew regarding taking IFA tablets during lactation, 17 (81.0%) were informed by BPMs and 7 (33.33%) by family member.

Conclusion & Recommendation :

This project shows that the impact of local change agent does play a big part in changing the behavior of the households. There is need to universalize this concept all over the country.

In case of postnatal and newborn care, there is positive change among the practices in registration of birth of the baby, colostrum feeding, keeping the baby warm, IFA tablet consumption, bathing the baby, frequency of breastfeeding and vaccination. Still there was lack of improvement in regards to newborn weighing within 24 hours after birth. This may be due to lack of weighing 'instrument and attitude of the family to avoid weighing for fear of the evil eye.

BPM helps in the work of the already overloaded ANM of respective PHC and she can refer the serious cases to the respective health facility. BPM informs the population about the health needs i.e. creates demand and also informs the health functionaries to distribute the services wherever needed and thus acts as a link between the community and health and other agencies.

References:

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