Challenges in implementation of Adolescent health strategies of RMNCH+A in Ghaziabad

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ABSTRACT

Background: *The strategic approach to adolescent (10-19 years) health as part of the RMNCH+A consists of many community based initiatives implemented since February 2013 in India .These key strategies include adolescent reproductive health and nutrition counselling by ASHAs & ANMs, regular school health check-ups, community based services through peer educators and ARSH (Adolescent Reproductive and Sexual Health) clinics, WIFS (weekly iron folic acid supplementation) and promoting menstrual hygiene.*

Methods: *Multi stage sampling technique was used to select sub centres from each of the 4 rural blocks of Ghaziabad by PPS method. A cross-sectional survey of 384 adolescents from villages of selected sub centres was done and mothers were interviewed in their presence using a semi structured questionnaire on the adolescent services provided and utilized by them.*

Results: *Among the 384 adolescents, 63/196 (32%) girls and 19/188 (10%) boys had undergone a school health check up in the last one year. Among the respondents 15% had regular weekly iron and folic acid supplementation but only 6% said they actually consumed the tablets. None knew the location of AFHC (adolescent friendly health clinic) nor any fixed day approach to counselling services. Only 44% boys and 32% girls said they would avail of clinic-based counselling facility if provided. Among the female adolescents 32% had been counselled by ASHAs on menstrual hygiene, 83% used sanitary napkins by choice. Lack of contact with ASHA (OR: 3.0, 95%CI 1.1-7.7), preference for private health sector (OR: 3.0, 95% 1.9-7.6), lack of regular school health check- ups (OR: 2.6, 95% CI 1.6-3.8) were significant risk factors for non-adoption of menstrual hygiene advice.*

Conclusions: *The adolescent services are sub-optimal in the district presently. Non consumption of IFA tablets needs to be addressed by better co-ordination between Education and Health department. Home based counselling should be strengthened in our socio-cultural milieu as per need.*

Key Words: *Adolescent, AFHC, Counselling, RMNCHA*

INTRODUCTION

The strategic approach to adolescent (10-19 years) health as part of the RMNCH+A (Reproductive, Maternal, Newborn ,Child and Adolescent Health)consists of many community based initiatives implemented since February 2013 in India .This approach reiterates the need to focus on the most vulnerable and underserved sections of the population. It includes improving case management skills of the health care staff, improving the overall health system, improving family and community health practices [1].

There are two dimensions of healthcare: (1) stages of the life cycle and (2) places where the care is provided. These together constitute the 'Continuum of Care' as per the *MOHFW policy guide on RMNCH+A* (2013)[2].' This approach of defining and implementing evidence-based packages of services for different stages of the lifecycle, at various levels in the health system, has been adopted under the national health programme. Continuum of care across different life stages and levels of health facilities is as follows:

Level of care	Adolescence
Health Facility	Adolescent clinics/Adolescent friendly health services
Sub centre	• Information and counselling on sexual reproductive health
Community	•Weekly IFA(Iron folic Acid) supplementation • Information and counselling on sexual reproductive health • Menstrual hygiene

Poor nutrition and hygiene across the life cycle, inadequate infant and young child feeding practices, nurturing and care for development, limited preventive services and care seeking practices are further identified challenges[2]. The "plus" within the strategy focuses on:

Including adolescence for the first time as a distinct life stage.

Maternal and child health to reproductive health, family planning, adolescent health, HIV, gender, preconception and prenatal diagnostic techniques.

Linking home and community –based services to facility based care.

Ensuring linkages, referrals and counter referrals between and among health facilities at primary, secondary and tertiary levels. The various adolescent health interventions include the following:**[1]**

1. Facility-based adolescent reproductive and sexual health services (Adolescent health clinics)
2. Information and counselling on adolescent sexual reproductive health and other health issues.

3. Adolescent nutrition and Weekly iron and folic acid supplementation (WIFS)
4. Menstrual hygiene and distribution of sanitary napkins through social marketing.
5. Preventive health check-ups in Adolescent health clinics.
6. Some other strategies include biannual deworming , use of ORS with 14 day zinc tablets for Diarrhoea, use of referral transport system (102/108 ambulance service), utilization of nutritional supplements distributed to malnourished female adolescents on VHND (Village, Health and Nutrition day).

Uttar Pradesh has just begun to take adolescent health seriously which is influenced overall socio economic development, improved health systems and nutritional services and inter- sectoral convergence as per Multi stakeholder Action Programme (2013)[3].

RATIONALE OF THE STUDY

RMNCH+A strategies have been implemented since 2013. But no study has been done so far to assess the gaps in awareness and acceptance of the community of these strategies at grass root level. Hence the expected benefits of this study were to find the socio-cultural and other barriers for non-adoption of these strategies by the community, if any. The results of the study would form a baseline report to review the change in such practices over time. With this background, we wanted to assess the status of implementation of RMNCH+A strategies in Ghaziabad district in adolescent health care with respect to logistics, infrastructure, reporting and supervision as well as the community level awareness and acceptance of these key strategies.

METHODOLOGY

STUDY AREA: The district of Ghaziabad is named after it's headquarter city Ghaziabad and is a part of revenue division Meerut[4]. The total population of the district is 46,61,452 with an average literacy rate of 85%[5]. As per 2011 census 32.54% population of Ghaziabad district lives in rural areas. The district is divided into four rural community development blocks namely Razapur, Muradnagar, Bhojpur, and Loni. There are 154 villages and 144subcentres in the district[6].

STUDY DESIGN: This is a community based cross-sectional study

STUDY PERIOD: The study period was November 2014 to October 2015. The data for the study was collected between November 2014 and July 2015.

SAMPLING FRAME: All households with adolescents of age group of above 10 to 19 years in villages of selected sub centre areas of the four rural community development blocks of Ghaziabad District. For the community survey a sample was selected comprising of mothers of ten to 19 year olds.

SAMPLE SIZE: For the community survey, the sample size was calculated using the formula:

$$N = Z^2 \frac{PQ}{L^2}$$

Where Z= Value of Z at 95% confidence interval (as per Z-score table)=1.96
P= Mean prevalence
Q=100-Mean prevalence
L= Absolute precision

Sample size for mothers' of adolescents:-
As per previous studies prevalence of risky dietary behaviour=48% (as per National Nutrition Monitoring Board {NNMB})[7] ,
Prevalence of anaemia in adolescents=60%,
Prevalence of malnutrition among adolescents =42% (as per NFHS 3 data)[8]
Hence Mean prevalence (P) = 50%
Q=100-Mean prevalence =50%
L= Relative precision of 10% was taken, which is = 10% of P=5
Replacing the values in the formula

$$N = 1.96 \times 1.96 \frac{(50)\times(50)}{5\times5} = 384$$

Hence, sample size for community survey among mothers of Adolescents was 384

SAMPLING TECHNIQUE: Multistage sampling technique was used to cover the sample size for present study.
Stage I- In the first stage 39 out of 144 subcentres were selected from each of the 4 community development blocks by PPS (Probability Proportional to Population size) method
Stage II- The village where the subcentre was located was taken for sample of adolescents. All households with adolescents of age group of above ten year to 19 years in selected villages were included in the sample frame. Ten households with adolescents were randomly selected till the desired sample size of 384 was achieved.

STUDY POPULATION: The mothers of adolescents aged 10-19 years residing in selected villages of Ghaziabad district.

DATA COLLECTION, PROCESSING AND ANALYSIS: Data was collected using semi-structured questionnaire by two trained field volunteers for the community survey. A pilot study was carried out in rural areas other than the selected ones for actual study to test the study schedule and necessary changes were made before starting the actual study. The mothers of adolescents were interviewed in their presence for

confirmation of answers wherever needed. Data was coded and was transferred to a master chart and simple tables were prepared and analysed with appropriate statistical tests.

For data entry and processing Epi-info version 7 software was used and the various process indicators were calculated as proportions. Various potential risk factors associated with the non-adoption of the RMNCH+A strategies by the community were analysed using uni analysis.

OPERATIONAL DEFINITIONS:

1. **Mother:** Mother of a child/adolescent between ten and 19 years of age.
2. **Adolescen**t: A child above ten years and up to age of 19 years.
3. **ANM**: Auxiliary nurse midwife. A village health nurse in a subcentre/health centre serving a population of five thousand.
4. **ASHA**: An 'Accredited Social Health Activist' a woman of a village (married/widowed, divorced) 25-45 years of age recruited as a link worker between community and health delivery system under National Rural Health Mission on a population of thousand[8].
5. **FLW:** Frontline level workers which includes ASHAs and ANMs.
6. **Religion:** Hindu, Muslim, Sikh, Christianity.
7. **Caste:** General, Other backward caste, Schedule caste, Schedule tribe.
8. **Education:** Individuals were classified according to their literacy level into following categories:
   - Illiterate- One who can neither read nor write in any language.
   - Primary- One who has completed school till fifth grade.
   - Middle- Someone who has completed school till class eight.
   - Intermediate school- Someone who has completed class twelve.
   - Graduate- One who has passed a bachelor's degree or equivalent examination.
   - Postgraduate/Professional– Individual who had got a postgraduate/ Professional/ Technical education.
9. **Occupation:** Every individual was classified as having an occupation into seven broad categories:
   - Unemployed- Someone who does nothing for a living.
   - Non- skilled worker like labourer, rickshaw puller etc.
   - Semi- skilled worker like mason, vendors etc.
   - Skilled workers like carpenter, plumbers etc.
   - Clerk / Shop owner / farm owner.
   - Semi-professionals like electrician, mechanics etc.
   - Professionals like Doctors, Engineers and Lawyers etc.
10. **Socio economic status:** It is determined based on per capita income of the family per month (in rupees), as described by modified BG Prasad classification of the year 1961. Following method is used to update Prasad's social classification[9].
11. **Referral transport (102&108 Vaahan Sewa)**: Ambulance service provided by the government in response to a call on a toll free number in medical emergencies. In Ghaziabad district 102 ambulances are mostly used for transportation of pregnancy related emergencies and 108 for all other emergencies.
12. **FRU:** First referral unit is a public health facility (PHC/CHC) providing 24X7 hours service.
13. **"Posh aahaar"(Nutritional supplement):** This nutritional supplement distributed on Village health and nutrition day consists of 1 kg packets of multigrain flour.

OBSERVATIONS AND RESULTS

Among the respondents 186 were mothers of male adolescents and 198 of female adolescents. Among them 68.75% belonged to Hindu religion and 31.25% to Muslim religion. Around 46.61% mothers belonged to general category and 26.3% to Scheduled caste/tribe and 27.08% to other backward classes. Also 48.17% of the mothers were illiterates, 11.71% had primary school education, 13.28% had received middle school education, 23.17% had high school education and 3% were graduates and post graduates(Table 1). Among the adolescent age group more than half the respondents reported they had been utilizing VHND services for nutritional supplements (82%) and had been dewormed at least once (55.7%). Less than half of the respondents reported that their daughters had received counselling on menstrual hygiene (48%). Among all respondents, 37% were aware about 108 /102 referral transport services, 32% were given nutritional advice and 30.9% had received ORS and zinc for diarrhoea. The IFA (Iron folic acid) tablets as part of WIFS programme were received by 40.4% of the female adolescents and 7.5% of the male adolescents. None of the respondents reported having received any sex education counselling by ANM/ASHA. None of the respondents were aware about any AFHC or peer educators(Table 2).

The maximum unawareness among adolescents was regarding importance of hand-washing (51.62%), menstrual hygiene practices (40.7%), importance of zinc with ORS for diarrhoea (30.50%), utilization of nutritional supplements (28.09%)(Fig.1). Among the respondents who did not take the IFA tablets, most adolescents (70%) stated that they would forget to take the medication as there was no compliance follow up by their teachers, 60% complained of 'nausea' being the reason for non-

compliance, 30% said it was because of peer pressure, and 20% said they had no faith on free government medication (Fig. 2). The risk factors identified that were significantly associated with lack of knowledge/non – adoption of advice on menstrual hygiene were Muslim religion (OR=2.4), lack of contact with ASHA(OR=6.1) and lack of regular school health checks ups (OR=4.1).

DISCUSSION

The adolescent period provides an opportune time for positive behaviour modification in order to mitigate emergence of risk factors that lead to communicable and non-communicable diseases. In Ghaziabad the concept of peer educators has yet to be implemented in the district. The adolescent boys and girls who are in senior classes in the village school can actually be trained to become peer educators as suggested in studies on adolescents by *Kansal et al* (2014)[10] and another study by *Sivagurunathan et al* (2015)[11]. They live in the same community, all the others with whom they need to engage are there, and their own understanding of adolescent issues is better. The latter study also indicated that almost 14% of young men and women report symptoms or behaviours indicative of mental health disorders. An emerging public health challenge is the rising occurrence of non-communicable diseases (NCD).To address these issues adolescent friendly health clinics are the need of the hour as highlighted by *Nath A et al* (2008)[12]. In this study none of the adolescents were aware about the Adolescent health clinics or any special counselling services by front line workers (Table 2). The adolescents expressed shyness to go to such clinics even if they existed as they feared loss of confidentiality.

This attitude was also observed in a study on adolescent reproductive and sexual health (ARSH) clinics by *Mehra S et al*(2013)[13] wherein it was found that adolescents are shy and experience loss in confidentiality when they visit a clinic or talk about their problems in front of supporting staff. In similar establishments it has been strongly felt that privacy and confidentiality were very important for any adolescent to consult the public health system.

Weekly Iron and Folic acid Supplementation (WIFS): As per study of *Kapil U et al* (2014)[14] the prevalence of iron deficiency anaemia among girls between 15 and 19 years of age remains stagnant at 55.8% and 56.1%, respectively. On the other hand, the prevalence of anaemia among boys of 15–19 years of age is (30.2%). The WIFS programme in the district was underway for both sexes but adolescents who reported having received IFA in the district were only 14(7.5%) among males and 80(40.4%) among female adolescents (Table 2).

Among reasons stated for non-compliance with respect to WIFS medication many female adolescents stated that they never consumed the tablets as there was no counselling or follow up by teachers /health staff (70%) and it caused nausea and vomiting symptoms (60%) (Fig. 2). In one study done in Puducherry by *Dhilkale et al* (2015)[15], the majority (70.1%) of the participants reported that the most motivating role in taking IFA tablet regularly is played by their teachers. To maintain high compliance new training, educational and promotional material for health workers, teachers and adolescents is needed. It has been stated in an article by *Deb S et al* (2015)[16] that ensuring supervised consumption of IFA supplements in presence of teachers is a time and resource intensive activity. Moreover, procurement and logistics management of IFA syrup, IFA tablet, and Albendazole for deworming as well as reporting formats is also difficult and transport of the same upto each school remains a herculean task. In another study on WIFS programme and six monthly deworming and their cost effectiveness in reduction of anaemia by *Vir SC et al (*2015)[17]it was seen that in 4 years, the overall prevalence of anaemia was reduced from 73.3% to 25.4%. Also counselling on the positive effects of regular weekly iron–folic acid intake contributed to a high compliance rate of over 85%. Appropriate counselling, irrespective of supervision, is critical for achieving positive outcomes. Further, district faces difficulty in getting reports from schools in view of already burdened school teachers. Indeed, effective coverage of children and adolescents calls for streamlined inter-sectoral convergence between various departments and ministries like Ministry of Health and Family Welfare, Ministry of Women and Child Development, Ministry of Human Resource Department (Department of School Education and Literacy), Rural Development etc. which is challenging to ensure and translate in to effective implementation of all components.

Menstrual Hygiene

Poor menstrual hygiene in developing countries has been an acknowledged problem. Most of the adolescent girls in villages use rags and old clothes during menstruation, increasing susceptibility to reproductive tract infections as per *MOHFW training manual* (2012)[18]. In our study however 164 (83%) were found using commercially available sanitary napkins and only 17% were using cloth (Table 2). Regarding the practices followed, in a study done in rural West Bengal by *Yasmin S et al* (2013)[19], 11.25% girls used sanitary pads during menstruation, 42.5% girls used old cloth pieces. 40% girls used both cloth pieces and sanitary pads during menstruation. In another study in a semi-urban area in Andhra Pradesh by the *Jogdand et al*[20] use was 53.7% of napkins 34.63% cloth and 30% both.

In June 2010, the Government of India proposed a new scheme towards menstrual hygiene by

provision of subsidized sanitary napkins to rural adolescent girls as a pilot study. But there were various issues like awareness, availability and quality of napkins, regular supply, privacy, water supply, disposal of napkins, reproductive health education and family support which needed simultaneous attention for promotion of menstrual hygiene. This particular scheme has not yet been implemented in the district. Besides 40-45% of the adolescent girls having menstrual problems also experience psycho-social stress and emotional changes. Moreover poor personal hygiene and unsafe sanitary conditions also result in gynaecological problems among the adolescent girls as per a study by *Shanbhag D et al* (2012)[21]. It was also reported that repeated use of unclean napkins or the improperly dried cloth napkins before its reuse results in harbouring of micro-organisms causing vaginal infections. Therefore hygiene-related practices of women during menstruation are of considerable importance, as it has a health impact in terms of increased vulnerability to reproductive tract infections (RTI). There is interplay of socio-economic status and menstrual hygiene practices which lead to increased risk of RTI as seen in a study by *Singh SP et al* (2006)[22] in Uttar Pradesh . In our study religion, socio-economic class, lack of frequent ASHA contact and lack of regular school health check-ups were significantly associated with females not adopting menstrual hygiene practices(Table 3). All mothers irrespective of their educational status should be taught to break their inhibitions about discussing with their daughters regarding menstruation much before the age of menarche.

Till date there is no functional Adolescent friendly health clinic (AFHC) in the district (Table 2).Setting up an AFHC in school or college premises for easy accessibility should be considered. A comparative study on utilization of adolescent health services by *Nath A et al* (2008)[12] found that school based services were better utilized than health facility based services.

Satisfaction with ASHA and ANM services

The overall client satisfaction rate with regards to overall ASHA and ANM services was found to be 138(36%) among mothers of adolescents (Table 2). This is comparable to a study in Uttar Pradesh in Varanasi district where 16.3% of clients were not satisfied with RCH services and the highest number of non-satisfied clients were from the SC/ST category. As per the ASHA study done by *Kumar S et al* in eastern Uttar Pradesh (2008)[23] most of the ASHAs (86.66%) got the support from their supervisors in solving their problem and majority of them (95%) were satisfied with their supervisors. They played a marginal role in all adolescent health services like WIFS, school health, providing menstrual hygiene advice counselling of adolescents propagation of hand-washing with soap and water and imparting nutrition advice. In the present study also overall all the ASHAs have been accepted by the community and are acting as a good link between community and health providers.

Table 1: Distribution of adolescents (aged >10 to19 years) by sex, religion, caste and literacy status of mother (N=384)

Socio –demographic characteristic	Number	%
Sex		
Male	186	48.44
Female	198	51.56
Religion		
Hindu	264	68.75
Muslim	120	31.25
Caste		
General	179	46.61
SC	101	26.30
OBC	104	27.08
Literary status of mothers		
Illiterate	187	48.17
Primary school	45	11.71
Middle school	51	13.28
High school	89	23.17
Graduate	9	2.34
Post graduate	3	0.78

Table 2: Distribution of mothers as per the adolescent health RMNCH+A strategies received/utilized

S. No.	Adolescent health strategy	Total	Number	%
1.	Utilization of VHND services	384	70	18.4
2.	School health check-up	384	125	32.5
a.	Female adolescents	198	80	40.4
b.	Male adolescents	186	45	24.1
3.	Deworming at least once	384	214	55.7
4.	Deworming as per age every 6 months	384	54	14.3
5.	Counselling on menstrual hygiene by ASHA/ANM	198	95	48.0
6.	Use of commercially available sanitary napkins	198	164	82.8
7.	Awareness of 108/102 referral ambulance services	384	142	37.0
8.	Advise on nutrition by ASHA/ANM	384	123	32.0
9.	ORS and Zinc given in diarrhoea	165†	51	30.9
10.	Weekly IFA tablets in school	384	94	24.5
11.	Female adolescents	198	80	40.4
12.	Male adolescents	186	14	7.5
13.	Treatment in ARI given by ASHA/ANM	34#	7	21
14.	Sex education counselling by ANM /ASHA	384	0	0
a.	Female adolescents*	198	0	0
b.	Male adolescents*	186	0	0
15.	Knowledge of location of AFHC**	384	0	0
16.	Knowledge of peer educators	384	0	0
17.	Overall satisfaction with ASHA /ANM	384	138	36

*All respondents expressed shyness and fear of loss of confidentiality in approaching ANM/ASHA in health facility settings; **AFHC-Adolescent friendly health clinic

†Adolescents suffering from diarrhoea in last 6 months; #adolescents who had ARI in last 6 month.

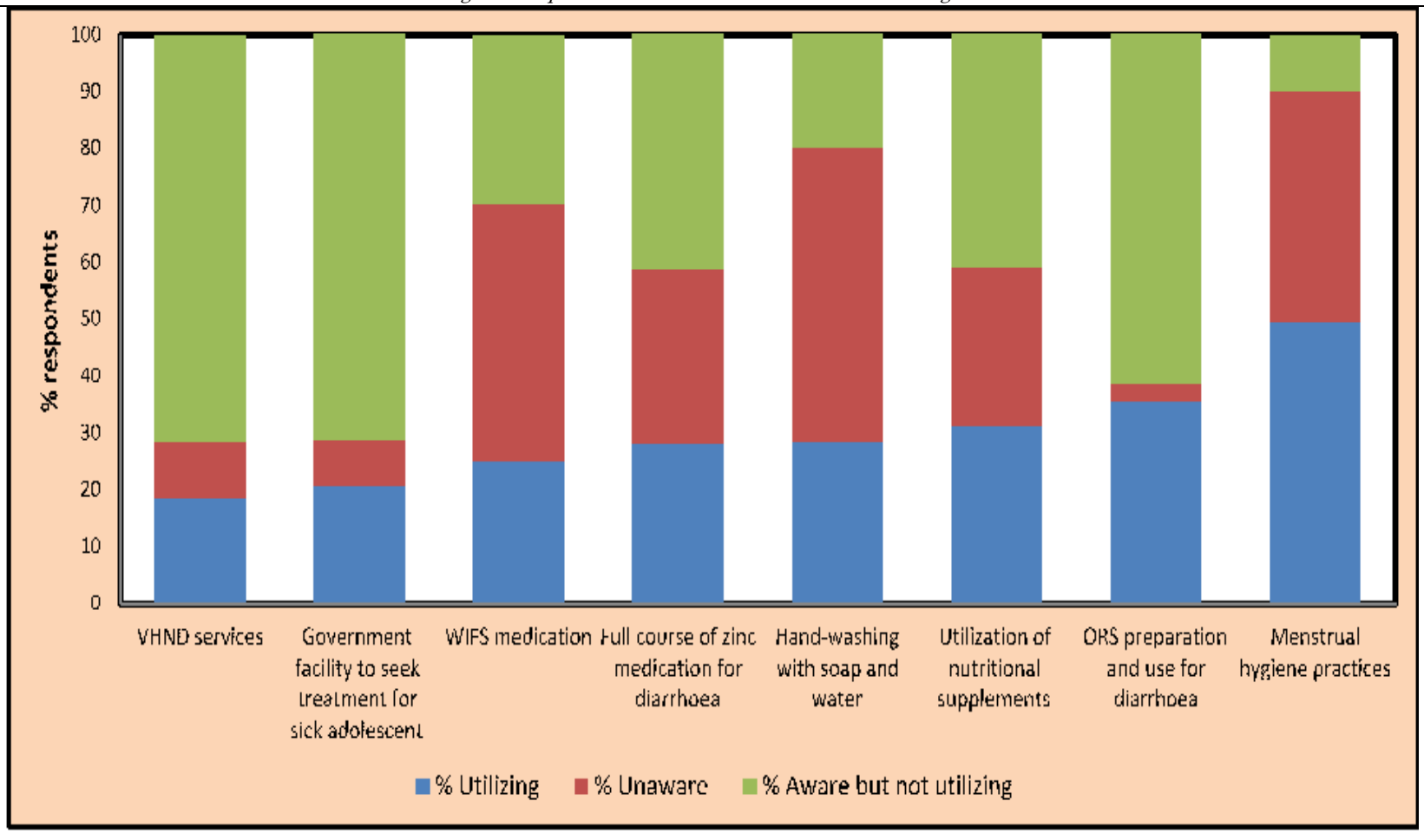

Fig. 1: Bar Diagram showing Awareness Levels among Mothers and Utilization of the Adolescent Health Strategies (N=384)

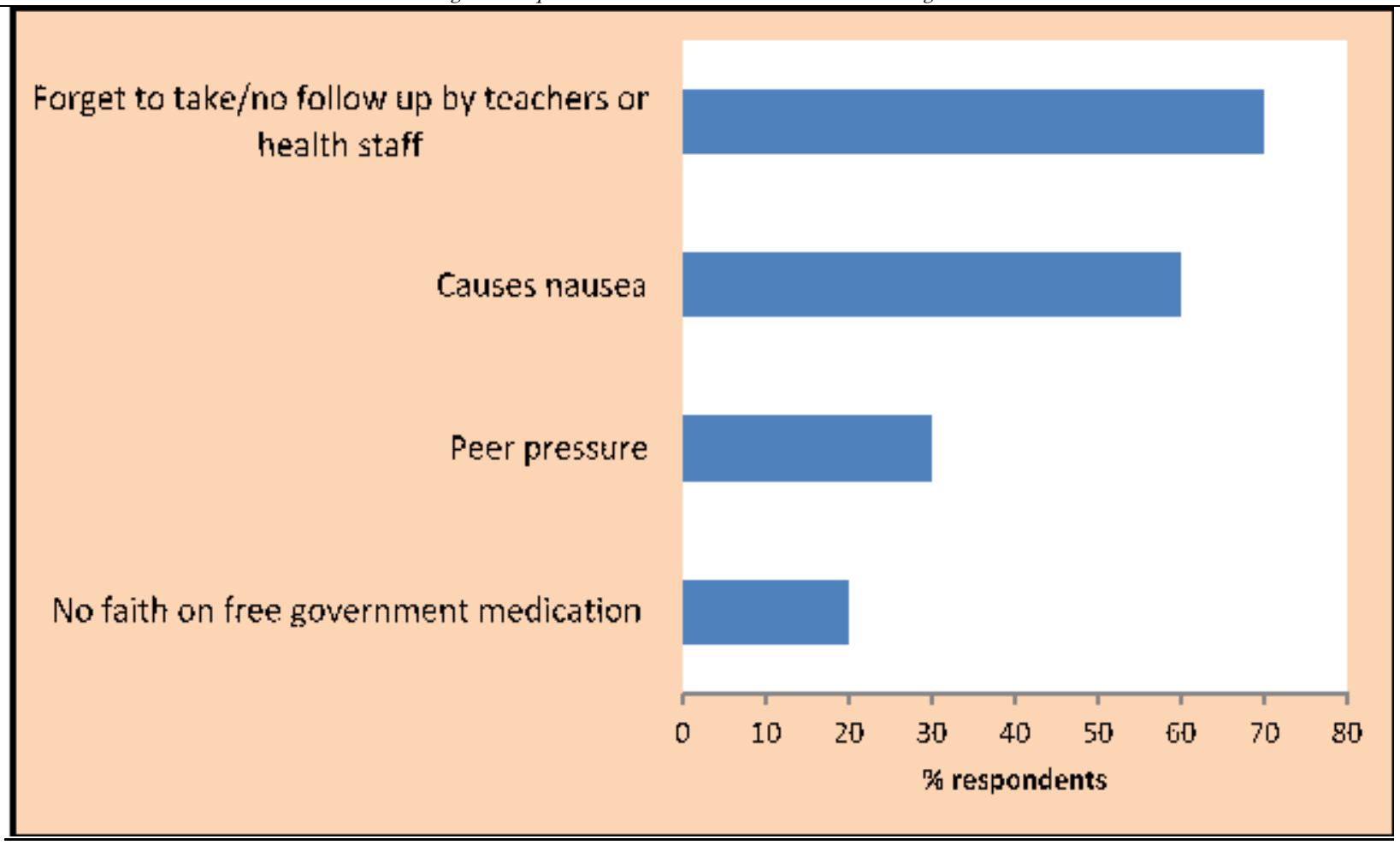

Fig. 2: Reasons stated by respondents for not taking the Iron folic tablets in school as part of (WIFS) Weekly Iron Folic Acid Supplementation programme (N=28) (Multiple responses)

Table 3: Factors for not knowing/adopting menstrual hygiene advice among female adolescents [>13 yrs age] (N=193)

Factors	Not knowing/adopting menstrual hygiene advice (N=98)		Knowing /Adopting menstrual hygiene advice (N=95)		Odds ratio	95%CI		p-value
	Number	%	Number	%				
Mothers education (Illiterate vs Literate) (N=101)	59	57.14	42	42.86	1.6	0.9	2.9	0.07
Religion (Muslim vs non-Muslims) (N=61)	40	65.57	21	34.43	**2.4**	**1.2**	**4.5**	**0.005**
Lower Social class (N=184)	89	70.27	95	29.73	0.1	0.1	0.9	0.17
Joint family (N=43)	21	45.00	22	55.00	0.7	0.3	1.5	0.41
Lack of regular contact with ASHA(N=115)	78	67.83	37	32.17	**6.1**	**3.2**	**11.6**	**0.000**
Lack of regular school health check-ups (N=113)	73	65.18	40	34.82	**4.1**	**2.2**	**7.7**	**0.000**

N.B.: Numbers in % column indicate row wise percentage

* Menstrual hygiene advice included personal hygiene, safe disposal of cloth/pads, re-use of cloth only after drying in sun

Table 26 shows that Muslim religion (OR=2.4), lack of contact with ASHA (OR=6.1) and lack of regular school health checks ups (OR=4.1) were significantly (p-value<0.05) associated with lack of knowledge about menstrual hygiene.

CONCLUSIONS

The study is one of the first such in district Ghaziabad and was conducted in the rural areas using multi stage sampling technique. The coverage of adolescent health RMNCH+A services in the district are presently sub optimal. There is a need to improve the quality and quantity of interaction between community and front line workers Implementation support, mentoring and hands on support to field staff is needed based on gaps identified in this study. Ghaziabad is not a priority district but the benefits of a National programme should have equitable distribution. The adolescent services were not implemented as per guidelines and hence the services were not known to the beneficiaries. The adolescent care programmes like school health check -ups and WIFS were reported as being implemented by 64.5% and 24.5% of the respondents. Hence these were partially implemented and there was lack of coordination between the Education and Health department as compliance was poor.

Lack of following advice on menstrual hygiene given by ASHAs/ANMs for female adolescents was significantly influenced (p-value<0.05) by lack of ASHA contact (OR=6.1) irregular school health check–ups (OR=4.1). There are no adolescent health clinics or specially trained counsellors and even the ASHAs and ANMs are not enabled with adolescent counselling skills.

RECOMMENDATIONS

For increased accessibility, utilisation and coverage of RMNCH+A services at community level the following are recommended:

1. Frequent good quality refresher trainings to improve knowledge of ASHAs on child and adolescent care along with improved recording and documentation (like ASHA diary and Village Health Information /beneficiary Register) are recommended. This will ensure bridging of knowledge gaps.
2. Increase in frequency of interactions between front line level workers and community as well as households to bring about effective behaviour change with respect to priority RMNCH+A strategies.
3. Increased and active use of job-aids and tools like pictures,flash cards, flip charts by FLWs for better adolescent counselling is recommended.
4. Adolescent services have to be streamlined with adaptation of peer educator's model for reaching out to this vulnerable age group with an emphasis on school based services. Help from NGOs can be taken for identifying and training the peer educators in public-private partnership mode.
5. Better co-ordination between Education and Health department is needed for implementation of WIFS programme. Repeated orientation of teachers is necessary to ensure compliance by beneficiaries.
6. Need assessment of knowledge and practices of female adolescents is necessary for bringing about their behaviour change in regards to menstrual hygiene.
7. Better convergence between ICDS and health department is needed to implement all the activities of the expanded VHND strategy.

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