Original Article

INTERVENTIONAL STUDY TO STRENGTHEN THE "ADOLESCENT FRIENDLY HEALTH SERVICES" IN ANGANWADIS OF AHMEDABAD MUNICIPAL CORPORATION

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ABSTRACT

Background: Numerous health and information needs of adolescents remain ignored due to constraints at different levels of health care system. One of the effective measures can be strengthening Anganwadis to meet these needs, so that better health and health seeking behavior can be expected. So, the study was carried out with objectives to assess baseline knowledge and practices of AFHS in Anganwadi workers (AWWs), to impart skill-based training to AWWs, to evaluate improvement in knowledge and skills of AWWs at appropriate interval, to assess health status and KAP of Adolescent girls (AGs) of Anganwadis.
Methods: Pre-Intervention, a questionnaire was filled up to evaluate knowledge regarding AFHS of 111 AWWs. Training (lecture) on importance of Adolescent health to all 111 AWWs was imparted. Evaluation after 1 & 6 months with same questionnaire was done. Intensive skill-based training to 8 AWWs at their respective Anganwadis was given. General health check-up of AGs of these Anganwadis initially by trainers and then by AWWs was carried out. Improvement in skills was evaluated by observation.
Results: Mean age of AWWs was 39.04$\pm$7.815years. Mean work-experience was 8.57$\pm$8.93years. Mean score pre-intervention, post-intervention-1 month & post-intervention-6 months were 21.68, 34.12 & 36.33 (Total 56) respectively. (ANOVA-test:$F=116.32, p<0.0001$). 81.69% girls were undernourished, 57.04% showed pallor. Health seeking behavior was poor. Satisfactory improvement was observed in AWWs regarding health check-up of AGs. Communication skills also improved in form of better history taking regarding menstruation, diet and effective health education.
Conclusion: Pre-induction & regular skill-based training of AWWs, regular meetings & focused-group discussions with AGs and their mothers are recommended.

Keywords: Adolescents, Health education, Health Behavior, Health Services, Access to Health Care

INTRODUCTION

Adolescents comprise of more than 23% of India's population. Adolescents face numerous risks and problems relating to reproductive and sexual health including HIV/AIDS; substance abuse; violence and injury; nutritional, psychological and behavioral problems relating to rapid changes during this period.[1]

Despite impressive inputs in expansion of infrastructure in physical terms, health and information needs of adolescents remain ignored due to constraints at different levels of the system. These relate to lack of sustained political will, policy support, poor management of services, and inadequate health services for adolescents. Besides this, help and health seeking behavior of adolescents is poor.[1]

Investments in AFHS will help in delaying age at marriage, reducing teenage pregnancy, meet the unmet needs for contraception, reduce incidence of HIV/AIDS/STIs and contribute to reduction of maternal, neonatal and perinatal mortality rates.[1] It will also help in reducing nutritional & behavioral problems and improving health seeking behavior of adolescents.

Tenth five year plan recognizes adolescents as a distinct group deserving of policy and programme attention. 13-19 years are identified as a distinct group to be covered by education, health, science and technology sectors and intersectoral operational linkages are recommended.[1]

MATERIALS AND METHODS

Settings and Design: Educational Interventional study

A questionnaire to evaluate the knowledge regarding AFHS was given to the AWWs of all Anganwadis (111) selected conveniently/purposively on the basis of permission from "Vatsalya Trust". The questionnaire contained 31 questions, out of which 11 questions were MCQs & 20 questions were open ended. The MCQs carried 1 mark for correct answer & 0 mark for incorrect answer. For open-ended questions, correct & near complete answers carried 1 mark and incorrect, incomplete & no response carried 0 mark. Training (lecture) with use of power point presentation, uterus model and chalk-blackboard on importance of adolescent health (AH) was given to these AWWs. Skill-based education was given to 8 AWWs of Paldi area at their respective centers. This training was conducted on an average for 2 hours for 3 days (Total 6 hours) in an intensified manner using anemia self assessment chart, E-chart for vision, sphygmomanometer, stethoscope, weighing scale, measure tape, uterus model and record book. General health check-up of AGs of these Anganwadis initially by trainers and then by AWWs was carried out. Evaluation was done for improvement in knowledge and practices of AWWs by a follow up visit after 1 & 6 months using same questionnaire. KAP of AGs regarding AH including their health seeking behavior was assessed using a different questionnaire. Ethical approval for the study was obtained from "Intramural Research Committee, Smt.N.H.L.Municipal Medical College, Ahmedabad".

Statistical analysis: Standard error of proportion, ANOVA-test and SPSS 17.0 (trial version).

RESULTS

Mean age of AWWs was 39.04±7.815 years. Mean work-experience was 8.57±8.93 years. Out of 102 AWWs, 42 (41.18%) were graduate and 8 (7.84%) post-graduate. Mean score of questionnaire pre-intervention (n=102), post-intervention after 1 month (n=86) & post-intervention after 6 months (n=84) were 21.68, 34.12 & 36.33 respectively (Total=54). In this study, Pre-test, Post-test$_1$, Post-test$_2$ scores with normal distribution were compared for improvement. Normality of scores was tested by Shapiro-wilk test which was not significant (pre-intervention p=0.201, post-intervention after 1 month p=0.533 & post-intervention after 6 months p=0.333). Therefore, ANOVA with Post-HOC test were used. (ANOVA-test: F=116.32, P<0.0001). Post-HOC test (Bon ferroni test) revealed significant difference between pre-test & post$_1$ and between pre-test & post$_2$. But difference between post$_1$ & post$_2$ was insignificant. (Figure 1)

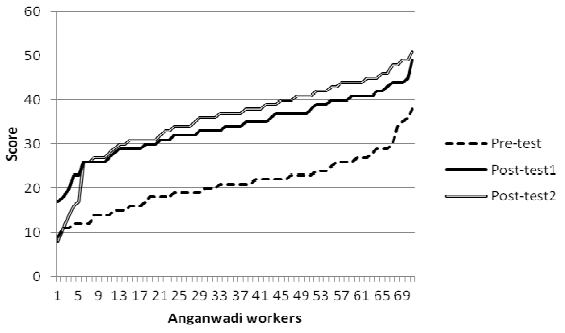

Figure 1: Comparison of test scores of Anganwadi Workers at three different intervals (n=71)

Observations pertaining to knowledge and skills of AWWs:

Before training, knowledge regarding menstrual hygiene was significantly higher in AWWs having less work experience (<10 years) as compared to those in service for more than 10 years. After training, knowledge regarding physical changes during adolescence, general health care for girls, importance of balanced diet & services provided by Anganwadi were significantly higher in AWWs having less work experience (<10 years) as compared to those in service for more than 10 years.

Before training, knowledge regarding physical changes in girls and menstrual hygiene were significantly higher in younger AWWs (20 - <40 years) as compared to 40 - <60 years. After training, knowledge regarding physiological changes in adolescents and contraception in adolescents were also significantly higher in younger AWWs (20 - <40 years) as compared to 40 - <60 years.

"Need for supplementary nutrition during adolescence" was the only question which was significantly associated with educational qualification of AWWs; otherwise it was seen that education had no significant role in this type of basic knowledge.

Statistically significant improvement was seen after 1 month in most of the questions. Though statistically significant proportion of knowledge was retained regarding majority of the questions after 6 months, some of the questions showed reduction in knowledge in comparison to post-test$_1$ month especially "need for balanced diet" was unanswered [Table 1].

Table 1: Comparison of knowledge at different intervals

Questions [6-12]	Pre-test (n=102)	Post$_1$ (n=86)	Post$_2$ (n=84)	p_1-value	p_2-value	p_3-value
Beneficiaries of Anganwadi	70.6	84.9	96.4	0.0001	0.0001	0.0001
Services provided by Anganwadi	53.9	68.6	67.9	0.0001	0.0001	0.0001
Adolescent age group*	82.4	95.3	84.5	0.0001	0.0001	0.0001
Adolescence changes*	53.9	73.3	76.2	0.0001	0.0001	0.0001
Physical changes in boys during adolescence	11.8	66.3	77.4	0.0001	0.0001	0.0001
Physical changes in girls during adolescence	16.7	66.3	77.4	0.0001	0.0001	0.0001
Social changes during adolescence	1	32.6	57.1	0.0001	0.0001	0.0001
Reason of adolescent changes	18.6	30.2	29.8	0.0001	0.0001	0.0001
Health care measures for boys during adolescence	2	50	58.3	0.0001	0.0001	0.0001
Health care measures for girls during adolescence	2	34.9	57.1	0.0001	0.0001	0.0001
Health care measures during menstruation	24.5	80.2	79.8	0.0001	0.0001	0.0001
Health-related problems in boys-girls during adolescence	2	25.6	29.8	0.0001	0.0001	0.0001
Balanced diet	1	12.8	70.2	0.0002	0.0001	0.0001
Need of balanced diet	2	60.5	1.2	0.0001	0.0344	0.0001
Need of supplementary nutrition during adolescence	25.5	37.2	67.9	0.0001	0.0001	0.0001
Need of Iron-Folic acid during adolescence	18.6	25.6	59.5	0.0001	0.0001	0.0001
Sources of Iron	13.7	46.5	84.5	0.0001	0.0001	0.0001
Symptoms of Iron deficiency	0	69.8	76.2	0.0001	0.0001	0.0001
Menarche at 8 years of age*	91.2	75.6	76.2	0.0001	0.0001	0.0001
Menarche at 13 years of age*	92.2	95.3	85.7	0.0002	0.0001	0.0001
Menarche at 18 years of age*	39.2	24.4	34.5	0.0001	0.0001	0.0001
After menarche, initial irregular or twice-a-month menstruation	8.8	23.3	19	0.0001	0.0001	0.0001
Masturbation in adolescents*	58.8	80.2	69	0.0001	0.0001	0.0001
Weakness due to masturbation*	46.1	66.3	50	0.0001	0.0001	0.0001
Nightfall*	68.6	83.7	70.2	0.0001	0.0001	0.0001
Sexually transmitted diseases (STD)	1	2.3	15.5	0.0294	0.0001	0.0001
Signs-symptoms of STD	9.8	34.9	28.6	0.0001	0.0001	0.0001
Maternal mortality in adolescent as compared to adult	12.7	44.2	44	0.0001	0.0001	0.0001
Contraception in adolescent*	51	34.9	48.8	0.0001	0.0001	0.0001
Emergency contraceptive pills in adolescence*	42.2	40.7	38.1	0.0001	0.0001	0.0001
Contraception for prevention of STD*	77.5	81.4	65.5	0.0001	0.0001	0.0001

p_1- Comparison of knowledge between pre-test and post$_1$ (1-month); p_2- Between pre-test and post$_2$ (6-months); p_3- Between post$_1$ (1-month) & post$_2$ (6-months); * MCQs; The values in the columns of pre-test, post$_1$, post$_2$ are the percentages of correct responses.

Observations pertaining to practices related to AFHS:

There was no enrollment of AGs in Anganwadis before the study. No health check-up was carried out by AWWs and not a single girl was given IFA tablets. No IEC activities related to AFHS was found at Anganwadi centres.

Satisfactory improvement was observed in all 8 AWWs regarding use of anemia self assessment chart for screening of anemia, E-chart for vision, weighing scale & measure tape for BMI and record book for maintenance of all these records. Communication skills in form of better history taking regarding menstruation, diet and effective health education also improved satisfactorily in all 8 AWWs.

Observations pertaining to Health status & KAP of AGs:

Majority (81.69%) was undernourished[4] [Table 2]. Out of 142, 19.01% (27) had not attained menarche. Table 3 shows findings of their physical examination.

Table 2: Nutritional Assessment of adolescent girls according to Body Mass Index (n=142)

Body Mass Index[2] (Percentile)*	Adolescent Girls (%)
<5	45 (31.69)
5-50	71 (50)
>50	26 (18.31)

*National Centre for Health Statistics in collaboration with National Centre for Chronic Disease Prevention and Health Promotion(2000). http://www.cdc.gov/growthcharts

Mean KAP score was 28.56 (Total=48). Knowledge in questions related to contraception, masturbation, reason of adolescent changes and reason of initial irregular menstruation after menarche was unsatisfactory.

Health seeking behavior was poor such as 20.97% were unaware that, they are beneficiaries of Anganwadi and 11.3% were unaware about facilities for their health care.

As KAP & health check-up of AGs were secondary objectives (because this information was automatically generated during sessions of imparting skills to AWWs), repeated findings were not obtained. Our primary focus was on AGs as at these Anganwadis there was absolute lack of AFHS. Therefore, we have not focused on health care for adolescent boys in present study.

Table 3: Findings of physical examination of Adolescent Girls (n=142)

Condition	Adolescent Girls (%)
Pallor	81 (57.04)
H/o irregular menses	23 (20*)
Painful menstruation	45 (39*)
Oligomenorrhea	21 (18.26*)
Menorrhagia	12 (10.43*)
Poor personal hygiene	31 (21.8)
Inadequate diet	69 (48.6)

*n=115, because 27 had not attained menarche

DISCUSSION

The training was skill-based in form of training AWWs in thorough health check-up, communication skills in form of better history taking regarding menstruation & diet, effective health education and some aspects of counseling to AGs. AWWs were found to sustain the gain in knowledge & skill even after period of 6 months. Irrespective of age, there was significant improvement in knowledge related to all aspects of AH. The skill-based training was given to only 8 AWWs to observe effectiveness. So, statistical quantification was not done, but satisfactory improvement was observed. The present study was time bound, but it can be extended for longer period to improve the results.

Before our intervention, no AGs were enrolled in Anganwadis. Supervision in this regard also seems unsatisfactory.

As in an urban setup like ours, it is very difficult to change attitudes & practices of health care providers in public sector, unless the changes come in form of orders from the higher authorities (in this case the health department of AMC).

Though most of the AWWs were highly motivated at the end of the study period, the improvement in practices could not be achieved due to above mentioned reason.

Majority of the AWWs' response was good regarding the skill-based training, as they felt that contents of training would be useful for

their day-to-day work. Two of AWWs felt that sparing time for AGs was an additional burden.

Gujarat state had initiated 41 ARSH centres viz. at 12 CHCs, 23 district hospitals and 6 government medical colleges in the first phase of intervention in 2006. None of them actually functioned at primary level[3]. According to, Annual Administrative Report of 2009-2010, Commissionorate of Health (Medical Services & Medical Education), Gujarat state, there are now 24 district hospitals, 12 CHCs, 13 PHCs, 1 sub-district hospital and 5 Medical college hospitals function as ARSH centres[4]. Out of 57, 10 urban health centres (UHCs) of Ahmedabad Municipal Corporation have also started functioning as AFHS clinic. But still the performance of these centres is not as expected. Lack of appropriate IEC materials, accessibility and counseling services were identified as major gaps. As adolescents are hesitant to visit these centres, more acceptances can be expected when the service provider is someone like AWW.

According to CORT-Vadodara study[3], giving more time to adolescents to discuss their problems is one of the felt needs according to service providers. AWW is one stakeholder who is easily available at the doorstep. This also can help to improve the quality of services as AWWs can refer adolescents if required to higher centres after gaining their confidence. So in a way, quality of ARSH clinics can improve through AWWs.

One of the finding of CORT[3] was that majority of the AGs need services/guidance related to: Weakness/Nutrition/anemia, P/V Discharge, RTI/STI management, menstrual disorders, Family Planning and HIV/AIDS. This remains unanswered as the AGs are afraid of going to health facility. This type of basic knowledge could be taught to health workers like AWWs. This could be of better help and more acceptable, as they are from the same community. So, AWWs should be motivated to devote services to AGs.

As quoted in CORT[3], "ARSH centres should not be in hospitals. Adolescents will not come even if it's like 5 star hotels. Centre should be away from hospitals within community. Doctors and health staff should go to these centres. If any health problem is identified, they can be referred."

Most of the objectives projected in RGSEAG-SABLA scheme[5], can be effectively achieved by strengthening AWWs.

CONCLUSION AND RECOMMENDATIONS

Pre-induction & regular skill-based training of AWWs would improve AFHS. Referral from AWWs to higher (ARSH) centres would improve acceptance. In that way, existing health services can be made friendlier to adolescents. In addition, regular meetings & focused-group discussions with AGs and their mothers would serve the purpose better. Monitoring of the AFHS services of the Anganwadis should be improved for betterment of the services. Enrolment & regular maintenance of all records related to AGs should be ensured.

LIMITATIONS

There are few limitations of our study. First and foremost is that practically simple random sampling was not possible due to administrative hindrances. Due to resources constraint, we could not improve skills to all AWWs in our study. Due to time constraint, we could not assess the improvement in skills of AWWs after 6 months.

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