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Hoshiar Chauhan
Department of PSM, Adesh
Medical College, Mohri,
District Kurukshetra-136135,
Haryana, India.

Nand Gupta
Department of Psychology,
Shoolini University, District
Solan-173212, Himachal
Pradesh, India.

Kunwar Shatrughan
Center for Public Health,
Eternal University, Baru
Sahib, District Sirmour-
173101, Himachal Pradesh,
India.

Mridul Acharya
School of Public Health, Post
Graduate Institute of Medical
Education and Research,
Chandigarh, India.

Correspondence:
Hoshiar Chauhan
Department of PSM, Adesh
Medical College, Mohri,
District Kurukshetra-136135,
Haryana, India.

A Study on the Knowledge of Angan Wadi Workers about the Rashtriya Bal Swasthya Karyakaram (RBSK) in Sub-Himalayan Rural Areas of HP: An Inter-sectoral Approach

Hoshiar Chauhan, Nand Gupta, Kunwar Shatrughan, Mridul Acharya

Abstract

Background: The Ministry of Health and Family Welfare, Govt. of India, launched Rashtriya Bal Swasthya Karyakaram (RBSK) in February 2013. The programme covers children between the age group of 0-18 year. The children below the age of 6 years are screened in Anganwadi Centers. **Objectives:** To assess the knowledge of Anganwadi workers about RBSK. **Method:** A cross-sectional study with telephonic interview method was used for data collection. **Results:** The AWWs reflected poor knowledge, as 97.8% of the AWWs didn't know about the name of RBSK programme, 76.7% were unaware of the benefits of the project. The results indicated that timely information by AWWs to their beneficiaries about the visit of Mobile Health Team (MHT) increased the number of children for screening. **Conclusion:** The knowledge of AWWs was found deficient regarding RBSK programme and its working team. Regarding functioning: ¾th of AWCs were not informed on time thus percentage of screened & referred children was very low.

Keywords: RBSK- Anganwadi Worker, -Anganwadi Centre-MHT-ASHA.

1. Introduction

In 2013, the Ministry of Health and Family Welfare, Govt. of India launched Rashtriya Bal Swasthya Karyakaram (RBSK) under National Rural Health Mission, which was technically called "Child Health Screening and Early Intervention Services". This programme was aimed at early detection and management of the 4Ds, (*Defects at birth, Diseases, Deficiency conditions and Developmental Delays*) in children. These 4Ds cover 30 diseases of children between the age group of 0-18 years ^[1]. The RBSK programme corresponds to the Reproductive, Maternal, Newborn, Child Health and Adolescent Health strategy: RMNCH+A^[2].

According to this programme children below the age of 6 years are screened twice in a year (after every 6 months) in Anganwadi centre (AWC) and between age of 6-18 years in government and government aided schools once in a year. For the screening of these children Mobile Health Team (MHT) has been established in every block. Each team comprised of 2 AYUSH medical officers, (male and female), 1 Auxiliary nurse midwife (ANM) and 1 pharmacist-cum-data entry operator. These MHTs work according to a micro plan which is prepared by them annually and as per this micro plan, they inform schools and AWCs 3 days or more in advance of their visit. This would enable Anganwadi workers and Principals of government and government aided schools to ensure maximum presence of children for the fixed screening days. In addition, this would also enable ANM & ASHA to have time to motivate and arrange children on AWC for screening day. The children who are suspected on 4Ds are then referred to the nearest government hospital (PHC/CHC/SDH/DH) or District Early Intervention Centre (DEIC) as per their required treatment. DEIC is also established in each district to give referral support service to these children. The staff composition of DEIC consists of Pediatrician, Medical officer, Dentist, Physiotherapist, Optometrist, Psychologist, Special educator-cum-Social health worker, Audiologist, Speech therapist, Staff Nurse, Lab

technician, DEIC manager, DEIC coordinator & Data entry operator^[3].

Responsibilities of Anganwadi worker are: to identify birth defect in the babies of age between 0-6 weeks by visiting homes, explain and motivate parents or attendants of babies about child health screening programme, inform their beneficiaries about visit of RBSK health team, inform ASHA and to help parents or attendants of babies in referral cases^[4]. In our country there are approximately 27 crores targeted children who require screening which are divided in 3 categories, (a) babies born at public health facilities and home, in which 2 crores children are to be screened between age group of birth to 6 weeks, (b) preschool children in rural areas and urban slum, in which 8 crores children are to be screened between the age group of 6 weeks to 6 years and (c) school children enrolled in class 1st to 12th in government and government aided schools which are 17 crores between the age group of 6 years to 18 years^[5]. Out of every 100 babies born in our country annually, 6 to 7 have a birth defect. In Indian context, this would translate to 1.7 million birth defects annually and would account for 9.6 per cent of all newborn deaths^[6].

There are 30 selected health conditions required for child health screening and early intervention services, which are categorized in 4Ds. Defects at birth consist of 9 health conditions. Deficiency conditions in children consist of 5 health conditions (Anaemia especially Severe anaemia, Vitamin A deficiency-Bitot spot, Vitamin D deficiency-Rickets, Severe Acute Malnutrition, Goiter). Diseases in children consist of 6 health conditions (Skin conditions, Otitis Media, Rheumatic heart disease, Reactive airway disease, Dental conditions, Convulsive disorders) and Developmental delays and Disabilities consist of 9 health conditions^[7]. For screening of these 4Ds conditions, a kit consisting of 15 tools has been provided^[8].

Ever since the launch of RBSK scheme, it has not been assessed adequately for its functioning. Extensive exploration of the literature in this context could enable the researchers to get the following studies carried out in Madhya Pradesh; Kathua, J&K; Jodhpur, Rajasthan; Ahmadabad, Gujarat. As the evaluation of this scheme would reveal multiple facets of its functioning and the steps that can be taken after highlighting its strengths and weaknesses to benefit the needy children at their tender age for their early detection, treatment and management. It is reasonable to conduct research on the assessment of knowledge of AWWs as they are directly related with the project under the RBSK, in the hilly rural area of Himachal Pradesh where the mobility and the health facilities are somewhat deficient. That's why the study was planned.

2. Objective:

To assess the knowledge of Anganwadi workers about different components of Rashtriya Bal Swasthya Karyakaram (RBSK) programme in hilly rural areas of HP.

3. Materials and Methods:

3.1 Study setting: The study area was Jubbal block, hilly rural region of District Shimla (one of the 12 districts of Himachal Pradesh).

3.2 Study design: A cross-sectional descriptive design was adopted in the study

3.3 Study duration: The study was conducted for 2 months from 1st June to 31st July, 2022.

3.4 The procedure: Approval from National Health Mission HP, was accorded. The procedure for the selection of final sample was: the list of all the AWCs of hilly rural area of Jubbal block was taken from the office of CDPO (Child Development Project Officer), Jubbal Block after being allowed to contact the AWWs. The list of phone numbers of 116 AWCs was taken from the said office. While all the AWWs were attempted for data collection, 26 AWWs could not be interviewed because of multiple reasons like, unwillingness, switched off/not reachable/not existent. As such 90 AWWs finally constituted the sample of the study.

3.5 Data Collection Techniques: After briefing AWWs about aim of the study, each AWW was interviewed on phone with the help of structured questionnaire and the responses were recorded. The questionnaire for the survey was prepared taking references from various research papers and validated by 5 experts. It consisted of three Sections - Section A, B & C.

Section-A: Comprised of personal data and work experience, Section- B: Knowledge on RBSK programme and its team and Section-C: Functioning of RBSK team. Overall, the questionnaire included 25 questions. Informed verbal consent was taken from the respondents. Confidentiality was assured & privacy of the information was maintained and used for the purpose of research only.

3.6 Data entry and analysis were processed in statistical package for social sciences (SPSS version 23). Descriptive statistics such as frequency distribution and cross tabulation between dependent and independent variables were applied to describe and summarize the results. Chi square (χ^2) test was used to observe the association between variables.

4. Results and Observations:

Present study is based on responses elicited through telephone received from 90 AWWs of rural hilly area of Jubbal Block, Shimla district regarding their knowledge on RBSK and functioning of its team. The study revealed: 44.4% AWWs were of the age group between 31-40 years, about half, 47.8% of them were educated up to senior secondary level and more than half i.e. 55.6% of respondents had work experience between 6-10 years. Almost all, 97.8% of the AWWs didn't know about the name of RBSK programme and 76.7% of them didn't know about benefits of the project. Maximum, 91.1% didn't know about the designation of mobile team members, 94.4% team used 1-5 equipments (out of 15) during screening. In half of the AWCs screening was between 26-50% where as in only 11.1% AWCs it was 76-100%. In all AWCs minimum referred cases were seen.

Table 1: Socio-demographic information of Anganwadi workers {n=90}.

Variables		Frequency	Percentage
Age of AWWs in years	21-30	7	7.8%
	31-40	40	44.4%
	41-50	36	40.0%
	>50	7	7.8%
Educational status of AWWs	Middle	1	1.1%
	Matriculation	37	41.1%
	Senior secondary	43	47.8%
	Graduation & Above	9	10.0%
Work experience of AWWs in years	0-5	7	7.8%
	6-10	50	55.6%
	11-15	4	4.4%
	>15	29	32.2%

More than ¾th (84.4%) of AWWs were in the age group of 31-50 years with their educational status Matriculation to Senior Secondary levels. More than half of them were having 6-10 years of working experience. In the study by Sangra S. et al the majority of the workers were in the age

group of 20-40 years with 74.42% of them having 12th pass education. Most of the workers received training related to RBSK program and knew about the benefits of the RBSK program.

Table 2: Knowledge of Anganwadi worker regarding programme (n=90).

Variables		Frequency	Percentage
Knew the project name	No	88	97.8%
	Yes	2	2.2%
Knew benefits of the project	No	69	76.7%
	Yes	21	23.3%
Knew designation of RBSK team members	No	82	91.1%
	Yes	8	8.9%
Knew number of visits to AWC made by RBSK team during last year	1	9	10.0%
	2	76	84.4%
	3	3	3.4%
	≥4	2	2.2%
Knew number of equipments used by the team for screening.	0	8	8.9%
	1-5	81	90.0%
	6-10	1	1.1%
	11-15	0	0.0%

Amazing 97.8% of AWWs did not know the project name, 69% didn't know the project benefits, 91.1% were unaware of the designation of RBSK team members but 90% of them

knew the number of the equipments used by MHT, while in the study by Sangra S. et al 82.85% of the workers new about the equipments.

Table 3: Basic functioning of RBSK health team (n=90).

Variables		Frequency	Percentage
ASHA present on the day of screening	No	46	51.1%
	Yes	44	48.9%
Number of MHT members present on screening day(s)	1	0	0.0%
	2	29	32.2%
	3	56	62.2%
	4	5	5.6%
	≥5	0	0.0%
Number of days MHT informed to AWC in advance for screening of the children	Not informed	4	4.4%
	Same day	8	8.9%
	1 day in advance	33	36.7%
	2 days in advance	20	22.2%
	≥3 days in advance	25	27.8%
Number of equipments used by MHT during screening	0	4	4.4%
	1-5	85	94.4%
	6-10	1	1.1%
	11-15	0	0.0%
Time spent in hours by MHT in AWCs for screening children	≤1	7	7.8%
	1-2	38	42.2%
	2-3	35	38.9%
	≥3	10	11.1%
Percentage of children screened in the AWCs	≤25%	11	12.2%
	26-50%	39	43.3%
	51-75%	30	33.3%
	76-100%	10	11.1%
Percentage of children referred to other health facility	≤10%	90	100.0%

	11-20%	0	0.0%
	21-30%	0	0.0%
	31-40%	0	0.0%
	≥41%	0	0.0%
On-the-spot treatment provided by MHT	No	85	94.4
	Yes	5	5.6

94.4% of the AWCs could be attended by 2-3 MHT members out of a team of 4 officials. 58.9% of AWCs could be informed by the MHT, 1-2 days in advance for screening sessions. 80% of the centers were given 1-3 hours by the MHT for screening in each center. Less than 10% of the children were referred to the health facilities for treatment

and 5.6% of them were given on-the-spot treatment. In the study by Sangra S. et al most of the workers received training related to RBSK program

Association between variables

Table-4: Association between presence of ASHA with percentage of children screened.

		Percentages of children screened				χ^2	df	p-value
		≤25	26-50	51-75	76-100			
ASHA present on the day of visit	No	11	19	10	6	14.72	3	0.002**
	Yes	0	20	20	4			

**The results indicated that the association was highly significant between presences of ASHA and number of children screened. It is by dint of the factor that ASHA is

very effective agent for motivating the parents in bringing the children.

Table-5: Association between knowledge of AWWs and the visits of MHT in the last year.

Visits by MHT ↓		No. of AWWs at AWCs				χ^2	df	p-value
		1	2	3	≥4			
Knowledge of AWWs on the number of MHT visits in last year	1	9				48.56	6	0.001**
	2	76						
	3	3						
	≥4	2						

** The association was highly significant between number of visits of MHT in last year and knowledge of AWWs, it

means if the team visited last year, definitely it must have been added to the knowledge of the worker.

Table-6: Association between ‘number of days’ in advance MHT informed AWWs with ‘number of days’ AWWs informed beneficiaries in advance.

		Number of days before AWW informed the beneficiaries ↓				χ^2	df	p-value
		Same day	1 Day	2 Days	≥3 Days			
No. of days before MHT informed →	Not informed	4	0	0	0	230.49	12	0.001**
	Same day	7	1	0	0			
	1 Day	4	29	0	0			
	2 Days	0	0	20	0			
	≥3 Day	0	0	0	25			

** The association was highly significant between number of days before MHT informed and number of days before AWW informed the beneficiaries. If the beneficiaries could

have been informed in advance by 1-3 days the number of children could have increased accordingly.

Table-7: Time spent by MHT in AWCs with percentage of children screened.

		Percentage of children screened				χ^2	Df	p-value
		≤25	26-50	51-75	76-100			
Time spent in hours by MHT in AWCs	≤1	3	4	0	0	19.55	9	0.021*
	1-2	4	21	10	3			
	2-3	4	12	13	6			
	≥3	0	2	7	1			

*Significant association was observed between time spent by MHT in AWC and children screened. More the time spent by MHT in the centers more children were screened.

5. Discussion

The present study was conducted to assess the knowledge of

90 AWWs on RBSK programme through telephonic interviewing, using structured questionnaire in hilly rural area of Jubbal Block, District Shimla, Himachal Pradesh. In all, there were 116 AWCs but 90 AWWs could be contacted for detailed interviewing. It was found that only 81 AWWs

were present and others were being managed by the helper or ASHA or both. The study found that 97.8% AWWs didn't know the project name, 76.7% the project benefits and out of 15 equipment only 1-5 were used by 94.4% MHT for screening the children. MHT did not inform 3 days or more prior to their visit. The time spent on screening of children in AWCs ranged from 1-2 hours in 42.2 % AWCs, and more than 3 hours in 11.1% AWCs; which did not justify their service. The percentage of the screened children were 26-50% in 43.3% AWCs and the children who were referred with different problems were less than 10% from all the 90 AWCs in sharp contrast to about 40% referrals. In 94.4% AWCs none of them was given on-the-spot treatment by MHT doctors.

As such, the study indicated highly deficient knowledge of AWWs and functioning of the MHT. Almost similar results have been enunciated in the studies by Parmar S. et al^[9]; Sangra S. et al^[10]; Pankaj B. et al^[11]; Sharma et al^[12] that indicated deficiencies in functioning of MHT. It was found that ear speculum was not available in all the 4 MHTs and gloves were not available in the kits of 3 MHT out of 4 in Indore and 1 MHT (25%) of Ujjain district. Bell was unavailable in the kit of 1 MHT (25%) of Indore, infant weighing scale was also not available in the kit of 1 MHT (25%) of each district, Bowl and lawn tennis balls were not available in the kits of all MHTs of Ujjain district.

The current study revealed that inadequate MHT members were visiting AWCs; only 5 (5.6%) of AWCs were visited by all the four members. 32.2% were visited with 2 MHT members, and 62.2% with 3 MHT members. Similar results have been reported by Parmar S. et al., that in Ujjain only 1MHT (25%) had nurse, while other MHTs had no nurse. Data entry operator was available with 2 MHTs (50%) in Indore and that study conducted in Kathua by Sangra S. et al is also in consonance with the above observations. In our study 36.7% & 22.2% MHTs informed AWCs 1 day & 2 days prior to their visit, while in the study of Parmar S. et al. 85.7% MHTs reported the necessity of informing AWCs before their visit in Indore district, whereas 87.5% had reported in Ujjain.

6. Limitations

- This study was primarily limited by its small sample size. So, future studies need to include a larger sample size so as to generalize the results to draw reasonable inference.
- The study was conducted in remote and only one hilly block with AWCs scattered far off. The time duration was not sufficient for the inclusion of a large sample. In rainy season when some link roads are flooded and broken the approach to these areas becomes difficult.
- The information was collected through telephone, so the inherent deficiency of this method might be there.

7. Conclusion and National Health Implications

The present study tried to analyze the knowledge of AWWs and functioning of MHT, working in hilly rural areas of HP. The study concluded that maximum number of AWWs was deficient with knowledge about project RBSK and MHT. Basic functioning of MHT was not up to mark. The findings of this study indicate the need for appropriate intervention through hands-on-training and education to the workers in public and beneficiaries' interest at national level.

8. Key Messages

Based on the observations, following key messages are made out of the present study:

- Proper training should be given to AWWs about project RBSK & MHT.
- Presence of ASHA be made mandatory in AWC on the day of screening.
- As the presence of ASHA has significant association with the number of children screened. The MHT should inform ASHA/ANM in advance regarding their visits in AWC so that she can motivate the beneficiaries regarding screening.
- MHT must follow their micro plan and inform AWCs minimum 3 or more days before their visit, so that worker will also inform their beneficiaries in time.
- MHT must spend sufficient time in the centers so that maximum number of screenings could be done and the percentage of referral should also increase.
- MHT must use every provided screening equipment to them and keep necessary medicines with them so that on-the-spot treatment could be given to sick children.
- Posters of RBSK (in Hindi language) should be provided to the AWCs and the Hospitals so that beneficiaries can get awareness.
- Details of RBSK should also be advertised in the government Immunization card.

9. Ethical clearance

A formal approval was taken from Institute's Ethics Committee.

10. Acknowledgment

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11. Financial support and sponsorship

Nil.

12. Conflicts of interest

There are no conflicts of interest.

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