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Assessment on ASHA Workers' Knowledge and Expressed Practices Regarding Early Childhood Development Screening under HBYC Programme in Barmer, Rajasthan with a View to Conduct a Workshop

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Abstract

Context: Early childhood is the most critical period for achieving developmental milestones that influence lifelong health, learning, and well-being. Developmental delays, if not identified early, can adversely affect children, families, and communities. The Home-Based Care for Young Child (HBYC) programme emphasizes developmental screening through Accredited Social Health Activists (ASHAs). Their knowledge and practices play a crucial role in ensuring timely identification and referral.

Aim: To assess the knowledge and expressed practices regarding early childhood development screening under the HBYC programme among ASHA workers at selected Anganwadi Centres in Barmer.

Methods: A community-based descriptive study was conducted among 100 ASHA workers from selected Anganwadi Centres (AWCs) in Barmer block, Rajasthan. Non-probability convenient sampling was adopted. Data were collected using a validated structured knowledge questionnaire and an expressed practice checklist. The data were analyzed using descriptive and inferential statistics, including chi-square test.

Results: The findings showed that 64% of ASHA workers had poor knowledge, and 36% had average knowledge regarding early childhood development screening. With respect to expressed practices, 92% demonstrated inadequate practices, while 8% showed adequate practices. Education ($\chi^2 = 13.71$, $p < 0.05$) was significantly associated with knowledge scores, while expressed practices were significantly associated with age ($\chi^2 = 14.00$, $p < 0.05$)

Conclusions: The study revealed significant gaps in knowledge and practices of ASHA workers regarding

ECD screening under the HBYC programme. Strengthening their capacity through structured workshops and refresher trainings is essential for early identification of developmental delays and improving child health outcomes

Keywords: Early Childhood Development, HBYC, ASHA Workers, Knowledge, Expressed Practices, Workshop.

Introduction

Development in early childhood is crucial for long-term health and well-being. The Home-Based Care for Young Child (HBYC) programme under the National Health Mission focuses on promoting health and development in children aged 3–15 months. ASHA workers play a key role in implementing this programme. However, developmental delays often go unnoticed due to insufficient knowledge and practices. This study explores the current knowledge and practices among ASHA workers regarding ECD screening under the HBYC programme.

Need for the study

The first two years of life are a critical period for early childhood development (ECD), marked by rapid growth in cognitive, physical, and emotional domains. In India, especially in rural and underserved areas like Barmer, Rajasthan, children often face developmental delays due to malnutrition, poor healthcare access, and a lack of early stimulation. The Home-Based Care for Young Child (HBYC) programme was launched to address these issues by ensuring structured home visits and guidance by ASHA workers. However, evidence suggests significant gaps in ASHA workers' knowledge and practices related to ECD screening. Studies have reported high prevalence rates of developmental delays, highlighting the urgent need for intervention. ASHA workers, being the first point of contact in rural health systems, must be well-trained and equipped to assess and refer children effectively. This study seeks to evaluate their current knowledge and practices and to strengthen their competencies through a workshop aimed at improving child development outcomes.

Review of literature

A study conducted by Taywade et al. (2024) emphasized the significance of the first 1000 days of life in a child's growth and development. It found that globally, 17.6% of children face developmental delays, with India's rate at around 6.6%. The prevalence increased significantly between infancy and 23 months, peaking at 20.3%. The study highlighted the urgent need for early identification and timely intervention to prevent long-term negative outcomes, especially during postnatal follow-up, when screening can be most effective.

Das et al. (2023) conducted a cross-sectional study in eight aspirational districts of Madhya Pradesh, the researchers assessed ASHA workers', health functionaries', and mothers' knowledge regarding the HBYC programme. While most ASHAs knew about ORS and IFA supplementation, only 47% could identify danger signs requiring child referral. The study revealed a significant gap in the effective transfer of knowledge, stressing the need for capacity-building and supportive supervision to improve the implementation of HBYC.

Sharma et al. (2020) found that 16.2% of children in a rural North Indian community had developmental delays, with cognitive delays being the most prevalent (20%). The study identified gaps in parental awareness of developmental milestones and recommended enhancing knowledge through education and early intervention strategies. It highlighted the importance of

community-level workers in identifying and addressing developmental concerns early.

Materials and Methods

In this study a quantitative research approach and descriptive research design were adopted to assess the knowledge and expressed practices of ASHA workers regarding early childhood development (ECD) screening under the HBYC programme in selected Anganwadi Centres (AWCs) of Barmer, Rajasthan. .

The target population was HBYC-trained ASHA workers, and a sample size of 100 ASHA workers was selected using a non-probability convenient sampling technique.

Two tools were used:

- Structured knowledge questionnaire (30 items)
- Expressed practices checklist (12 items)

Scoring categorized knowledge as poor (<50%), average (50–75%), and good (>75%), and practices as inadequate (<80%) or adequate (>80%).

The tools were validated by experts from nursing and UNICEF, and a pilot study with 18 ASHA workers confirmed feasibility. Reliability was tested using KR-21, yielding r = 0.77 (knowledge) and r = 0.82 (expressed practices), indicating strong internal consistency.

Data collection took place from December 7–17, 2024, with informed consent and ethical approvals obtained. The data collection tools took approximately 30–40 minutes per participant.

Data analysis involved descriptive statistics (frequency, percentage, mean, median, mode, SD) and inferential statistics using Spearman's correlation and Chi-square tests to assess relationships and associations.

Results:

Table 1: Socio-demographic Distribution of ASHA Workers N=100

S.N.	Socio-Demographic Variables	Categories	Frequency (f)	Percentage (%)
1	Age (in years)	18 to 25	00	00
		26 – 30	17	17
		31 – 35	38	38
		Above 35	45	45
2	Education	Up to 10th	40	40
		12th	36	36
		Graduation	15	15
		Post-graduation	09	09
3	Work experience (in years)	Up to 4	12	12
		05 – 08	18	18
		09 – 12	21	21
		More than 12	49	49
4	Working area	Urban	50	50
		Rural	50	50
5	Economic status	Above poverty line (APL)	82	82
		Below poverty line (BPL)	18	18
6	Number of children	None	00	00
		One	10	10
		Two	44	44
		More than two	46	46

Table No. 1 shows that the majority of ASHA workers were above 35 years (45%), had education up to the 10th or 12th class, and 49% had more than 12 years of experience. Urban and rural participants were equally distributed (50% each), with most belonging to the Above Poverty Line (82%) and having two or more children

Figure 1: Knowledge score distribution among ASHA workers

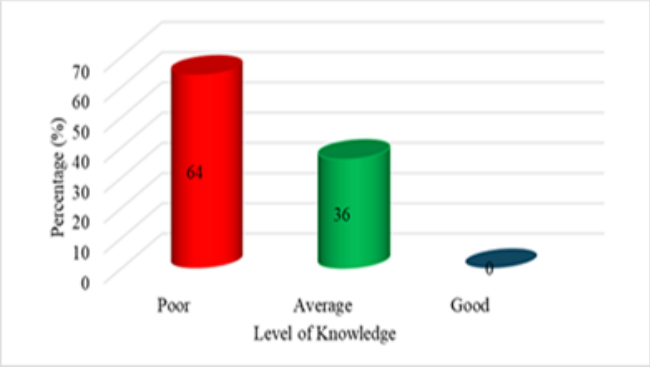

Figure 1 depicts the percentage distribution of ASHA workers' knowledge levels regarding early childhood development (ECD) screening. The findings show that 64% of ASHA workers had poor knowledge and 36%

had average knowledge This clearly indicates that a large majority of ASHA workers lack adequate knowledge of ECD screening.

Table 2: Knowledge score statistics N=100

S. N.	Area of knowledge	Max. Score	Mean	Median	Mode	Standard Deviation
1	Introduction to the HBYC programme and early childhood development	10	5.11	5.0	5	1.45
2	Tracking of Developmental milestones	10	3.45	3.0	4	1.41
3	Activities of ASHA worker during HBYC home visit	10	5.23	5.0	6	1.60
	Overall	**30**	**13.79**	**14**	**14**	**2.91**

Table 2 shows that the overall mean knowledge score was 13.79 with a median and mode of 14, indicating poor knowledge among ASHA workers. Scores in sub-areas (HBYC introduction, milestones, ASHA activities) showed low averages. The close values of mean, median, and mode reflect homogeneity in poor knowledge

Figure 2: Expressed practices score distribution among ASHA workers

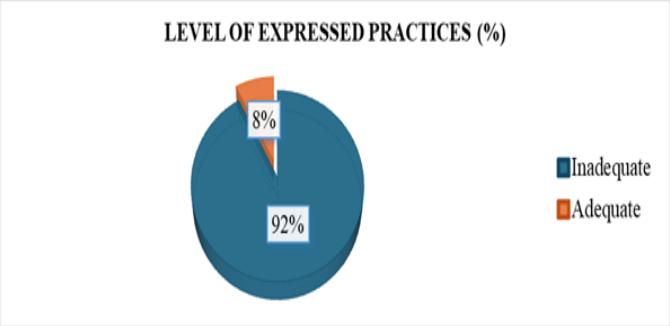

Figure 2 depicts the distribution of expressed practice levels among ASHA workers regarding ECD screening. The results show: 92% of ASHA workers demonstrated inadequate practices while only 8% had adequate practices. These results show that the majority of ASHA workers are not performing the necessary practices effectively

Table 3: Expressed Practices Score Statistics N=100

S.N.	Max. Score	Mean	Median	Mode	Standard Deviation
1	12	5.74	6	6	2.34

Table no. 3 shows that the mean expressed practices score was 5.74 with a median and mode of 6, falling in the "inadequate" range. A standard deviation of 2.34 suggests consistent but low practice levels among participants, confirming that most ASHA workers inadequately follow ECD screening practices

Table 4: Correlation between knowledge and expressed practices score among ASHA workers N=100

Relationship between knowledge and expressed practices score	Mean	Spearman's rank correlation coefficient (ρ) value	n	Tabulated value	Inference @ 0.05 LOS
Knowledge score	13.79	0.04	100	0.19	NS
Expressed practices score	05.74				

Table No.4 shows that the Spearman's rank correlation coefficient of 0.04 indicates a weak positive correlation between knowledge and expressed practices. However, it is not statistically significant, suggesting no meaningful relationship between what ASHA workers know and what they practice

Table 5: Association between knowledge and selected socio-demographic variables of ASHA workers N=100

S. N	Socio-Demographic Variables and Categories	Frequency (f)	Knowledge score			Chi-square (χ^2)	df	Tabulated value	Inference @ 0.05 LOS
			Poor	Average	Good				
	Age (in years)								
1	18 to 25	00	00	00	00	0.52	2	5.99	NS
	26 – 30	17	12	05	00				
	31 – 35	38	23	15	00				
	Above 35	45	29	16	00				
	Total	100	64	36	00				
	Education								
2	Up to10th	40	29	11	00	13.71	3	7.81	S
	12th	36	27	09	00				
	Graduation	15	04	11	00				
	Postgraduation	09	04	05	00				
	Total	100	64	36	00				
	Work experience (in years)								
3	Up to 4	12	07	05	00	2.32	3	7.81	NS
	05 – 08	18	10	08	00				
	09 – 12	21	12	09	00				
	More than 12	49	35	14	00				
	Total	100	64	36	00				
	Working area								
4	Urban	50	31	19	00	0.17	1	3.84	NS
	Rural	50	33	17	00				
	Total	100	64	36	00				
	Economic status								
5	Above poverty line (APL)	82	54	28	00	0.67	1	3.84	NS
	Below poverty line (BPL)	18	10	08	00				
	Total	100	64	36	00				
	Number of children								
6	None	00	00	00	00	1.75	2	5.99	NS
	One	10	07	03	00				
	Two	44	25	19	00				
	More than two	46	32	14	00				
	Total	100	64	36	00				

S-Significant NS- Non-Significant

Table No. 5 shows that there was a significant association between knowledge and education level ($\chi^2 = 13.71$, $p < 0.05$), indicating that better-educated ASHA workers had higher knowledge. No significant association was found with age, experience, working area, economic status, or number of children

Table 6: Association between expressed practice and selected socio-demographic variables of ASHA workers N=100

S. N	Socio-Demographic Variables and Categories	Frequency (f)	Expressed practices score		Chi-square (χ^2)	df	Tabulated value	Inference @ 0.05 LOS
			Inadequate	Adequate				
	Age (in years)							
1	18 to 25	00	00	00	14.00	2	5.99	S
	26 – 30	17	12	05				
	31 – 35	38	38	00				
	Above 35	45	42	03				
	Total	100	92	08				
	Education							
2	Up to10th	40	38	02	1.19	3	7.81	NS
	12th	36	33	03				
	Graduation	15	13	02				
	Postgraduation	09	08	01				
	Total	100	92	08				
	Work experience (in years)							
3	Up to 4	12	12	00	4.90	3	7.81	NS
	05 – 08	18	17	01				
	09 – 12	21	17	04				
	More than 12	49	46	03				
	Total	100	92	08				
	Working area							
4	Urban	50	46	04	0.00	1	3.84	NS
	Rural	50	46	04				
	Total	100	92	08				
	Economic status							
5	Above poverty line (APL)	82	75	07	0.17	1	3.84	NS
	Below poverty line (BPL)	18	17	01				
	Total	100	92	08				
	Number of children							
6	None	00	00	00	1.68	2	5.99	NS
	One	10	10	00				
	Two	44	39	05				
	More than two	46	43	03				
	Total	100	92	08				

S-Significant NS- Non-Significant

Table no. 6 shows that a significant association was found only between age and expressed practices ($\chi^2 = 14.00$, $p < 0.05$). Other factors—education, experience, working area, economic status, and number of children no significant association with practice levels

Discussion

The study reveals substantial gaps in ASHA workers' knowledge (64% poor) and practices (92% inadequate) on ECD screening, consistent with findings on training deficiencies in rural India (Chattopadhyay & Aneja, 2021). These findings are supported by Mahyavanshi et al. (2021) in Surendranagar, who found 60–90% of ASHAs had poor knowledge and practices; by Sugandha & Jagannath (2021) in Mysuru, where 50% had inadequate knowledge on maternal and child health; and

by Joseph Ancy (2019) in Kerala, who reported 84% had poor to average knowledge. In contrast, Das et al. (2020) in Madhya Pradesh found 47–85% of ASHAs had good knowledge on HBYC. Education significantly influenced knowledge, suggesting that higher-educated ASHA workers better grasp ECD concepts. Age influenced practices, possibly due to greater practical experience among older workers, though not specific to ECD tools. The weak knowledge-practice correlation ($\rho = 0.04$) indicates a disconnect, necessitating integrated training. A proposed workshop should focus on practical skills with tools like the MCP card and LTMA to bridge these gaps.

Recommendations

- A similar study can be conducted at a larger level.
- An experimental study can be conducted to assess the effectiveness of the workshop.
- A comparative study can be conducted between rural and urban ASHA workers.
- Implement regular reorientation and hands-on training workshops.
- Establish a district-level ASHA education cell.
- Develop digital tools like mobile apps and video modules for ECD training.
- Provide toolkits and ensure supportive supervision from field-level staff

Conclusion

The study found that most ASHA workers had poor knowledge and inadequately expressed practices regarding early childhood development (ECD) screening under the HBYC programme. The overall knowledge and practice levels were low, with no statistically significant correlation between them. However, education was significantly associated with knowledge, and age was significantly associated with expressed practices.

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