



Evaluation of healthcare services of integrated childhood development services (ICDS) in a district of Western India

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Abstract

Background: Early years of the life are the most crucial period for the physical, mental, social, emotional, language development and lifelong learning. Integrated child development services (ICDS) program maintained its uniqueness as early childhood development program of the world. The objectives of study were to (1) evaluate the ICDS services & its utilization by the beneficiaries & (2) find out differences in health care services between rural & urban anganwadi centres (AWCs).

Method: A cross sectional study involving selected 120 AWCs of Jamnagar was carried out using a pro forma having questions related to health care services provided under ICDS.

Results: 67% of beneficiaries were regular in pre-school education (PSE). Percentage of mild, moderate & severe malnutrition varied between 82-85%, 7-12% & 6-8% in children between 6m-6 years respectively. Referral services, nutrition and health care session, vaccination services, routine healthcare check-up of children at every 1-3 month and Minimum 4 ANC visits were provided in 60%, 82.5%, 62.5%, 75% and 77.5% AWCs respectively.

Conclusion: About 2/3rd beneficiaries were regularly attending PSE with higher prevalence in urban than rural AWCs. Percentage of mild, moderate & severe malnutrition varied between 82-85%, 7-12% & 6-8% in children of 6 months to 6 years respectively. Rural AWCs had more 'mild malnourished' child & urban AWCs had more 'severely malnourished child'.

Keywords: evaluation; ICDS, healthcare service; malnourished child

Introduction

Children get first priority in agenda list of human resource development as this phase of life is base for lifelong learning and at the same time they are most vulnerable [1]. Early years of the life are the most crucial period for the physical, mental, social, emotional, language development and lifelong learning [2]. For proper development of child, they must be coordination between education, health and nutrition of the child. Integrated child development services (ICDS) program maintained its uniqueness as early childhood development program of the world [3]. The ICDS programme functions through a network of anganwadi centres (AWCs) which are the focal points for the delivery of services attached to the scheme and are managed by the anganwadi workers (AWWs) [4]. ICDS provides integrate package of services like: (a)

supplementary nutrition, (b) immunization, (c) health check-up, (d) medical referral services, (e) non-formal education of children up to 6 years, (f) nutrition and health education for women. For improving the quality

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of service delivery of any scheme, there must be periodic evaluation of its service delivery and service utilization components. So we conducted this study with following objectives.

So objectives of study were to (1) evaluate the ICDS services and its utilization by the beneficiaries, (2) find out differences in health care services between rural and urban AWCs.

Methods

This was a cross sectional study conducted for a 12-month period between July 2018 to June 2019 at selected anganwadi centres of Jamnagar District, Gujarat, India using simple random sampling method as sampling method. Total sample size came to 120, which was total of 'A' & 'B' AWCs. Out of total 913 AWCs from all taluka of Jamnagar, total 10% of AWC i.e., 91 were selected, so value of 'A' was came to 91. Of total 294 AWCs from all urban wards of Jamnagar municipal corporation, 10% number of AWCs selected, value of 'B' came to 29. A pre-tested semi-structured pro forma designed by NIPCCD (National institute of public co-operation for child development) was used for data collection which includes questions related to health care services like preschool education, supplementary nutrition, health check-up of children and pregnant lady, vaccination service, referral service and nutrition and health care education [5]. One of the authors visited the facility and filled the pro forma after assessment. All the AWCs selected by simple random sampling method except AWC which are not functioning at the time of study (i.e. where post of AWW was vacant at the time of study).

The study was approved by M. P. Shah Medical College Institutional Ethics Committee, Guru Gobindsingh Government Hospital, Jamnagar. Written approval was also obtained from District programme officer for ICDS.

Statistical analysis

The data entry was done in MS Excel version 10.0 and data analysis was done using SPSS (Statistical Package for social sciences) version 20.0. For qualitative data, Pearson's chi-square test was applied to test the relationship between different categorical data. A 'p value' of < 0.05 was considered statistically significant.

Results

After analysing all the collected data of selected AWCs, the results were discussed here. It can be seen from figure 1 that 88 AWCs (i.e. 73%) were selected from rural areas of Jamnagar while 32 AWCs (i.e. 27%) were selected from urban areas of Jamnagar.

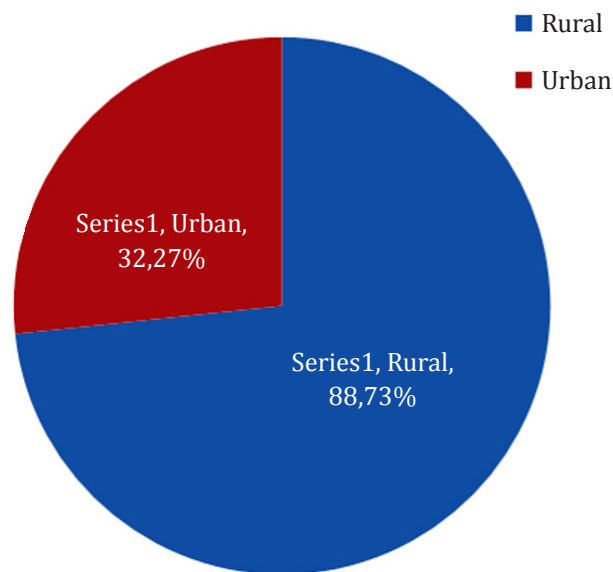


Figure 1: Selection of anganwadi centres.

Table 1 show that all AWCs had prepared time table of activities for pre-school education (PSE) and all AWW have knowledge about ECCE (early childhood care and education day). PSE Material and PSE guidebook were available in 92.5% of AWCs while co-operation of parents for PSE activity was available only in 62.5% AWCs. About 67% of beneficiaries were regular in attending PSE.

Table 1a: Evaluation of 'Pre-school education' service.

Pre-School Education activity evaluation	Sub-groups	Number of AWCs	% (n=120)
Service provider side	Time table of activities	120	100
	PSE Material	111	92.50
	PSE Kit	105	87.50
	Guide book	111	92.50
	Knowledge about ECCE (early childhood care and education day)	120	100.00
	Cooperation from parents	75	62.50

Table 1b: Evaluation of 'Pre-school education' service, beneficiary side.

Pre-school education activity evaluation	Beneficiaries attending PSE	Number of beneficiaries	% (n=4533)
Beneficiary side	Regular beneficiaries	3018	66.58%
	Irregular beneficiaries	1515	33.42%

It can be stated from table 2 that 75% of AWW finds supplementary nutrition to be of good quality and acceptable to the beneficiaries. 80% AWW said that the quantity of supplementary nutrition was enough to the need of enrolled children. About half (47.5%) of AWW agree on that supply of supplementary nutrition is interrupted (not consistent throughout the year). 82-85% of children of either 6 months to 1 year or 1-3 year or 3-6 years were falling into green color zone of growth chart which indicated mild malnutrition in them. About 7-12% of children of either 6 months to 1 year or 1-3 year or 3-6 years were having moderate malnutrition (as per WHO growth charts) while 6-8% of children between 6 months to 6 years had severe malnutrition (as per WHO growth charts) at the time of visit.

Table 2a: Evaluation of supplementary nutrition service, service provider side (perception of AWW regarding supplementary nutrition).

sub-groups	No of AWW (n=120)	Percentage (%)
Good quality	75	62.50
Acceptability	75	62.50
Enough quantity	96	80.00
Interruption in supply	57	47.50

Table 3: Evaluation of services like vaccination, referral, nutrition & health education and health check-up.

Health care service	sub-group	No of AWC (n=120)	Percentage
Referral service	AWWs referring beneficiaries	72	60.00
	AWWs using referral slip while referring beneficiaries	9	7.50
	Follow up of referred beneficiaries	3	2.50
Nutrition & health education session organized	Yes	99	82.50
	No	21	17.50
Vaccination Activity Location	S.C	36	30.00
	P.H.C	9	7.50
	AWC	75	62.50
Health check-up (a) frequency of health check-up of children	1 - 3 month	90	75.00
	3 - 6 month	9	7.50
	> 6 month	21	17.50
Health check-up (b) pregnant female	Averageno. of ANC visits	No of AWC (n=120)	%
	2 &<2	9	7.50
	3	18	15.00
	4	15	12.50
	5&>5	78	65.00

Table 2b: Evaluation of supplementary nutrition service, beneficiary side (Zone of growth chart of children).

Zone	Children 6m- <1 year (%) (n=1620)	Children 1-3 year (%) (n=3642)	Children 3-6 year (%) (n=3594)
Green	85.26	82.69	81.93
Yellow	7.17	9.97	12.34
Red	7.57	7.34	5.72

Table 3 indicates that when assessed 'referral service', it was seen that about 60% of AWW were providing referral services. Out of them only 7.5% were using referral slip along with referral and only 2.5% AWW were doing follow up of referred beneficiaries. Nutrition and health care sessions were organized in about 82.5% AWCs. Vaccination service was provided at AWC in about 62.5% AWCs while it was provided at nearby SC, PHC in rest of AWCs. Routine healthcare check-up of children was provided every 1-3 months in only 75% of AWCs. Minimum 4 ANC visits were provided by in about 77.5% AWCs.

Table 4 indicates 'Regular' beneficiaries attending pre-school education are more in urban AWCs compared to rural AWCs and this is highly significant association.

If compared the perception of AWW regarding supplementary nutrition, it was of more good quality

with higher acceptability amongst beneficiaries in AWCs of urban areas in comparison with AWCs of

rural areas. A common and statistically significant finding came out that the children having ‘Green Zone’ (i.e., mild malnutrition) in growth chart plotting were higher in rural AWCs as compared to urban ones. One more significant finding revealed by the study was that and urban AWCs.

children between 1 to 6 years having ‘Red Zone’ (i.e. severe malnutrition) as per WHO growth chart plotting were higher in number in urban AWCs as compared with rural AWCs.

Table 4: Comparison of health care services between rural

<i>Health care services or its utilization</i>	<i>Sub-group</i>	<i>Urban</i>	<i>%</i>	<i>Rural</i>	<i>%</i>	<i>X² test value</i>	<i>p value</i>
Beneficiaries attending pre-school education	Regular Beneficiary	915	77.81	2103	62.65	89.283	<0.0001
	Irregular Beneficiary	261	22.19	1254	37.35		
Perception of AWW regarding supplementary nutrition	Good Quality	27	84.38	48	54.55	7.682	0.005
	Acceptability	27	84.38	48	54.55	7.682	0.005
Zone of growth chart of children 6months-1 year	Green	1113	86.28	303	91.82	16.528	<0.0003
	Yellow	105	8.14	6	1.82		
	Red	72	5.58	21	6.36		
Zone of Growth chart of children 1 year-3 year	Green	2205	81.04	777	84.36	49.898	<0.0001
	Yellow	273	10.03	123	13.36		
	Red	243	8.93	21	2.28		
Zone of Growth chart of children 3 year-6 year	Green	2229	79.81	753	94.01	89.043	<0.0001
	Yellow	360	12.89	33	4.12		
	Red	204	7.30	15	1.87		

Discussion

In our study 73% AWCs were selected from rural and 27% from urban areas of Jamnagar. A study carried out by Chudasama et al., included 77% AWCs from rural and 23% from urban areas. Both studies share more or less same type of selection of AWCs [6]. All AWCs in our study had prepared time table of activities for PSE and all AWW have knowledge about ECCE (early childhood care and education day). PSE material and PSE guidebook were available in 92.5% AWCs while PSE kit was available in 87.5%. PSE material and guidebook were available in 59.2% and 50% AWC in the study by Madan Rathore et al., [7]. AWCs co-operation of parents for PSE activity was available only in 62.5% AWCs. A study by Monya found in her study that co-operation from community was available in 80.6% AWCs [8]. A study by Chudasama et al., found that the PSE kit was available in 40% AWCs [6]. This indicates that availability of PSE kit has improved since last 2012-13 till present study. In this study, 82-85% of children of either 6 months to 1 year or 1-3 year or 3-6 years had mild malnutrition while 7-12% and 6-8% children of 6 months to 6 year had moderate and malnutrition respectively. A study by Chaudhary et al., found that proportion of mild, moderate and severe malnutrition were 62.4%, 34.5% and 3.01% in children

<3 years while the same were 63.25%, 32.3% and 4.3% in children between 3-6 years [9].

The average number of ‘regular’ beneficiaries of pre-school education per AWC was 25 while it was 14 as per the study conducted by NCAER in 2009-10 years based on three sudden visits by the research team [10]. This shows a favourable change towards utilization of pre-school education services since the previous study. In our study, 75% of AWW finds supplementary nutrition to be of good quality and acceptable to the beneficiaries. A study by Madan Rathore et al., found that quality of supplementary nutrition was satisfactory in 100% anganwadi and acceptable in 98.1% anganwadi [7]. About 47.50% AWCs reported some interruption in supply at least once in last 6 months. A study by Chudasama et al., states that 87% AWCs reported acceptability of supplementary nutrition [6]. The same study mentioned that 80% AWCs reported interruption in supplementary nutrition (SN) in at least once in last 6 months. A study by Rathore et al., mentioned that 22.2% of AWC experienced at least once interruption in SN in last 6 months [7]. We can say from both these studies that acceptability of supplementary nutrition has remained same with no improvement since last 5 years but interruptions in supply has been drastically reduced

from 80% to 47.5% in last 5 years of the present study which is a very impressive change in implementation aspect of ICDS.

Present study says that about 60% of AWW were providing referral services, out of them only 7.5% were using referral slip along with referral. A study by Meena et al., found in their study that 40% AWC were providing referral services [11]. A study by Chudasama et al., states that regular referral of sick children was seen in 8.3% of AWCs, out of which 18.3% AWCs were using referral slip [6]. Again an improvement in referral services has been noticed which shows progress in the implementation of ICDS. Routine healthcare check-up of children was provided every 1-3 monthly in 75% of AWCs. A study by Rajpal et al., in their study found that health check-up services for children were available at 39.7% AWCs [12]. A study by Meena et al., found in their study that 40% AWC were providing health check-up services [11]. A study by Chudasama et al., reported that only 30.40% AWCs were providing regular health check-up of enrolled children [6]. Health check-up services for children of AWCs has shown terrible progress since 2012 to present study and it's a welcome sign for India for better health of children.

Limitations: The reliance on data regarding self-reported perception from AWWs for evaluation of supplementary nutrition service might introduce subjectivity in the results which should be kept in mind while interpreting the results.

Conclusion

About 2/3rd beneficiaries were regular in attending PSE and that too were more common in urban AWCs than rural ones. 75% AWWs found supplementary nutrition to be of good quality and acceptable to the beneficiaries. 82-85% children of 6 months to 6 years had mild malnutrition while 7-12% had moderate and 6-8% had severe malnutrition. About 60% of AWCs were providing referral & vaccination services while 80% were providing nutrition & health education sessions. Routine healthcare check-up of children was provided at 3/4th of AWCs & minimum 4 ANC visits were provided at 80% AWCs. Children with mild malnutrition were common in rural AWCs while severely malnourished children were more common in urban AWCs.

Conflicts of Interests

The authors declare no conflicts of interests.

References

- [1] Ministry of women and child development, government of India. Integrated Child Development Services (ICDS) scheme. Available from: <http://wcd.nic.in/icds.htm>.

- [2] Shahanaz V, Naidu NA, Vidyasagar P. Nutritional status, psychological development and the home environment of Indian rural children. *Indian J Pediatr.* 1998; 35:959-966.
- [3] NIPCCD. Three decades of ICDS - An appraisal. 2006; Available from: <http://www.nipccd.nic.in/reports/icdsvol3.pdf>.
- [4] Department of women and child development, ministry of human resources development. Integrated child development services. Govt. of India, New Delhi 1995; 1-24.
- [5] PEO (programme evaluation organization, planning commission, government of India) Report No.218, Evaluation study on integrated child development services project (ICDS), 2011. Available from: http://planningcommission.nic.in/reports/peoreport/peoevalu/peo_icds_v1.pdf.
- [6] Chudasama R, Patel U, Rangoonwala M, Sheth A, Vala MC, et al. Evaluation of Anganwadi centres performance under ICDS in Gujarat state 2012-13, Rajkot. *J Mahatma Gandhi Inst Med Sci.* 2015; 20:60-65.
- [7] Rathore MS, Vohra R, Sharma BN, Chaudhary RC, Bhardwaj SL, et al. Evaluation of integrated child development services program in Rajasthan, India. *Int J Adv Med Health Res.* 2015; 2:95-101.
- [8] Monya M. Integrated Child Development Services (ICDS) scheme in India - a tired horse or an ignored one. An evaluation in a tribal district of Maharashtra, India. *Arch Community Med Public Health.* 2021; 7(2):92-98.
- [9] Chaudhari A, Mazumdar VS, Baxi RK, Damor JR, Mehta K. Evaluation of ICDS in five districts of Gujarat. *Global J Res Anal.* 2014; 3:1-2.
- [10] National Council of Applied Economic Research (NCAER). Report of the evaluation of integrated child development services, 2009.
- [11] Meena JK, Verma A, Kumar R. Evaluate of integrated childhood development services (ICDS) program implementation in an urban slum of Delhi, India. *Int J Res Med Sci.* 2017; 5:3443-3447.
- [12] Rajpal S, Joe W, Subramanyam MA, Sankar R, Sharma S, et al. Utilization of integrated child development services in India: Programmatic insights from national family health survey, 2016. *Int J Environ Res Public Health.* 2020; 3197:1-16.