ORIGINAL ARTICLE

Application of growth monitoring charts by health care providers in Village Health and Nutrition Day (VHND) setting in rural Kamrup

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Citation

Abstract

Background: Growth monitoring attempts to promote optimal growth through effective education to caregivers; detection of 'early growth faltering', 'underweight' and initiation of relevant action. **Objectives:** (i) To observe application of the growth monitoring charts provided in the Mother and Child Protection (MCP) Card by health care providers in Village Health and Nutrition Day (VHND) setting in rural Kamrup. (ii) To assess whether their applied methods and interpretations are appropriate. (iii) To identify gaps in relation to growth monitoring. **Materials and Methods:** A cross-sectional study was conducted during January-July 2014 in VHND sessions covering 44 villages selected through multistage sampling in Kamrup district in Assam. 88 Auxiliary Nurses and Midwives (ANM) and 34 Anganwadi Workers (AWW) present in the sessions were closely observed during their activities and then interviewed regarding their interpretations of the growth chart. **Results:** 77% of the AWWs present were involved in growth assessment and weight plotting in growth charts of all the 0-36 months aged children brought to a session. Correct plotting of weight and interpretations of the growth charts were known to 94% of the AWWs and only 69% of the ANMs. **Conclusion:** Growth monitoring charts provided in the MCP card were not found to be optimally applied for community based growth monitoring in rural Kamrup. Deficiency was found in the ANMs regarding their applied methods and interpretations of the growth charts in comparison to the AWWs. AWWs were inadequately involved in growth assessment and monitoring of children in the vulnerable age group of 0-36 months in the VHND sessions.

Key Words

Growth Monitoring; Anganwadi Workers; Village Health and Nutrition Day; Rural Kamrup; Assam

Introduction

Growth monitoring has also been defined as an operational strategy for the promotion of health, which enables mothers to visualize growth or the lack of it in their children by regular and sequential measurement of growth and to obtain specific, relevant and practical guidance to assure continued regular growth and health in their children.[1] Growth monitoring strives to improve nutrition, reduce the risk of inadequate nutrition, educate caregivers, and produce early detection and referral for conditions manifested by growth disorders.[2] However, growth monitoring is being used only to 'detect and treat' the severe degree of malnutrition so that these cases survive which is contrary to the stated objective of promoting quality of child life through better growth and health. Growth monitoring and promotion is crucial to prevent malnutrition specially focusing in the younger age group (0-36 months).[3] In accordance with the Village Health and Nutrition Day (VHND) guidelines (2007), health care providers (Auxiliary Nurses and Midwives and Anganwadi Workers) are directed to weigh children, plot weight in the growth charts provided in the Mother and Child Protection Card (MCPC) and manage appropriately to combat

malnutrition.[4] The MCP card has the New WHO Child Growth Standard Curves incorporated for plotting weight of children aged 0-36 months. Their applications have shown higher rates of detection of malnutrition. [5] The National Family Health Survey done in 2005-06 (NFHS-3) found the prevalence of underweight to be more in rural areas of Assam (37.7%). [6] The study was therefore conducted in rural areas to observe application of these growth charts for community based growth monitoring.

Aims & Objectives

1. To observe application of the growth monitoring charts provided in the Mother and Child Protection Card by health care providers in Village Health and Nutrition Day (VHND) setting in rural Kamrup.
2. To assess whether their applied methods and interpretations are appropriate.
3. To identify gaps in relation to growth monitoring.

Material and Methods

Study Type, Setting and Subjects: The study was observational and cross sectional in nature, through the observation and interview of the on the job skills of Anganwadi Workers (AWW) and Auxiliary Nurses and Midwives (ANM). The study was conducted from January 2014 to July 2014 among 34 AWWs and 88 ANMs employed in Anganwadi centres and Sub centres of the selected villages of Kamrup district in Assam and present in the respective Village Health and Nutrition Day (VHND) sessions.

Sampling Design: The sampling procedure adopted was multistage sampling. A total of 12 health blocks in Kamrup district (Rural) was the first stage unit out of which, 3 (Hajo, Boko and Sualkuchi) were randomly selected using lottery method. Secondly, list of Sub centres in the 3 health blocks were obtained as the second stage units. There are 432 total villages under these Sub centres-159 in Hajo, 87 in Sualkuchi and 186 in Boko. From the list of villages, 44 were selected by systematic sampling method using Random number table. Among the VHND sessions (covering 44 villages under 44 different Sub centres), 34 were held at the Anganwadi centres and 10, at the Sub centres. Finally, we took a sample of 34 AWWs and 88 ANMs present in these sessions.

The study was conducted after getting clearance from the Institutional Ethics Committee of Gauhati Medical College. Permission was also taken from the Superintendents of the concerned Block PHCs/ CHCs.

Verbal consent for the interview was obtained from the study subjects. The AWWs and ANMs were observed for their practical application of growth charts provided in the MCP card for community based growth monitoring. Their skills with respect to growth monitoring; counselling and communication were assessed by observing their performance while they were on job (in the sessions) by using a pretested structured checklist. This was prepared on the basis of existing literature and in consultation with experts. Whenever possible, the skills of an Anganwadi Worker or an ANM were observed without her knowledge that she is being observed. They were then interviewed regarding their interpretations of weight plotted growth curves in the MCP cards. Data were analyzed using frequencies and percentages.

Results

Observed activities and skills of the Anganwadi workers and ANMs during growth assessment: [Table 1] Anganwadi workers were present in 34 VHND sessions which were held in the Anganwadi centres. In the rest of the 10 VHND sessions held in the Sub centres, Anganwadi workers were found to be absent. 77% (26) of those present were observed to be actively involved in growth assessment and weight plotting in growth charts of all the 0-36 months aged children who were brought to a VHND session. On the other hand, 23% (8) of the Anganwadi workers were found to record weight for age selectively for a child who was being treated for malnutrition or had illnesses like acute respiratory tract infection and fever or on demand by the mother. Out of the total 88 ANMs, 22.7% (20) were found to measure weight of 0-36 months aged children on insistence of the mothers in those sessions where the Anganwadi workers were absent (10, held in Sub centres).

The Anganwadi workers were found to use Salter scale for weighing the child. The ANMs used dial type of baby weighing scale and bathroom weighing scale (for older children). Out of all the Anganwadi workers who used a Salter scale, 82.3% (28) suspended it at the level of eyes. All the Anganwadi workers adjusted the needle of Salter scale to zero before weighing while 6.8% (6) of the ANMs were found not to adjust the weighing scale to zero. All of them weighed children with minimum clothing and without shoes. 73.5% (25) of Anganwadi workers read weight exactly opposite the scale. All AWWs

took readings in fractions of 100 grams. 55.8% (19) Anganwadi workers weighed twice to calculate the average while none of ANMs were found to do so. 77% (26) Anganwadi workers immediately and correctly plotted the readings on growth charts provided in the MCP card; however, only 38% (13) informed the mother about the weight reading. 23.5% (8) of AWWs were found not to use the growth charts in MCP card to plot weight. Two AWWs could not show correct plotting of weight in the growth charts. In case of the ANMs, none plotted the readings on the growth charts. 38% (13) Anganwadi Workers identified cases of moderately and severely underweight (based on weight plotted on growth charts in MCP Card) during the sessions and they initiated relevant action accordingly.

Interpretation of Growth curves by the Anganwadi Workers and ANMs and their observed communication skills: [Table 2] When interviewed, majority i.e., 94 % (32) of the Anganwadi workers comprehended well the interpretations on the directions of growth curve. However, only 29.4% (10) were found to explain or demonstrate the mothers about the curves in their weighed children using the MCP card. These 10 AWWs were also found to elicit from mothers the causes for lack of weight gain or loss of it (on determination of trend of growth curves of their children) and discussed specific actions to promote growth. In case of the ANMs, only 69% (61) were found to understand well the interpretations on the directions of growth curve while none of them explained about this to the mothers.

Observed counselling skills of the Anganwadi Workers and ANMs on nutrition and health education: [Table 3] It was observed that all the Anganwadi workers and ANMs present in the VHND sessions asked the mothers questions regarding their child's feeding. They were found to discuss with mothers about exclusive breastfeeding, complementary feeding, continued breast feeding, immunization and about locally available nutritious food. All of them were equally involved in counselling the mothers regarding feeding and care of their children during illness, nutrition supplementation under ICDS for the underweight and about balanced diet for maintaining health. However, when interviewed, none of the ANMs and only 67.6% (23) Anganwadi Workers could tell exactly the amount of protein and calories according to the 2009 revised norms for supplementary nutrition under ICDS for a child below 6 years of age.

Discussion

In our study it was found that 77% (26) of the Anganwadi Workers were involved in growth assessment and weight plotting in growth charts (in MCP card) of all the 0-36 months aged children brought to a VHND session. However, only 38% (13) informed mothers about the weight readings. Majority i.e., 94% (32) of Anganwadi workers comprehended well the interpretations on the directions of the growth curve. However, only 29.4% (10) were found to explain the mothers about the direction of the curves in their weighed children. Apart from these 10 Anganwadi workers, none else was found to elicit causes for lack of weight gain or loss of it from mothers. Also none of the rest discussed with mothers specific actions to promote growth in their children. In concordance to our findings; in a study done by Udani et al in 1983 it was felt that, although the Anganwadi workers deliver the package, they fail to communicate whatever knowledge they have to the community. [7]

In the present study, 77% (26) Anganwadi workers measured weight and correctly plotted readings on the growth charts provided in the MCP card while 23.5% (8) were found not to use the above growth charts to plot weight. Two AWWs could not show the correct plotting of weight in growth chart. Similarly, an evaluation study of 17 ICDS projects by the National Institute of Public Co-operation and Child Development, in 1987, found skills for use of growth charts to be lacking among workers in selected Anganwadi centres. [8]

In the present study, the skills of the Anganwadi workers with respect to growth monitoring and communication to the mothers were found to be mostly average. BN Tandon in his study on ICDS scheme in 1997 found that the skills of the Anganwadi workers with respect to growth monitoring are adequate. [9] However, it was observed by D.Chattopadhyay (1999) in a study conducted among Anganwadi workers in Hooghly district, West Bengal that the knowledge and skills of Anganwadi workers in respect to different components of their sphere of activity vary from very bad to very good. [10]

Conclusion

Growth monitoring charts provided in the MCP card were not found to be optimally applied for community based growth monitoring in rural Kamrup. Deficiency was found in the ANMs

regarding their applied methods and interpretations of the growth charts in comparison to the AWWs. Anganwadi Workers were inadequately involved in growth assessment and monitoring of children in the vulnerable age group of 0-36 months in the VHND sessions.

Recommendation

The authors would like to recommend the following: (i) Monitoring and Supervision of the health care providers with regard to community based growth monitoring; (ii) Skill enhancement training to them with emphasis on Interpersonal communication and growth monitoring activities; (iii) Motivate greater community involvement in VHNDs to generate demand for growth monitoring and promotion.

Relevance of the study

Findings of the study reveal that despite incorporating New WHO Child Growth Standard Curves in the MCP card; their application for community based growth monitoring has not been optimal in rural Kamrup. Therefore, greater community involvement during the VHNDs is the current overwhelming need for growth monitoring and promotion programmes to succeed.

Authors Contribution

KB: Study Concept and Design, Literature Search, Data collection, Analysis, Interpretation, Manuscript writing and Review. RB: Study Concept and Design, Structured Checklist preparation, Interpretation, Manuscript editing and Review

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Tables

TABLE 1: DISTRIBUTION OF ANGANWADI WORKERS (AWW) & ANM A/C TO THEIR OBSERVED ACTIVITIES & SKILLS DURING GROWTH ASSESSMENT IN VHND

Observed Activities & Skills during growth assessment	AWW (n=34) Number (%)	ANM (n=88) Number (%)
Measured and Recorded Weight for age		
(i) Of all children aged 0-36 months attending a session	26 (77)	-
(ii) Selectively in those being treated for malnutrition/ with illnesses like fever, ARI / on mothers' demand	8 (23)	20 (22.7)
Suspended Salter scale at the level of eyes	28 (82)	-
Read weight exactly opposite to (Salter) scale	25 (73.5)	-
Adjusted weighing scale to 'Zero' prior to measuring weight	34 (100)	82 (93.2)
Average of two weight readings taken	19 (55.8)	0 (0)
Plotted weight on growth chart in the MCP Card	26 (77)	0 (0)
Informed mother about weight reading	13 (38)	8 (23)
Identified cases of moderately and severely underweight and initiated action	13 (38)	0 (0)

TABLE 2: DISTRIBUTION OF ANGANWADI WORKERS & ANM A/C TO THEIR INTERPRETATIONS OF GROWTH CURVES AND OBSERVED COMMUNICATION SKILLS

Interpretation of growth curves and observed communication skills	AWW (n=34) Number (%)	ANM (n=88) Number (%)
Comprehended well interpretations of growth curves	32 (94)	61 (69)
Explained mothers about directions of growth curves in their (weight plotted) children	10 (29.4)	0 (0)
Elicited reasons from mothers about lack of weight gain or loss of it	10 (29.4)	0 (0)
Discussed with mothers specific actions to promote growth	10 (29.4)	0 (0)

TABLE 3: DISTRIBUTION OF ANGANWADI WORKERS & ANMS A/C TO OBSERVED COUNSELLING SKILLS ON NUTRITION & HEALTH EDUCATION

Observed Skills	AWW (n=34) Number (%)	ANM (n=88) Number (%)
Asked mothers questions regarding child's feeding	34 (100)	88 (100)
Discussed with mothers about Exclusive breastfeeding, Complementary feeding, Continued breastfeeding and Locally available nutritious food	34 (100)	88 (100)
Counselled mothers on (i) importance of immunization	34 (100)	88 (100)
(ii) feeding and care of child during illness	34 (100)	88 (100)
(iii) nutrition supplementation under ICDS for 'underweight'	34 (100)	88 (100)
(iv)balanced diet	34 (100)	88 (100)