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Adherence to Growth Monitoring Procedures by Health Workers at Primary Health Care Clinics in Mopani District, South Africa

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Abstract The inconsistency in performing growth-monitoring procedures leads to faulty interpretation of children's growth patterns, resulting in unreliable statistics and inaccurate information being forwarded to policy makers. The aim was to evaluate the growth monitoring procedures for children under the age of five in the Mopani District using the Integrated Management of Childhood Illnesses (IMCI) protocol. The study took place in the Mopani District situated in Limpopo Province. The study was descriptive and observational and used quantitative techniques. Twenty-four (23.5%) clinics were randomly selected from 85 clinics in the study area. The researcher observed and recorded growth monitoring and other child health procedures used by health workers at the primary health care (PHC) clinics on the day of the visit, using an observation checklist. One of the health workers involved in the services for the under-five on the day was interviewed. Basic equipment needed for growth monitoring at PHC clinics was available and health workers knew exactly what was expected from them when implementing the IMCI protocol. There was inconsistencies in conducting anthropometric measurements. Recording the information of the weight on the Road-to-Health charts was done erroneously. In conclusion norms and standards as set out in the IMCI protocol are clear and the majority of health workers, had the necessary skills to conduct growth monitoring. The study recommends training of health workers on the completion of Road-to-Health charts.

Keywords: *health workers, growth monitoring and promotion, primary health care, South Africa*

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1. Introduction

Lack of consistency in performing growth monitoring procedures results in faulty interpretation of children's growth patterns. Faulty interpretation ends in unreliable statistics and inaccurate information being forwarded to policy makers. Unfortunately, inaccurate data in the hands of policy makers may culminate in inappropriate nutritional interventions and wastage of resources.

Growth monitoring and promotion is an important technique for identifying individuals, groups or communities whose growths are not keeping up with the expected pattern [1]. A growth monitoring chart is one of the most useful tools available in infant and young child health, since it provides quick and easy access to information that indicate early disease and the nutritional status of a child [2]. Growth faltering in children can be detected long before observable signs and symptoms of malnutrition are evident [3]. Growth faltering is commonly detected through regular measurement of a child's weight [4]. Poor growth needs to be detected early in order for corrective action to be taken. Late detection of diseases and malnutrition on the other hand, impacts negatively on the health and wellbeing of infants and young children [2].

Health workers' understanding of growth monitoring procedures might result in correct interpretation of children's growth patterns. The health workers at clinics provide services such as accurate recording of information on the growth chart, and correct interpretation of the information [5]. They are also responsible for giving information through counselling, facilitating communication, and interacting with mothers/caregivers with the aims to generate adequate maternal action to promote child growth. Children under the age of five years form part of the targeted groups in the Integrated Nutrition Programme (INP) of South Africa [6], which ensures optimal growth

of infants and young children. The Integrated Management of Childhood Illness (IMCI) strategy is adopted by more than 100 countries [7]. The Republic of South Africa adopted the strategy in 1996 [8]. The strategy encompasses interventions at home and in the health system and aims to contribute to the successful monitoring of child growth and development. According to the strategy, health workers should have the skill to assess a child's weight against the growth chart and to counsel mothers/caregivers about breast and complementary feeding. Furthermore, proper infrastructure and equipment, e.g. weighing scales, need to be available at primary health facilities [9]. A community-based growth monitoring intervention may also be applied to fit into the INP and the community-based component of the IMCI [10].

The World Health organization (WHO) suggests that the growth chart should be a simple and inexpensive tool for monitoring child health and nutritional status [3]. It is further emphasised that the growth chart is a convenient means of presenting health data and permits assessment of current nutritional status, as well as observation of growth trends [3]. Misra, Singh, Dwivedi, Hassan, Parveen and Khan state that the growth charts are expected to function as educational tools whereby mothers gain knowledge of growth, nutrition, and consequences of illness on growth and are able to make informed feeding choices [11].

The old growth chart used in South African PHC clinics provided for weight only, prior to the introduction of the Road-to-Health Chart Booklet in 2013. This meant that previously only the weight-for-age index was used to estimate the nutritional status of a child. The regular measurements of head circumference and length/height were not provided for, although it is recorded at birth. If height is not regularly monitored, early detection of chronic malnutrition will be missed.

The main purpose of the study was to evaluate health workers' growth monitoring procedures utilised at PHC clinics for establishing the growth and development of children under the age of five years against the IMCI guidelines.

2. Materials and Methods

2.1. Study Design

The study design was cross-sectional, descriptive, and observational and used qualitative and quantitative techniques. In this study the researcher defined the behaviours to be observed using the IMCI protocol [12]. This made it easy to recognise the behaviour when it occurred in all the clinics.

2.2. Study Setting and Population

The Mopani District is situated in the north-eastern part of the Limpopo Province of South Africa. The district is divided into four municipal areas, viz., Ba-Phalaborwa, Greater Giyani, Greater Letaba, and Greater Tzaneen. The district had a total of 85 clinics (data from Mopani District Office) at the time of the study, serving 1 092 507, a population of which 33.8% are under 14 years [13]. The population of the study consisted of all the clinics and the health workers in its employment at the primary health care clinics. The reported clinic statistics was obtained from the month prior to the data collection day.

2.3. Sampling

A multistage sampling design was used. The researcher first clustered the clinics according to the hospitals under whose control they were in, and thereafter used simple random sampling to select clinics. Clinics were assigned numbers which were put in a container, tossed and picked up one at a time until the quota was reached. The initial sample consisted of 24 clinics which represented 28.2 % of the clinic population. Purposive sampling was used to select one health worker for the interview who was supposedly responsible for the growth monitoring services or was said to attend to under five-year-old children and under observation on the day of data collection. At the end of the observation session, the researcher requested one of the health workers who were observed for the interview, giving a total of 16 health workers for all clinics.

2.4. Data Collection

Direct observation was used to observe growth monitoring practices utilised by health workers and recorded on a structured checklist. Direct observation included weighing procedures and plotting on the Road-to-Health chart by health workers, the availability of equipment needed for weighing and other resources available at the clinic was also recorded. According to Polit and Hungler structured observation methods differ from unstructured techniques in specificity of behaviours or events selected for observation [14]. There is always room for making inferences and judgments in cases of direct observations, but there are restrictions to the kinds of phenomena that will be watched and recorded [14]. The observation checklist was structured according to categories in the IMCI protocol such as, PHC norms and standards, and other phenomena of interest such as growth monitoring.

The health workers' knowledge on growth monitoring procedures were measured using a researcher administered semi-structured questionnaire. An interview for each clinic with one health worker involved in child health consultation for that day was conducted to validate the observed information. Schedule semi structured questionnaires included closed and open-ended questions. The semi structured questionnaire was designed using norms and standards for health clinics, PHC package, IMCI protocol, and literature. The researcher prearranged questions on possible scenarios according to the expected norms and standards. Both instruments were pretested and validated prior to data collection in a pilot study in one clinic near the University of Limpopo.

Each clinic was visited twice; the first visit was to locate the clinic, to explain the purpose of the study, and to arrange for the actual data collection. The researcher arrived at each clinic before 08h00 on the dates of data collection. Observations by the researcher for all procedures performed by the health worker were done, from the weighing of children, recording and plotting of the chart, through to vaccinations. The researcher

joined the health worker in the consultation rooms to observe the rest of the consultation procedures, including immunisation and feeding counseling. The researcher also studied children's growth charts to see how they had been completed. The observations used the structured observation checklist that was designed for the purpose. The researcher spent a long time at the clinics from 07:30 to 13:00 or until 16:00, which was the time the health workers stopped working for the day. The same process was followed for all 16 clinics, eight other clinics were dropped for various reasons, including data saturation. After consultations with children were completed, one health worker, who was delegated to do child health for the day, was interviewed using the semi structured questionnaire.

Quality control was enhanced in the following manner: where the researcher missed the observation of a procedure, clarity was sought from the health worker during the interview. The researcher further enhanced trustworthiness of data by being consistent during data collection and using the observational checklist and the semi structured questionnaire. In addition, the researcher personally collected all data at the 16 clinics and therefore field notes were recorded by the same person throughout.

2.5. Data Analysis

Contingency tables were used to distribute the frequencies of the observations made and descriptive statistics was used in analysis. Descriptive statistics enables the researcher to reduce, summarise and describe qualitative data obtained from empirical observations and measurements [14]. The responses from the health workers were subjected to quantification and arrangement in categories using themes. The interpretation of growth monitoring practices data was done by comparing it to the IMCI protocol norms [15].

2.6. Ethical Consideration

The proposal was submitted to the Research Ethics Committee of the University of Venda for approval and was also submitted to the Research and Quality Control Unit of the Department of Health and Social Development, Limpopo Province for permission to utilise the primary health care facilities. The Mopani District office was consulted for permission and identification of the clinics. Health workers gave oral informed consent prior to the commencement of the interview. Anonymity of responses and observations were protected. The clinics and health workers were given numerical codes to protect their identities.

3. Results

3.1. Sample Characteristics

A total of 16 out of 24 sampled clinics participated in the study, giving a response rate of 66.7%. All health workers at the clinics were nursing professionals. Seventy-five per cent (n=12) of the clinics were served by a minimum of eight nurses each and the remainder (25%) had five to seven nurses serving per clinic. Records of the respective clinics revealed that 232 to 1805 children under the age of five were attended to at the sampled clinics the preceding month, see Table 1.

Table 1. Staff and patient statistics at the clinics

Clinic	Nursing personnel	Total patient head count	Under five patients	Under five Percentage %	Staff to patient ratio
01	8+	3115	596	19	1:389
02	9	2089	363	17	1:232
03	9	2360	739	31	1:262
04	7	1880	*	*	1:269
05	8	1313	432	33	1:164
06	8	1867	421	22	1:233
07	13	3087	502	16	1:237
08	6	2328	402	17	1:388
09	8	2093	570	27	1:261
10	7	2907	232	8	1:415
11	9	3332	1805	54	1:370
12	11	2875	301	10	1:261
13	5	1440	375	26	1:288
14	9	3283	488	15	1:365
15	11	3049	989	32	1:277
16	13	2506	808	32	1:192

***no data available

3.2. Data Obtained by Direct Observation

3.2.1. Health Care Services Observed

The following services for children were observed at all the clinics:

- Immunisation;
- Growth monitoring; and
- Treatment of minor ailments.

These were the main services that the researcher observed, which were rendered to children under five years**.**

3.2.2. Anthropometric Equipment Observed

It was observed that almost all the clinics had weighing scales for infants, except for one clinic, where both the adult and baby scales were out of order. Of the 15 clinics with scales, all but one clinic used pan-type mechanical baby scales while the one clinic used the spring balance scale. However, the researcher did not check the accuracy of the scales. Stadiometers used for measuring of height were unavailable at all the clinics. Although measuring tapes were available at the clinics, the researcher did not observe any health worker using them for any procedure. It seemed that most clinics had the basic equipment (as prescribed in core norms and standards of IMCI); however, only the weighing scales were used regularly for children under five at all the clinics. Mechanical baby scales were used at 14 of the clinics and the spring balance was used at one clinic.

3.3.3. Growth Monitoring Procedures Observed

Table 2 thematically outlines how the growth monitoring and other child health procedures were carried out at the clinics. Data from different clinics were integrated under different themes. The observations made are noted in the third column.

At more than half of the clinics (n=9), the health workers weighed children with all their clothing on and the weight was not corrected for the clothing. At five of the clinics, diapers and shoes were taken off by the health workers when weighing the children. At one clinic, only diapers were removed, but the rest of the clothes were left on. At one clinic no observations could be made regarding weighing because the weighing scales were not functioning. It is expected that health workers should weigh children in the nude or alternatively, if they are weighed in any clothing (including in diapers only), allowance should be made for the weight [16]. If the weighing technique is not consistent, false weight readings could be recorded.

Table 2. Growth monitoring and other procedures observed by the researcher

Theme	Sub-theme	Observations
Weighing	Measuring	• Children were weighed with all clothes on at nine of the clinics. At five of the clinics only diapers and shoes were taken off, while only diapers were removed at one clinic. The scales auto zero itself; however, verification of the scale pointer position was not observed.
Height/length	Measuring	• None were observed. Only clinics with delivery services (six) measured newborns.
Head circumference	Measuring	• None were observed. Only clinics with delivery services (six) measured the newborns
Filling in of the growth chart	Children without growth charts	• Caregiver came in with a photocopied growth chart -original was lost (Clinic 9). • The child's growth chart was lost, there was no stationery at clinic, and a new chart could not be made for the child (Clinic 10). • Child came in with a minor ailment but usually visits another clinic. • No information on the child's previous weight and immunisations were available. • Child looked too small (short or underweight) for his age (Clinic 13). • Child was given treatment for the ailment and nothing further was done.
	Recording of measurements for children with growth charts	• Weight dots were not joined to give the growth line its shape. • Birth months were recorded outside the relevant space on the growth charts (Clinic 9). • Blank spaces were left where visits had been missed. • Fifth year space in the yellow and green growth chart was used for notes (Clinic15).
	Children failing to thrive	• A severely malnourished child came in, referred to the hospital, the mother notified the health worker that she had no transport money, she was asked to borrow money and take the child to hospital in a matter of urgency (Clinic 3). • A two-year-old with weight below 3rd percentile, no comment was made by the health worker. • Twins, weight below 3rd percentile, health worker did not probe for possible reasons (Clinic 4). • Underweight child who was taken to a traditional healer was brought in, mother was asked in a rush how she fed the child, but no feeding advice was given (Clinic 9).
Availability of food supplements	Form/type of food PVM products and acidified milk powder	• There was irregular supply of food supplements at all clinics. However, during the visits, four clinics were without supplies. Two of which were running short of PVM products only.
Counselling	Child feeding for children who is underweight	• The researcher observed that it was done, but superficially. For instance, a mother would just be asked whether a child was breastfeeding without further probing for complementary formula feeding, or some mothers were asked whether the child had been introduced to solid foods or not, without asking about the type of food. • The observations made did not confirm regular counselling for all children. Only those children, who had already developed under-nutrition, received either food supplements or education. • While health workers followed procedures of using the growth chart, the interpretation and intervention were not adequately done

Only a few observations were made of children from about two to five years with regard to growth monitoring. The few that had come to the clinics on research data observation days were there for treatment of minor ailments and none came specifically for growth monitoring. The observer interpreted this finding as being due to the fact that the children's visiting dates were determined mainly according to the immunisation schedule at all the clinics.

3.3.4. Responses from the Health Workers

The study revealed that 25% of the health workers had been working at the clinics for about two years and less, whereas 31.25% worked at the clinics for three to five years, and 43.75 % had been working at the clinics for more than five years. Nine of the respondents (56%) indicated that they had attended IMCI training whereas seven (44%) mentioned that they had not. Out of the seven, two specifically mentioned that none of their colleagues (at a particular clinic) had attended the course by then, but they were in the process of arranging for training.

All the respondents indicated that they took an average of five to fifteen minutes attending to one child and children's visits were determined by the immunisation schedule. They further indicated that after the age of 18 to 24 months, children were no longer brought to the clinic, except when they were ill. All the respondents indicated that there were often defaulters from the clinic programme. However, the respondent from Clinic 8 indicated that the clinic had a very good attendance rate, especially after the intervention of sending the message through neighbours and friends that children must be brought to the clinic.

According to the health workers none of the clinics kept copies of the growth charts for children. About 56% of the respondents indicated that they plotted the weights of children on the master growth chart. Plotting was done at the weighing area, which was at the reception area of the clinic. The master growth chart is kept by the mother/caregiver at their home. The respondent at Clinic 8 indicated that a specially designed card was used for recording children's information, including weight readings and immunisation details, and this was kept at the clinic in case the original growth chart was lost. This was in addition to the information recorded in the main register of the clinic. However, there were no copies of information for children who were visitors or non-regulars at the clinic. All clinics sent statistics to the community liaison officers at the sub-district office, who then captured it into the EPI-Info programme, for the district office to analyse and compare it to provincial and national records.

All respondents indicated that Road-to-Health Chart audits and immunisation campaigns were often conducted to check on children who had missed immunisations. The children were then given catch-ups for the vaccinations which they had missed. The respondent from Clinic 4 said that Sundays were reserved specifically for children who were identified during the weekdays to have missed some vaccinations. The respondent from Clinic 10 indicated that they kept a defaulting child's growth chart until the immunisation schedule was completed. Five of the respondents indicated that not all the parents/caregivers honoured the children's clinic visits, and the general drop-out age was said to begin at approximately 18 months. The respondents indicated that follow-up for defaulters were taken care of at the clinics. Audits and immunisation campaigns that were often conducted were of great help as health workers managed to reach children who were staying away from the clinics for whatever reason. Although home visits were conducted for the DOT programme for tuberculosis and home-based care for HIV/AIDS, it seemed as if health workers did not actively follow the children up at home for growth monitoring, except during growth chart audits and nationwide immunisation campaigns.

- Regarding the growth monitoring techniques and procedures, all respondents indicated that:
- They estimated the children's age by rounding off to the nearest month considering the child's birth date;
- They left the spaces between the weight dots and plotted the current weight in the relevant weight box;
- Explaining growth charts to mothers/caregivers was not always done because a child had to be vaccinated and other procedures had to be conducted within that limited time;
- They discussed the child's feeding with the mother /caregiver after weighing.

4. Discussion

This study used direct observation to observe growth monitoring practices of health care workers in PHC. Chavda and Misra also assessed growth monitoring by observation of procedures and counselling provided by health workers in PHC facilities in India [17]. They also interviewed the health workers in line with the approach in this study.

4.1. Competencies of Health Workers

All the health workers in the clinics were nursing professionals. Approximately 31% of the respondents indicated that they had been working at the clinics for about two years while more than 40% had been working there for five years and longer. Health workers were also aware which clinical signs to look for when they suspected that a child might be suffering from malnutrition, although their responses lacked specific details. The fact that the national database on child health, including growth monitoring statistics needs to be updated, should serve as a good motivation for health workers at ground level (health clinics) to keep accurate information, such as correct weight data. This can only be achieved if health workers take readings correctly and capture the data in such a way that it accurately reflects the health and nutritional status of the children. Although 56% of health workers indicated that they had attended training sessions such as the IMCI training, observations revealed that health workers did not thoroughly conduct nutrition counselling sessions for mothers and caregivers of children, more specifically about weaning foods. Chavda and Misra reported 56% personnel training in India in their study on evaluating the child health services in

twelve 24-hour primary health care centers [17]. In another related study conducted in Kwa-Zulu Natal on feeding practices of infants, Kassier, Senekal, and Maunder found that 77% of clinic-based nursing staff felt they received formalised training on infant nutrition and received updated information on infant nutrition [18]. However, they were reported to have spent little time on nutrition education during consultation of children. They then concluded that these trends require rethinking of the role and place of nutritionists in the primary health care setting, if malnutrition is to be managed and prevented. The responses revealed that while some health workers were trained in IMCI, others were not. According to the PHC core management standards [19], health workers are supposed to seek new training or at least undergo in-service training on a regular basis.

4.2. Growth Monitoring Practices

The results indicated that growth monitoring was one of the routine procedures conducted at the PHC clinics. The growth chart seemed to be used in the PHC clinics and health workers followed similar procedures as prescribed in the IMCI. The availability of equipment and the use of food supplements did not vary at the different clinics. The anthropometric techniques were also similar, with a variation caused by the presence of maternity services. At the six clinics where maternity services were rendered, lengths and head circumferences of newborns were measured in addition to the measuring of weights. However, in the subsequent consultations, only weight was measured. Height, unlike weight measurement, is not routinely taken at primary health clinics by the health workers. The reason might be that the measurement changes too slowly to be used for growth monitoring [3].

This finding correlates with previous findings by Blaauw *et al*. who revealed that weight was the only anthropometric measurement routinely recorded at health care facilities for the majority of children greater than six months of age [20]. The most common practice is to measure height (which is length) at birth. When interpreting growth measurements using the Z-scores of WHO, weight-for-height is also used, and this is indicative of wasting as well as height-for-age, which is indicative of stunting. With the current practice of using only weight-for-age indices, overall development cannot be estimated. Growth monitoring processes should be done in totality particularly because in children, growth and development are closely related [9]. It is therefore necessary that height measurements should be done on a regular basis in order to use the weight-for-height and height-for-age indices.

While equipment and resources were available, and the measuring of objective and subjective data was done accordingly, the counseling aspect as outlined in the IMCI protocol was done superficially. Chavda and Misra reported full equipment in 7 of 12 PHC facilities while other IMCI resources were incomplete [17].

In this study, only mothers who already had malnourished children were counseled. Growth monitoring and feeding counseling are preventative strategies that must be implemented in order to prevent the onset of under-nutrition [5]. These findings are in line with preceding studies conducted in Ethiopia and Afghanistan, which reported poor knowledge of growth monitoring and promotion charts among mothers/caregivers, suggesting that the health professionals' focus was weighing of the children and not counselling the mothers [21,22]. Literature suggests that children should be brought in for growth monitoring continuously until the age of five years, the frequency may however, be reduced after the age of two years to quarterly [16]. Furthermore, it has been reported that under-nutrition occurs frequently between the ages of two and four years [23]. It is therefore critical that proper growth monitoring should continue on a regular basis beyond the 24-month period.

To give the growth line its shape, the plotted weight dots need to be joined to give shape to the weight curve according to IMCI protocol. It is also important to plot the dots in the relevant box (birth month in the indicated space). If this is not done correctly, then it will not be possible to accurately assess a child's growth pattern. According to WHO the growth chart should enable a health worker to conduct the nutritional assessment measurements and an evaluation of current nutritional status, as well as trends in the growth of the child [3]. The health worker would then be in a position to counsel or reinforce nutrition education in order to maintain normal growth and development.

Three cases of failure to thrive were observed in this study. In the first one, where a two-year-old child's weight-for-age had fallen below the third percentile, the health worker did not comment. In the other case, there were twins whose weight-for-age was below the third percentile, but the health worker took no action. In another case, a child was severely malnourished and was referred to the hospital. An accurately taken weight and/or height /stature measurement, correctly plotted on the growth chart, means that the health worker will interpret the growth pattern correctly. Together with physical signs and milestones as observed or reported by a mother/caregiver, there will be a clear indication of whether a child is growing well. Smith and Reji reported that only 60% of medical doctors in their study plotted the given weights correctly even though they managed to achieve a knowledge score on growth monitoring above 75% [24]. This further concurs with the researcher's findings that competence and knowledge did not result in practice. Health workers need to advise on feeding as thoroughly as possible if a child is failing to thrive, as this will prevent the cases from becoming severe, subsequently resulting in hospitalisation. The health worker will then be able to decide on the appropriate intervention, be it dietary counselling, food supplementation or referral to the upper level of care as prescribed in the core norms and standards.

Growth monitoring cannot be effective in preventing under-nutrition for the under five-year-old children if it is not implemented correctly. It has been reported by various researchers that the problem of under-nutrition manifests itself at the time of weaning [25]. Counselling on complementary foods requires time and effort from the health worker. It is possible that the health workers, who were nursing professionals in this study, did not have the time to conduct lengthy discussions as it is normally expected of dieticians and nutritionists. Another factor could be time, as it was observed that the consultation lasted 5 to 10 minutes. This excluded the time that was

taken weighing the child (see responses) as this was done in a separate area. Chudasama, Patel, Thakrar, Mitra, Ozar, Kanabar et al [26] in their study conducted in India, reported that the success of growth monitoring depended on the extent to which counselling support, weighing scales, growth charts and other resources were available at the health centers. Mothiba and Tladi also highlighted shortages of Road-to-Health charts as one of the challenges faced by professional nurses in servicing children in rural clinics in Capricorn district of Limpopo province [27].

Health workers applauded mothers/caregivers whose children appeared to be well fed and healthy. For instance, a mother at Clinic 8 was asked by a health worker to encourage her friends and neighbours always to bring their children to the clinic for services. The recognition gave mothers/caregivers a sense of being welcome and well taken care of at the clinic. Identifying positive deviants of model mothers whose children are growing well is in line with core norms and standards under the competence of health care staff. Health workers need to have a positive approach to patients, evaluating their needs, correcting misinformation and giving each patient a feeling of being welcome as per core norms and standards [19]. This recognition could serve as an incentive for mothers to return for further follow-ups [28]. A study in Iraq revealed that mothers/caregivers were offered high protein biscuits as an incentive and as a result kept coming back to clinics and getting more advice [29].

4.3. Limitations of the Study

The frequency of group education, specifically on nutrition and support services by nutrition professionals at clinics was not established. The functionality of equipment was not checked technically, except by observation and using the oral report given by the health worker.

4.4. Conclusions

The norms and standards were in place (IMCI protocol and the core norms for standards-PHC package) and were clear to all the health workers. The basic equipment for nutritional assessment was available at the clinics, namely, weighing scales, and health workers used them. However, there is a need for training of health workers on the completion of Road-to-Health charts. Mothers/caregivers who need individualised education on feeding their children should be duly educated. The community health worker-training package for home-based care should include growth monitoring of children so that community health workers could then be expected to do home visits, particularly for the two to five year age group who did not always go to the PHC clinics for growth monitoring.

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Competing Interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

List of Abbreviations

IMCI: Integrated Management of Childhood Illnesses
INP: Integrated Nutrition Programme
PHC: Primary health care
WHO: World health organisation

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