International Journal of Global Health
Open Access - Peer-Reviewed - ISSN 2693-1176

Portico Archived | Crossref DOI | CC BY 4.0 Licensed

Research Article

Task Shifting in Growth Monitoring: Mother/ Caregivers roles at the Health Facilities

Dr Opeyemi Oladunni, PhD [1,2*], Professor Oladimeji Oladepo, PhD [2]

[1] Adeleke University, Ede, Osun State Nigeria

[2] University of Ibadan, Nigeria

*** Correspondence:** Opeyemi Oladunni, Adeleke University, Loogun-Ogberin Road, Ede Osun State. Phone Number: +2348055185294

Published citation: Dr Opeyemi Oladunni, PhD, Professor Oladimeji Oladepo, PhD (2022) **Task Shifting in Growth Monitoring: Mother/ Caregivers roles at the Health Facilities**. *International Journal of Global Health* - 1(4):1-13. https://doi.org/10.14302/issn.2693-1176.ijgh-22-4218

Article DOI: 10.14302/issn.2693-1176.ijgh-22-4218

Abstract

Growth monitoring activities has been seen as the most effective ways to identify malnutrition and promotes early child development. This has been linked with long term health and social benefits for the child, family and the community. Over the years, the growth monitoring activities have centred round the health workers. Therefore, the study explored task shifting on Mother/ Caregivers capability to undertake growth monitoring roles at the health Facilities in Oyo State Nigeria. Qualitative methods using focused group discussion and Key informant interview guide were used for data collection among 6-8 groups of 10 mothers and 20 health workers providing the service. The data was analysed using inductive coding to generate the themes. The study showed mothers/caregivers low knowledge on growth monitoring and health workers documented some potential challenges encounter during the activities. The mothers/caregivers show low knowledge on growth monitoring. Therefore, mothers/ caregivers were willing to take up the role.

Keywords:
Growth Monitoring; task shifting; health workers; mothers/caregivers

Article Information	
Academic Editor	Anubha Bajaj, Consultant Histopathology, A.B. Diagnostics, New Delhi, India
Received Date	9 June 2022
Accepted Date	22 June 2022
Published Date	16 December 2022
Online	16 December 2022

Article Information (continued)

Publication	Volume 1; Issue 4; Pages 1–13
Copyright	© 2022 Opeyemi Oladunni, et al.
License	This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. https://creativecommons.org/licenses/by/4.0/

Introduction

Growth monitoring activities are regarded as the most effective means of detecting malnutrition and promoting early childhood development, and have been connected to long-term health, economic, and social advantages for the child, family, and society [1]. Over time, a growth monitoring initiative have centered on health staff and is often administered at the primary healthcare level in many low-resource countries as a nutritional monitoring activity tied to health promotion [2]. Monthly weight measurement (height, weight, and head circumference) with charting is part of the therapeutic activities, and the data produced is utilized to counsel cagivers.

Furthermore, the activities are viewed as important in an integrated child health system in which mothers/caregivers are empowered to promote growth-enabling environments for children [2]. Three key actions are critical to growth monitoring: child weighing and charting of weight-for-age Z-scores; diagnosis of growth retardation; and counseling of caregivers on age-appropriate newborn and early child eating. This critical preventive health intervention should include a multi-sectoral strategy (mothers' active participation in routinely assessing child growth). It is applied in the health and nutrition sectors and acts as a delivery route for other nutrition-specific interventions [3].

In Nigeria, the main obstacles to the program have been a lack of equipment and people at health institutions. Other reasons, such as misunderstandings regarding childhood malnutrition, insufficient health practitioner skills, inefficient monitoring, and a lack of logistics, have been discovered in other African nations such as Zambia and Ethiopia [4, 5]. To address these issues, mothers/caregivers must be actively involved in the primary job, which includes child weighing and detection of development stalls, as well as child-centered counseling on child eating patterns (complementary feeding).

A high level of participation in the weighing activities program allows caregivers to follow changes in their children's weight, allowing them to link the child's weight to general health status [9]. It raises awareness about the significance of growth charts [10] and their interpretation [6]. Furthermore, optimal involvement helps to the early detection of growth stalls [7], boosts vaccine coverage [8], and gives opportunities for nutrition and health education [9]. It was noticed that mothers/caregivers are becoming more aware of the significance of frequent development monitoring; nonetheless, involvement was limited in the past [5].

In the 1990s, caregivers cited rising child age, unavailability and inaccessibility of service, financial restrictions, transportation challenges, inadequate schedules, unpleasant locations, and long waiting periods as causes for poor participation and high drop-out rates [10]. Furthermore, service providers have cited caregivers' lack of knowledge about the importance of child survival strategies such as growth monitoring, oral rehydration therapy, and immunization, as well as an excessive workload on under-staffed health workers and poorly motivated service providers [11] that has persisted for decades [12]. However, the capacity of mothers and caregivers to perform growth monitoring activities has not been well investigated. The study explored task shifting on Mother/ Caregivers capability to undertake growth monitoring roles at the health Facilities in Oyo State Nigeria.

Methodology

Study Setting

The study was carried out in Ido and Akinyele local government among mothers of Under –five children.

Data Collection and Analysis

Ten focus group sessions, one group comprises of 6-8 participants were conducted among mothers. Focus Group Discussion (FGD) guide (Appendix 2) was used as a tool to gain better insight to growth monitoring among mothers of infants. Discussion questions focused on definition of growth monitoring, knowledge of mothers on growth monitoring, common illnesses among infants, how the growth monitoring is conducted by health workers and ability of mothers to conduct the growth monitoring, the guide was translated to local language (Appendix 3). Each discussion session lasted for 30-35 minutes with each session involving mothers of infants. The discussion sessions were moderated by the researcher.

The total of 20 Key Informants Interviews was conducted in the two local government areas Ido and Akinyele (2 health workers each from the health facilities). The interviews were conducted among nurses, matron, CHEW, CHO, Health Assistant, and JCHEW. The KII explored information on the respondents' understanding about growth monitoring, challenges faced during these activities, the health workers' opinion on training the mothers on how the growth monitoring can be done, recommendation and suggestions on what could be done to improve the service (Appendix 2). Written and oral consent (Appendix 1) was obtained, the interviews were conducted by the researcher, and the other trained Research Assistants were taking notes and watching non-verbal cues from the interviewee.

The use of voice recorder assisted in capturing all vital information provided during the discussions. Participants' names were not requested; rather, numbers were assigned to them for easy identification. Numbers were not linked with the identifier but were only used for discussion purpose. The researcher conducted the interviews, transcribed, translated, and back-translated the results. The audio-recorded interviews were listened to and compared to the transcriptions to identify inaccuracies/inconsistencies in the transcript data. The codebook was developed by the researcher; this was done to ensure a reliable theme arrangement. Thematic analysis was also used to code the documents and transcripts, pointed by the major research questions on growth monitoring.

Ethical Approval

The study protocol was submitted and approved by the Oyo State Research Ethical Committee approved the study (approval number- AD 13/479/1087). Written and oral informed consent was obtained from the respondents by giving them an informed consent form to fill and explaining it to the best of their understanding and also their ability to read and write. The informed consent form spelt out the title of the study, purpose of the study, justification for doing the study and as well as the benefits that would be derived from the end of the study.

Results

Qualitative Report (Mothers' FGDs)

Common Illnesses among infants

Mothers of infants were asked about the common illnesses among Infant, three illnesses were mentioned: yellow fever, malaria, and diarrhea. None of the mothers mentioned malnutrition as one of the common illnesses. A few of them mentioned, *eela* (pemphigus neonatorum), malaria rashes and *oka* (depressed anterior fontanel). The depressed anterior fontanel (*oka*) was misunderstood to be the cause of the child's inability to thrive, but this was not considered as a cause of malnutrition. The respondents also were of the opinion that only herbs can be used to cure *oka* rather than diet. Some mothers also mentioned body rash, tooth eruption, and high temperature. All these are reflected in the quotes below:

"Coughing and catarrh, cold of the chest, and malaria of the kidney, hepatitis b" (Mother C at Sasa)

"Oka" is an ailment that comes on the baby's body when the baby is still young. It has never happened to my baby but it does not allow the baby to grow well. The size of the baby will continue to reduce until herbs are given to the child. If promptly cared for, it is not usually a problem" (Mother C at Apete)

Knowledge of Mothers on Growth Monitoring

In response to the question on what the mothers knew about growth monitoring, different understandings emerged. Some of the explanations relate to giving Infant good food, putting baby on the weight

to understand the growth patterns and coming to the health centres on every immunization day. Some mothers narrated their understanding on the growth chart. Some opined that growth monitoring of a child had to do with how heavy or light a baby is when he or she is being carried in the hands of an individual.

However, none was able to provide detailed and specific information that could be adjudged as depth of knowledge on this phenomenon. In addition, only a few could state the importance of growth monitoring but none had ever had the opportunity to practice the procedure. Besides, none of them had the growth monitoring apparatus at home. Overall, the idea about growth monitoring for most mothers is that it is just weight measurement as the measurement of head circumference. Length and mid-upper arm circumference measurements were only done for the Infant at birth alone. Their various understandings of GM are captured in the following quotes:

"Going for immunization and completion of the immunization process." (Mother B at Ajibode)

"Knowing the food Infant can eat at every stage" (Mother A at Apete)

"It is good to check your baby's weight so as to know how the baby is growing. If the baby is depreciating in weight, the mother will know how to take care of the baby." (Mother A at Ologuneru)

"The way I understand it is that it allows us to know whether the food our Infant is [sic] eating is working on their body and maybe it is what is being needed by their body is what they are getting from breastfeeding, that is the level to which I understand" (Mother B at Omi Adio)

Two of the mothers however explained that whenever the health workers weighed her child, she/he always informed her about what the child was weighing and she recorded it on the card, and that the health workers usually identify the well breast-fed baby through weighing which are done on immunization days.

''When my baby was weighed I was encouraged, when I saw the weight because even the nurses said he is [sic] well feed [sic]. So we know that that through the weight, you know that your baby is growing well when you breast feed the baby well" (Mother C at Apete)

"They give us appointment on our card. So you come on your appointment day, but they do it every Wednesday. So this Wednesday is our appointment day another set will come next week Wednesday" (Mother A at Moniya)

One other mother narrated her experience with the health workers during the weighing activities. According to her, when health workers noticed her baby was not growing well, the baby was well taken care of, though she believed that growth retardation is caused by what is called *oka.* Explaining further on the treatment administered, below are the quotes to corroborate this statement above:

When I gave birth to my baby, she was initially big but latter reduced in size and when I came here she was taken care of and became okay. She was given injection and I was asked to buy some drugs and was told to breast feed her properly (Mother A at Ido)

Another mother narrated her experience as captured below:

If a baby is under weight and the baby is still breast feeding, the mother should ensure that she eats properly so as to breastfeed properly and bring the baby regularly for weighing to check if the baby is improving and the drugs we can use (Mother D at Apete)

Mothers' Efforts on Monitoring their Infant

Some of the mothers that were interviewed reported that aside health workers monitoring their Infant's development, they also engaged in observing the child's growth by clothing, the quantity and hours of breast sucking, the quantity of food consumed during weaning, and use of beads and sleeping bed. The quotes below capture the respondents' message:

"Like me now, I normally use my baby [sic] cloth and socks to see if they are really developing because the cloth they sell in the market, they have sizes that one month, two months till other age can wear". (Mother C at Apete)

"Of course, I can use other means to notice if my baby is growing, like her small shoes even the beads round her hand can also help me". (Mother A at Moniya)

Health Workers' Performance of Growth Monitoring in Infant (From the mothers perspective)

Most mothers were unaware of how health workers conduct growth monitoring activities in Infant. When probed for some of the measurement, all mothers affirmed that the health workers do not measure some of the parameters like head circumference, height, and middle upper arm circumference for Infant that are up to six months. Two of the mothers responded as follows:

"It's only the weight they check, they don't check the height." (Mother B at Sasa)

"They do not do it, I mean the height." (Mother A at Elebu)

Another mother has this to say about the height:

When I gave birth to my child, I saw that they used tape rule to measure my child but I wanted to ask them the reason why they were measuring my child with tape rule but they were somehow harsh there. I could not ask them but I was looking at them and it was funny to me that they used tape rule to measure that child. It was funny to me that time (laughing). (Mother E at Elebu)

Individual(s) Responsible for Monitoring Infant's Growth

On the involvement of other entity in growth monitoring either by conventional or unconventional methods, majority of the mothers mentioned health workers as the first person to monitor the babies' growth while some said it is the responsibility of the parents. Another mother expressed her thought that it's the duty of the parents and also the teacher at Infant's school.

Child-weighing Scale Ownership and Mothers' Ability to Measure and Chart

When asked about whether they had weighing scales at home, most of the mothers said they did not have. One mother however narrated how she used adult weighing scale to measure her infant as illustrated in the quote below:

"I myself do use the weighing scale. I will stand on it, carry my child and then ask them to subtract my weight from it in order for me to know my child's weight." (Mother E at Apete)

Asked further whether they could actually perform what the growth monitoring entails, including measuring of other parameters, some mothers said they could not, since they were not health workers. They were of the opinion that it is the health workers' responsibility not theirs to perform other GM parameters. However, a few said they could, with one mother interjecting that if they were trained, they would carry out the procedure effectively. Another mother buttressed this by saying she normally observed the procedures at the mission home but did not pay enough attention to the details. These varied opinions are captured below:

"We cannot do it. If we are trained, we can do it."(Mother C at Elebu)

"I believe there is no mother that cannot do it if trained. We were trained on how to take care of a male child that was circumcised. So when taught, we can do it" (Mother B at Apete)

"We can't do it, because not all of us are educated. As many as we are, it is hard to get people that can read what is written in our card. Is it one that cannot read that will weigh a child? And if it is all of us, there will be mistakes because it's not our field. For example I learnt petty trading and I'm asked to administer injection on a child, how do I go about it?" (Mother A at Moniya)

"Okay, since it is not our duty we cannot read the scale." (Mother D at Elebu)

"I use [sic] to look at it, it is one to something, our mission house mummy used to use it and I look at it at times, just that I do not pay much attention to it." (Mother E at Ido)

Another mother also compared weighing to the scale used by the frozen food sellers. Her words:

"Me I said you will look at the scale the way you look at it for turkey (all laughed)." (Mother F at Elebu)

Majority of the mothers, after observing the chart at the back of the card, said they did not understand what it represented. Once the health workers write what is needed, mothers hardly check the chart. A mother commented:

"There are some lines, there are zigzag [sic] that we do not understand... I know what the child weighs while weighing the child and they said he weighs 7 kg but once they write it, it is somehow; so it is not

easy. If it is not your duty to understand it unless they explain to us (laughing) ... I do not check, it is also those that check it that will know" (Mother C at Apete)

In one of the health facilities, a mother confessed that he did not ask what her baby weighed because most of the health workers might shun her; she rather preferred to check from the card herself than asking them. In her words:

"I don't want them to shun me or say I'm too forward. That was why I did not ask. At birth, I asked and they said her weight was 1.5. When we came back, she was 4.5. I do not know today's own. Even if it is injection that was given, I ask the type of injection it is. I checked the last one that was done [sic] me and it was 4.5." (Mother D at Apete)

Asked whether any amount is paid for weighing visits, almost all the mothers affirmed that they normally paid but the amount paid varied from a facility to another. A mother said:

"They just collect 50 naira from us, but we do not know what it's used for."

"I paid 20 naira today." (Mother D at Sasa)

During the discussions, some mothers confused the advantage of immunization to mean that of growth monitoring. One of the major advantages emphasized by all mothers is that GM helps them to know if the baby is growing as expected. The following are some of their responses:

"One will know how the baby is growing for the child development." (Mother A at Elebu)

'"If a child is being weighed, one will be able to know maybe, God forbid, nothing happen [sic] to the child that it will allow one to know whether the child has lost weight, that it is good that if a child is being weighed continuously, one will be able to know if the child is not supposed to weigh one particular weight and he/she is supposed to weigh one particular weight, so this is what I know. Mother A at Ologuneru

What I know as its benefit is that it allows us to know how healthy the child is. If the child is growing, when we come around, the health workers showed us the previous weight and the one being done on the day of appointment and if we see that the weight has increased that will make us know that the child is ok. (Mother C at Apete)

The mothers also expressed some of the difficulties/challenges experienced. Lack of equipment at the various facilities and attitude of health workers were reported as major challenges. The quotes below corroborate this:

As individuals arrive, they should be attended to, so that they can go. I came from work and I'm supposed to have gone back, and whenever I come I should be asked what I came for and attended to. I receive my immunization and I go instead of them pilling our cards till everybody is around." (Mother B at Apete)

"The instruments they use are not enough. If they have more, the work will be faster." (Mother A at Omi Adio)

"The only thing that is there is that if one did not come in time and once it is 9 O'clock, they will say they have carried the scale inside and one does not have the grace to weigh the child again, finish." (Mother B at Moniya)

"shortage of staff do [sic] not allow them to have enough time to weigh those Infant self. They will say they need to manage the time that they are short of staff. The person weighing also has [sic] some other things to do to make it fast." (Mother C at Moniya)

One mother said most times, the health workers wasted their time by delaying them for weighing. It was suggested that if the services can be carried out immediately they arrived at the clinic, it will be better. Two mothers said:

"As we arrive, the immunization is administered, baby's cloth is removed, baby is weighed and we go. It should be on first come first served." (Mother D at Moniya)

"I feel like if ten of us arrive, we should be attended to because it's not all vaccines that can be exposed. If it is exposed and only two people came, the rest becomes a waste. But if it's ten people and the vaccine on ground can go round, we should be attended to." (Mother B at Moniya)

However a few participants held a contrary view on health workers delaying mothers, maintaining that some of the mothers arrived at the clinic late, not that the health workers delayed them unnecessarily.

We Yoruba's do not have (itara) [zeal] to be time conscious, but we will have some people who will use that as excuse and will not come to the clinic because they could not meet up with the time and those diseases that we want to eradicate will not go. I feel as everybody arrives, they should be attended to, and they go. Some people will arrive at 12 noon, despite the fact that they know the right time. Some of us are going back to work and some are not doing anything and don't really care about the baby's health. So if they use time consciousness, many people will not come. I feel as we come they should be attended to and they should continue like that. (Mother C at Ido)

Key Informant Interview Report on Health Workers

Procedure for growth monitoring among health workers

i. Measuring weight

There were varied views from respondents with regards to how growth monitoring is done. Some participants stated that the babies' weight is normally checked during immunization but especially when the child is being delivered at the health facility. The child will be issued immunization card to track the schedule and their weights will be recorded as part of child delivery services. It was also added by a nurse from one of the facilities that growth monitoring cannot be done in details due to insufficient staffs and equipment:

It is mainly done during immunisations. Before the mother is discharged after given birth we have something we tell them about that child, we advise them to feed the child mainly on breastmilk, should not allow water to be given and we do educate them on hygiene… (Female Nurse at Ologuneru PHC)

Many other participants also stated that mostly, the eligible age for the growth monitoring services is usually 0-1 year because the vaccine associated with this programme is given within this period. However, a few opined that since the weighing normally stops at nine months because some of the Infant cannot be measured on the recumbent position because an adult weighing scale is not available.

"We use to weigh them at 9, but at 1, if we ask them to put their baby on the weigh scale, the baby will not comply. That is why we don't normally weigh. It's not that we don't weigh them" (Female Nurse at Sasa PHC)

ii. Measuring height

Some of the health workers interviewed gave their opinion on measuring the height of the child from new-born to document how the child is thriving as per growth. During the interview, however, it was noted that the respondents did not measure the child's length though one of the health workers responded neither Yes nor No. They gave reasons for not carrying out these activities, below are the quotes to support their claim:

We are doing it here but I can't lie, we don't have plenty of staff here. So, we don't have enough… as today now, we have plenty. About 60 Infant are to be attended to today. Even their parents are sometimes impatient about the procedure and all that. We don't have enough staff. Sometimes, if we are not busy, we normally measure height… like today, but we are hmmm… plenty today we normally do [sic] it." (CHEW at Ajibode PHC)

"Majorly we need weigh scale. Then at times we do height. … not all the time we measure height, just once in a while" (Female CHEW at Moniya PHC)

For height measurement, we don't have but we [sic] are supposed to have. We have but it has got spoilt. (Female Nurse at Sasa PHC)

iii. Measuring head circumference

One of the health workers in the health facility confirmed that measurement of head circumference is supposed to be a vital growth monitoring service activity that should be carried out.

"We ought to be doing that hair [sic] circumference, you know? You know we have babies that may develop this hydrocephalous as they are growing up". (Chief Matron at Ojoo PHC)

At times, initially they said we should be doing their head circumference too but there is no time for that. We are not many. As for now, we are shortage of staff. (Chief Matron at Ojoo)

"*When it is not rush hour, most times because of our staff members are always stressful, we don't have plenty but when they come early we do head and length measurement for them" (Female CHEW at Moniya PHC)*

iv. Measuring mid-upper arm circumference (MUAC)

On measuring the mid-upper arm circumference, much was not said about the MUAC measurement. A nurse said the service does not cover newborn, it's only for babies from six months upwards. A nurse had this to say:

Ehh... the MUAC measurement is from six month to five years. (Female Nurse at Moniya PHC)

Another respondent expressed her opinion below:

We do that one too. If the baby is having diarrhea or any other disease, we normally get it. (Female CHO at Sasa PHC)

Equipment items used by Health Workers to conduct growth monitoring

On determining the types of equipment used in weighing, and measuring height and head circumference, staff members in some facilities stated that child weighing is their limit at the clinic. However many of the staff members in other facilities described how they measured the length and the head circumference of infants, saying they used tape rule provided they were not busy and the mothers also came early. Some nurses said that they made infant-weighing very compulsory for mothers though, the mothers themselves sometimes considered the period as a waste of time.

On the equipment items available at the health centre, only the weighing scale and MUAC were mentioned. In addition, they claimed to only use weighing scale for weighing Infant. They were also aware that other measuring equipment items such as tape measure and infantometer should be used at every growth monitoring visit but they were not available for the services. A few CHEW said:

Weighing scale and ehhh… We have this MUAC guide that we use for…we [sic] supposed to be using everything but we use once in a while (Female CHEW at Moniya PHC)

Activities conducted when child is not growing well

When a child is identified as not growing well, the health workers always notified the mother on the outcome of such weighing exercise and referred to the nearest health facility if required. A quote to corroborate this is cited below:

"When they come for immunization, we ask the mother to bring their immunization card and check the birth-weight. Then we will weigh the child. If the child is not growing well, we use [sic] to carry them along. About three weeks ago, my colleagues discovered one. We noticed that a child of six months was not weighing, growing up to 5 kg. So we had to call the attention of the patron. So I don't know what happened after then. I think the patron referred them" (Female Assistant Nurse at Ajibode PHC)

Apart from notifying mothers, health workers also notified higher-level health facilities through phone calls. Some of the mothers did not go to such referral clinics; they would rather go home to patronize herbs sellers. If referral facilities affirmed that the mothers sent to their facilities with their Infant did not visit the facilities, repeated calls had to be made to such mothers to ensure they actually visited the referral as illustrated in the quote below:

'*'You see, some of them are stubborn. Some of them will not go. Yes, some of them believe in herbs. If they freely go to where we asked them to go, some of them will pick and call us, and they give us update of how they are being treated over there. I can say that we have 90% follow up to be sincere" (Female Assistant Nurse at Ajibode PHC)*

Training of Mothers to Perform Growth Monitoring

When asked about whether mothers can be trained on how to weigh a child, measure hand circumference and length of the child (whether they can weigh the child on the scale, measure head circumference and length of the child) majority of the health workers said not all mothers will be able to perform these activities. To buttress their point, the respondents cited an example, despite mothers' immunization education on the part of the body the Infant should receive different vaccines, and some of the mothers cannot explain this. However, few opined that only the educated mothers can be taught how to carry out the growth monitoring services because they can quickly understand. One of the health workers also expressed her readiness to train the mothers if they were interested and ready to learn as shown in the quote below:

I think the good ones and intelligent ones there, so we will take it up while others may not have an interest because we have seen cases; before they start immunization, we used to [sic] educate and teach them on the types of injection to give to their Infant. Some of them will be dragging their legs on the floor and saying "we want to go, we want to go." If we ask them the name of immunization that their [sic] want to get, if you don't let us, we have a penalty for it. So, some of the mare [sic] ready to learn, while some are not. (Female CHEW at Ajibode PHC)

"It would have been better if most of them are interested... We will be happy if they are ready to learn. It's not hard to teach them but most of them are not ready" (Male CHEW at Elebu PHC)

"I don't think it is possible. So, because it is our work, we [sic] supposed to do it. If we train mothers, mothers can do it, but it is not their work. If we train them, they may do but I think it is not their work". (Female CHEW at Ajibode PHC)

Training attended by health workers

With respect to the training programme on growth monitoring attended, most health workers affirmed they had not attended any for the past years but one said she attended one at the local government around July 2018 for the preparation of an upcoming de-worming activity.

I attended a training on July 2018 because whenever we do this Vitamin A outreach, we do de-worming and growth monitoring with it too to check weight and everything- (Female CHO at Sasa PHC)

The cost of accessing the growth monitoring services

Being probed further whether the mothers were requested to pay for the GM services and the amount normally paid, most of the health workers said mothers do not pay for either cards or weighing services. However, few admitted that they asked mothers to pay for cards (100 naira) and the weighing (50 naira) every visit and buy newspaper or nylon to cover the weighing scale.

"We do ask them for tokens. It is not compulsory; we normally use the money collected to buy consumables" (Female CHO at Apete PHC)

Opinions and suggestions to improve growth monitoring services

On what could be done to improve the GM service, most of the respondents suggested strong government involvement in all the facilities. They based their strong recommendations on the observation that some of the facilities did not have the required (up-to-date/modern) equipment items to deliver the service effectively coupled with manpower shortage.

"*Number one, if the government can employ more staff" (Female CHEW at Ajibode PHC)*

Another crucial way of the service improvement was also suggested:

"If the MOH can always come to their center to monitor them just to know their weaknesses and strength then everything will go well" (Female Asst. Nurse at Ajibode PHC)

On the contrary, one of the health workers mentioned that the users (mothers of Under-fives) should be educated on GM and its advantages as any of them did not attach any importance to the service.

Well, number one will be ehhh... What I will say is the mothers themselves, if they can get more exposure they can be more exposed. Maybe get more background on the programme, maybe they will be interested. It is just the recipients that might cause some issues." (Female Asst. Nurse at Ajibode PHC)

On probing further from one of the respondents on the issue of having separate days for the growth monitoring activities, she mentioned Infant Welfare Clinics for mothers to have adequate time to carry out the service as specified by WHO. She personally agreed to the Infant Welfare Clinics because it would help mothers and even health workers to achieve the purpose of growth monitoring.

"To me, I can say if the immunization day can be split, if we actually do the growth monitoring in details, in a situation where we have a large number, it will get to a point that we will be weak, overtired. Let me say, what we can do 0-50% will be more effective to what we do between 51–100%. So it should be splitted [sic]. So, let some come this day, then let another set come the following day. It will be effectively carried out" (Chief Matron at Ojoo)

Also mentioning major barriers, one of the health workers indicated language as a major barrier that may hamper the growth monitoring. Below is the quote:

The majority of them are Hausas, so language barrier, so no Yoruba, no English except Hausa" (Female CHO at Sasa PHC)

On the logistic issues faced during the growth monitoring implementation services, one of the facility health workers said they did not face any manpower challenge. On the contrary, one of the nurses mentioned that adequate space, equipment, and staff posed major challenges.

General Discussions

Growth monitoring procedures in primary health care must be rebuilt by actively integrating mothers/ caregivers in the process in order to bring together the observations and measurements made by both mothers and health workers. [13, 14, 15, 16, 17]. Implementation this innovative approach could be challenging since there is no policy supporting it. It necessitates new ways of working in health services, revised health workers training curricula to involve mothers/caregivers of the child and improve their active involvement and those mothers could also serves as role model mothers for growth monitoring services at the community level [18].

The qualitative interview exploration among Caregivers/Mother reflected common illnesses that are common among children but not regarded malnutrition as one of such. The Caregivers/Mother In response to the question on what the mothers knew about growth monitoring, various explanations like giving Infant good food, putting baby on the weight to understand the growth patterns, coming to the health centres on every immunization day and growth monitoring of a child had to do with how heavy or light a baby is when he or she is being carried in the hands of an individual. The study reflected that the concepts of growth monitoring service are not well understood by mothers/ caregivers. The impression about growth monitoring for most mothers is just weight measurement, the other parameters such as measurement of head circumference, length and mid-upper arm circumference measurements were rarely done for the Infant. This indicates that mothers/caregivers still require extensive education on what the growth monitoring entails. Furthermore, mothers/caregivers reported about their efforts in ensuring adequate monitoring of their children's growth some of the theme that emerged were, the use of string beads to access the necessary parameters about growth when the children are developing.

On mothers/caregivers wiliness to be actively involve using conventional methods of the health workers, most mothers welcome the development and affirmed that it will give them more knowledge and exposure to what health workers usually do for children at the clinic. In addition, most of the mothers said further that the major burden of the growth monitoring should on the mothers not health workers.

The procedures for growth monitoring activities among the health care providers clearly showed that the services is misinterpreted to be same as immunization whereas the service delivery of the child weighing should encompassed nutrition not weighing alone. Worthy of note is the crucial activities that should be included in the growth monitoring activities were not observed by the health workers for example weighing, measuring head circumference, height, recording and proper plotting of the graph to indicate weight-for-age Z-scores for prompt identification of growth retardation.

Some of the health worker at this facility stated major reasons why the holistic growth monitoring are not being implemented they are shortage of health workers and inadequate equipment such as stadiometer (height meter) and sufficient weighing scale. This statement is supported by a research conducted

in Zambia and Ethiopia [4, 5], which found that poor health professional skills, inefficient supervision, and a lack of logistics are important impediments to service delivery.

In addition, the health workers were in support of training mothers/caregivers on implementing growth monitoring services suggesting this will reduce the work load from the part of health workers and such caregivers can also serves as a volunteer to the health facility. Supporting this further by health workers, it was stated that uneducated mothers can even be engage as far as she has numerical knowledge. On the issue of payment some health workers confessed that mothers/caregivers pay as much as 100 naira ($0.24) before they can access the services. This was explained further that the money is being used for the facility maintenance due to insufficient funds from government. This was not in tandem with the study conducted in Ethiopia [19] which reflected that the major running cost of the health extension program is financed mainly by the health authorities at subnational, which makes the service free of charge for the participants. Some of the suggestion for the improvement of the services is provision of up-to-date equipment, up to date constant monitoring from the supervisors for child survival strategy and availability of staff with continuous training on growth monitoring.

Conclusion and Recommendation

The findings show that many parents plainly lack information about the development process and are unsure about the best approaches to measure a child's growth, or even whether tracking a child's growth is really necessary. For example, our findings show that parents often rate their child's physical development based on comparisons with other children of similar age rather than growth charts, which may be deceitful when a substantial number of children in a community are overweight. Parents do want a way to understand how their infant is developing, as evidenced by their request to be shown a growth chart in the clinical environment and their frequent usage of growth charts at home. Future concerns and research on the most effective communication and teaching approaches will include the participation of parents and caregivers. Rather than designing strategies to teach parents complex mathematical ideas, physicians and health educators would be prudent to allow parents be the instructors by encouraging mothers/caregivers to help discover the best methods to enable comprehension of complex health concepts such as development.

Supplementary materials

Supplementary materials are available upon request

Authors Biographies

Oladunni Opeyemi PhD is a researcher for over a decade and lecturer in Adeleke University. She specialized in both qualitative and quantitative research. She has authored and co-authored scientific papers in a peer review publications.

Oladepo Oladimeji is a professor of Public Health for over 3 decades at University of Ibadan, Nigeria. He is also the director of the International Linkage at same Institution, serves as consultant and he has research collaborations with Tu-Delft University of technology, Netherlands and University of Chicago. He has also authored and co-authored several publications.

Competing Interests

The authors have declared that no competing interests exist.

Funding

The authors receive no funding for the research, authorship and publications of this article

References

1. Daelmans, B., Black, M.M., Lombardi, J., Lucas, J., Richter, L., Silver, K., et al. (2015). Effective interventions and strategies for improving early child development. *Br Med J.* ;351:h4029. https://doi.org/10.1136/bmj.h4029.

2. Griffiths, M., Del Rosso, J. (2007). Growth monitoring and the promotion of healthy young child growth. In: *Evidence of effectiveness and potential to prevent malnutrition*. Washington, DC 20008: The Manoff Group.
3. Ashworth, A., Shrimpton, R., Jamil, K. (2008). Growth monitoring and promotion: review of evidence of impact. *Maternal and Child Nutrition*. 2008;4 (s1):86–117. https://doi.org/10.1111/j.1740-8709.2007.00125.x.
4. Charlton, K., Kawana, B., Hendricks, M., (2009). An assessment of the effectiveness of growth monitoring and promotion practices in the Lusaka district of Zambia. *Nutrition*.;25(10):1035–46. https://doi.org/10.1016/j.nut.2009.03.008.
5. Bilal, S.M., Moser, A., Blanco, R., Spigt, M., Dinant, G.J. (2014). Practices and challenges of growth monitoring and promotion in Ethiopia: a qualitative study. *J Health Popul Nutr*. ;32:441.
6. Roberfroid, D., Pelto, G.H., Kolsteren, P. (2007). Plot and see! Maternal comprehension of growth charts worldwide. *Tropical Med Int Health*. 2007;12 (9):1074–86. https://doi.org/10.1111/j.1365-3156.2007.01890.x
7. de Onis, M., Wijnhoven, T.M., Onyango, A.W. (2004). Worldwide practices in child Growth Monitoring. *J Pediatr*.;144 (4):461–5. https://doi.org/10.1016/j.jpeds.2003.12.034
8. Ashworth, A., Shrimpton, R., Jamil, K. (2008) Growth monitoring and promotion: review of evidence of impact. *Maternal Child Nutrition*.;4(s1):86–117. https://doi.org/10.1111/j.1740-8709.2007.00125.x.
9. Dewey, K.G., Adu-Afarwuah, S. (2008). Systematic review of the efficacy and effectiveness of complementary feeding interventions in developing countries. *Maternal Child Nutrition*. 4(s1):24–85 https://doi.org/10.1111/j.1740-8709.2007.00124.x
10. Owusu, W.B., Lartey, A. (1992). Growth monitoring: experience from Ghana education. ;48:23.0. https://doi.org/10.1177/156482659201400214
11. Bosu, W.K., Ahelegbe, D., Edum-Fotwe, E., Kobina, A.B., Kobina Turkson, P. (1997). Factors influencing attendance to immunization sessions for children in a rural district of Ghana. *Acta Trop.*;68:259 –67. https://doi.org/10.1016/s0001-706x(97)00094-6 .
12. Laar, M., Marquis, G., Lartey, A., Gray-Donald, K. (2015). Growth Monitoring and Promotion in rural Ghana: Lack of motivation or tools? *FASEB J*. 2015; 29(1Suppl):31 –4. https://www.fasebj.org/doi/abs/10.1096/fasebj.29.1_ supplement.31.4 .
13. Fagbule, D.O., Olaosebikan, A., Parakoyi, D.B. (1990). Community awareness and utilization of growth chart in a semi-urban Nigerian community. *East Afr Med J*;67:69-74
14. Griffiths, M. (1988). Growth monitoring making it a tool for education. *Indian J Pediatr* 1988;55(Suppl 1): S59-S66 https://doi.org/10.1007/bf02810391
15. Cape, N. (1988). Growth charts: help or hindrance? *Health Policy Plan* 1988; 3:167-70. https://doi.org/10.1093/heapol/3.2.167
16. Tchibindat, F., Martin-Prevel, Y., Kolsteren, P., Maire, B., Delpeuch, F. (2004). Bringing together viewpoints of mothers and health workers to enhance monitoring and promotion of growth and development of children: a case study from the Republic of Congo. *J Health Popul Nutr* 2004;22:59-67.
17. Lansdown, R.G., Goldstein, H., Shah, P.M., Orley, J.H., Di G., Kaul, K.K. et al.(1996). Culturally appropriate measures for monitoring child development at family and community level: a WHO collaborative study. *Bull World Health Organ*; 74:283-90.
18. George, S.M., Latham, M.C., Abel, R., Ethirajan, N., Frongillo, E.A., Jr. (1993) Evaluation of effectiveness of good growth monitoring in south Indian villages. *Lancet* 1993; 342:348-52 https://doi.org/10.1016/0140-6736(93)91479-6
19. Bilal, N.K., Herbst, C.H., Zhao, F., Soucat, A., Lemiere, C. (2011) "Health extension workers in Ethiopia: improved access and coverage for the rural poor," in *Yes Africa Can: Success Stories from a Dynamic Continent*, pp. 433–443.

Publisher's Note

All claims, opinions, data, and conclusions expressed in this article are solely those of the author(s) and contributor(s), and do not necessarily represent those of Open Access Pub, the journal, its editors, or reviewers. Open Access Pub does not guarantee or endorse any product, method, instruction, or claim discussed in the article, and disclaims responsibility for any injury to people or property resulting from ideas, methods, instructions, or products referred to in the content.