International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Attendance of Growth Monitoring and Promotion by Mothers with Children Aged 24-59 Months in Mulamba Catchment Area of Kaoma District Zambia

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Abstract
Growth monitoring (GM) is the process of following the growth rate of a child (0-59 months) in comparison to a standard by periodic anthropometric measurements in order to assess growth adequacy and identify faltering at early stages [15]. Indicators reveal that the attendance of children for growth monitoring and promotion between 24-59 months is low in Zambia. This low coverage has been noted in Kaoma where according to the health facility's annual 2022 Health Management Information System (HMIS) reports [10], Mulamba Urban Clinic in particular recorded the coverage on attendances of Growth Monitoring and Promotion (GMP) by mothers and care takers below 15%. This is against the standard of 80% coverage expected. The aim of this study was to investigate factors influencing attendance of Growth Monitoring and Promotion by caretakers with children aged 24-59 months in Mulamba catchment area-Kaoma District- Zambia.

Keywords: Utilization, Growth Monitoring and Promotion, Education knowledge, Distance to HF and Attitude

Introduction

Growth monitoring GM is the process of following the growth rate of a child (0-59 months) in comparison to a standard by periodic anthropometric measurements in order to assess growth adequacy and identify faltering at early stages [15]. It is a preventive activity that is used to measure and interpret growth, to facilitate communication and interaction with caregiver and to generate adequate action to promote child growth [17]. Growth monitoring is not only a major nutritional significance, it forms a basis of comprehensive child health care [1]. It also strengthens preventive health programs, determines the nutritional status of the community and a good indicator to show the wellbeing of children [2].

Further than that, growth monitoring helps to detect growth retardation, high risk malnutrition and provides a basis of nutritional education with the aim of improving nutrition of the children. Growth monitoring starts at birth until 59 months of age. Different studies done world over including those done in Africa and Zambia have reviewed findings regarding GM that it is the best method for assessing the health of the baby and helps to make effective health decisions and when tailored to an individual child, it can positively impact on health and nutrition [17]

Growth monitoring programs are offered at all health facilities and community levels through outreaches with the idea of reaching out to all children under the age of five years for weighing, immunization, nutritional counselling and information record in the growth monitoring chart. This helps to monitor and evaluate the adequacy of diet and supplementary food being given because young children are vulnerable to malnutrition due to their high nutritional requirements to support growth and development. However, indicators shows that attendance of children between 24 - 59 months for growth monitoring promotion is low in Zambia [11]. According to the annual Health Information Management System report for 2019-2022, Mulamba Clinic showed a low coverage of GMP by mothers/caretakers below 15% against a standard of 80% coverage expected. This study therefore, was aimed at investigating factors influencing attendance of GMP by mothers with children aged 24-50 moths in Mulamba catchment are Kaoma district, Zambia.

Methodology

The study utilized a cross sectional study design. The study was done at Mulamba catchment area of Kaoma district of western province Zambia. Mulamba catchment area was selected because it offers GMP services and has low number of children of age 24-59 months attending GMP. The study population consisted of mothers and caretakers with children aged between 24-59 months residents of Mulamba catchment area for more than 5 years. The sample size was 136 and Pfeiffer's formula (n= Z2PQ/d2) was used to arrive at a sample size and participants were selected using a simple random selection.

This study utilized cross-sectional study design and Mulamba catchment area was selected because it offers GMP services. The sample size was comprised 136 caretakers with children aged 24-59 months who were selected using a simple systematic sampling technique. Out of the sampled participants, 130 participated and 6 withdrew. Ethical considerations were upheld throughout the study process. A semi-structured questionnaire was developed for data collection which comprised ~~of~~ two parts. The first part comprised of demographic data whereas the second part captured data on variables which were measured such as knowledge levels, distance to GMP and attitude of caretakers. The questionnaire was translated into Silozi, Mbunda, and Nyanja and back to English for participants who were not conversant with English. Research assistants were engaged to collect data and assist those who were not able to read and write.

Ethical consideration and approval was sought from the university of Zambia Biomedical research ethics committee (UNZABREC) and National Health Research Authority (NHRA). Written permission to conduct a research was obtained from ministry of health and Kaoma District health offices. Further permissions were obtained from the health facility In –charge at Mulamba clinic . Permission from the participants was sort and informed of their right to withdraw from study anytime they wished and that there was no risk of not being offered health services if they did not participate in the study. Data collected were treated with confidentiality and participants were informed of no direct benefits for their participation.

Data analysis

Data analysis was based on the demographic characteristics of the respondents and Socio-demographic factors (age, marital status, gender and occupation) and Service-related factors (knowledge levels, attitude and distance to HF). The table below shows the demographic characteristics

Table1: Gender, marital status and age group of children.

Characteristic	Frequency (n)	Percentage (%)
Gender		
Female	79	60.8
Male	51	39.2
Total	130	100
Age group of children		
0 - < 24	89	68.5
>24 - <59	41	31.5
	130	100
Marital status		
Married	82	63.1
Single	48	36.9
Total	130	100

Table 1 above shows that during the study, 130 subjects participated in the research and six withdrew during the study due to various reasons. Out of the 130 who participated, 60.8% were female and 39.2% were males. The age range of children between 0 -< 24 months was 68.5% while 31. 5% were between 24-59 months. The majority of respondents were married 61.1% and the rest were single as seen in the table above.

Figure 1: The figure below shows statistics about the educational levels of respondents

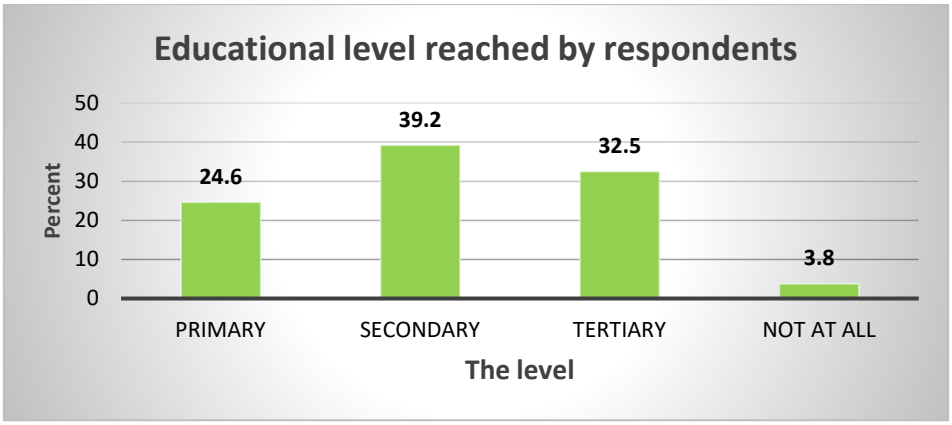

Figure one above shows the level of education, 39.2% reached secondary level of education, 32.5% tertiary education, 24.6% reached primary education and 3.8% did not attend any formal education. Besides that, respondents were involved in different occupation categories which included the following: formal employment 23.7%, unemployed 33.1%, house wives 12.8% and 6.6% were casuals.

Table 2: The table below shows the availability of health facility near home and distance covered from home to the health facility.

Characteristic	Frequency (n)	Percentage (%)
Availability of Health facility near home		
Yes	93	71.5
No	37	28.5

	130	100
Distance from home to the health facility		
Less than 5 km	91	70
5-10 km	28	21.5
More than 10 km	11	8.5
	130	100
Time taken to reach the health facility		
Less than 1 hour	91	70
1-2 hours	28	21.5
More than 2 hours	11	8.5
	130	100
Mode of Transport used to access the health facility		
Walking	123	94.6
Taxi	2	1.5
Cycling	5	3.9
	130	100
Reasons for the mode of transport		
Near	123	94.6
Available and affordable	7	5.4
	130	100

The table above shows that, 71.5% respondents reported that GMP services were available within their reach, while, 28.5% indicated that services were not available near home. Regarding the distance covered from home to the facility, 70% lived within less than 5km radius; while, 21.5% were beyond 5km. Most of the respondents 94.6% were walking less than 1 hour to the health facility. The rest covered 1-2 hours. The reason for the choice of transport indicated that it was near 94.9% while 5.4% who used other means of transport indicated that it was available and affordable for them.

Table 3: GMP attendance according to age, type of health facility and reasons for visiting the health facility

Characteristic	Frequency (n)	Percentage (%)
Do you visit health facility for GM		
Yes	93	71.5
No	37	28.5
Total	130	100
GM visit according to age group		
0 to < 24 months	72	77.4
>24 to 59 months	21	22.6
Total	93	100
Where do you take your children for GM		
GRZ HF	91	97.8
Others	2	2.2

Reasons for the choice of the facility		
Nearest and offering GM	40	43
It is the only one available	18	19.4
Health workers are available and committed	32	34.4
Others	3	3.2
Total		
Services offered at the health facility		
Weighing	29	31.2
Nutrition advice	4	4.3
Immunization	50	53.8
Treatment of diseases	9	9.7
To receive Vit A supplement	1	1.1
Total	93	100

Table 3 above shows that 71.5% visited the health facility and 28.5% did not visit the health facility. It further shows that out of the respondents who attended GM, 77.4% were in age range 0 to < 24 months while 22.6% were aged 24 to 59 months. It was discovered that the main reasons for GMP visits was immunizations 53.8% and weighing 31.2%. The table further shows that 97.8% of the respondents visited a GRZ health facility compared to 2% who used other facilities. The reason for the choice of health facility was that it was near and offered GM 43%, 34.4% indicated that health workers were available to attend to them and committed and 19.4% indicated that it was the only facility available. The reasons for taking children to the facility were, immunization 53.8%, weighing 31.4%, detection of disease 9.7 % and 4.3% for nutritional services and the rest was for vitamin A supplement.

The other variable that was measured was the knowledge of mothers and caretakers on GM and the table below show the responses.

Table 4: Assessment of mothers and caretaker's guardian knowledge levels on GMP.

Characteristic	Frequency (n)	Percentage (%)
Are you aware about GM		
Yes	120	92.3
No	10	7.7
Total	130	100
Is it important to weigh the baby regularly?		
Yes	93	71.5
No	30	23.1
Don't Know	7	5.4
	130	100
why is it important (n=93)		
To monitor child growth	55	59.2
Take correct measures in case of growth faltering	14	15

To know if child is sick or not	24	25.8
Others	0	0
Total	93	100
Why is it not important to weigh the baby regularly (n=37)		
does not help children grow	17	45.9
only good for children below 1 year	13	35.1
Others	7	18.9
Total	37	100

Table 4 above shows that 92.3% had knowledge about GM while 7.7% did not. The majority 71.5% indicated that it was important to weigh the children regularly while 23.1% said it was not important and 5.4% did not know. When asked why it was important to take children for GMP, 59.2% indicated to monitor child growth, 15% for corrective measures in case of growth faltering and 25.8% to know if child was sick. Those who responded in the negative 45.9% indicated that GM did not help children grow, 35.1% indicated that it was only good for children below 1 year and 7 (18.9%) others

Table 5: Knowledge on Importance of continuing with GM after 24 months of age.

Character	Frequency(n)	Percentage (%)
Yes	21	22.6
No	72	77.4
Total	93	100
Reasons for not continuing GM after 24 months of age (n=72)		
Child is growing well	10	13.9
It is tedious going to the clinic every moth	38	52.8
The health facility is far	14	19.4
The child does not fall sick frequently	6	8.3
Others	4	5.6
Total	72	100
Reason for continued utilization of GM after 24 months (n=21)		
To monitor growth of the child	11	52.4
Advice on nutrition	5	23.8
As a GRZ policy	3	14.3
Receive advice from HW	2	9.5
Others	0	0
	21	100

In terms of knowledge on the importance of continuing with GM after 24 months, table 5 above shows that 22.6% stated that it was important, while 77.4% indicated that it was not important. Those who did not continue 52.8% reported that it was tedious going to the clinic every month, 19.4% responded that the health facility was far, 13.9% gave reasons that the child was growing well, 8.3% stated that the children did not fall sick frequently and 5.6% indicated other reasons.

Measure on Attitude.

A Likert score was used to measure the attitude and showed that 22.3% had a positive attitude and 77.7% had a negative attitude towards continuation of growth monitoring promotion. In terms of association between variables a Pearson correlation two tailed was used and the study established that knowledge level was significant (p=0.001), distance was (p=0.320). Furthermore, attitude showed that 22% had a positive attitude towards GM while 78% had negative attitude, however, not significant at (p=0.123), age of child and educational level were significant (P=0.023; P= 0.009) respectively.

Discussion of findings

The study established that 68.5% of children who attended growth monitoring were in the age range of 0 to 24 months while 31.5% were within 24 to 59 months. The majority 83.5% using GMP came from age range of 0 to 24 while only 25.2% came from 24 to 59 months. This finding is supported by [3] who concluded that utilization of growth monitoring and promotion services among children aged 0–23 months was 80.6%. It is a normal trend for parents and guardian to concentrate on the 0 to 24 months because they think at this stage the children are vulnerable and think that no need to continue with health facility visitation after the child is fully immunized.

The report further indicates that respondents' marital status was that 63.1% were married while singles were at 26.9%. In terms of education 39% reached secondary level while 24.6% attained tertiary level. The majority 46% of those who were using GM had reached secondary school level while 34% reached tertiary educational level. It was further established that the association was statistically significant at p=0.009. Mothers or caregivers ' education was found to influence how children attending growth monitoring and promotion program has, hence linked to health seeking behavior in this study like other African countries. A study done in Nigeria found that secondary education was a factor in parental care-seeking behavior because with education, parents are empowered with knowledge [18]. While it is acceptable in health seeking behaviors that guardians who are educated perform better than guardians that were not educated. The current study shows the trend to reduce with tertiary education. A plausible explanation is that those with tertiary education are likely to be in full time employment and; hence, may not have time to attend growth monitoring and promotion [8]. Respondents were involved in different occupation categories, the majority 33.1% were unemployed, 23.8% were involved in formal employment, and 9 (6.9%) were casuals. [7] Also concluded that financial empowered mothers had influence on utilization of GMP programs.

In terms of GMP utilization the current study has established that 70% utilized GM while those who did not were 30%. However, 76.9% who utilized GM were in age range 0 to 24 months while 23.1% were aged 24 to 59 months. This is in line with [38] findings which indicated that Growth monitoring services utilization was 32.9% and further supported by the study conclusion that the overall growth monitoring and service utilization was 32.9% in line with [9] who conducted a study in Banja District, Northwest Ethiopia. Yet another finding revealed that the proportion of growth monitoring and promotion services utilization was 38.9%.

In terms of knowledge levels, the current study has shown that most of the respondents 70% were not knowledgeable about the importance of GMP continuation beyond 24 months. Those who had medium knowledge about GM beyond 24 months were 21.9%. However, the correlation was significant at (p= 0.001). In support of these findings, a number of studies concluded that caretakers did not have enough knowledge on growth monitoring and promotion [2]. Various studies found that the majority of mothers

and care givers had knowledge on the growth monitoring and promotion. They in fact revealed that the caretakers knew the importance of growth monitoring and promotion. Further support to the findings came from the study conducted by [4] in USA which revealed that all the mothers and care givers of the children under the age of five years, had knowledge on the growth monitoring and promotion.

Distance was another variable which was looked at and the study has established that 76.9% of those who are using GM lived within 5kms to 10kms while only 23.1% lived in less than 5 km radius. The association between distance and GMP utilization was found to be statistically insignificant at p=0.320. This; therefore, means that distance does not positively influence utilization of GMP in the location under study. In line with this finding a study conducted in South Africa by [8] indicated that distance had no influence on continuation of growth monitoring and promotion. This was due to the findings that even though 60% of the respondents were staying outside 5 kilometers to the health facility they continued attending GMP. Hence, the conclusion that they could be just other reasons that negatively influenced attendance of growth monitoring and promotion in the country.

In terms of attitude, the result of the study shows that 22% were positive while 78% had negative attitude toward GM. This, therefore, means that respondents had a negative attitude towards growth monitoring. In support of this findings several studies show that negative attitude towards growth monitoring and promotion leads to non-continuation of GMP among the children between 24 and 59 months [2]. This is further in line with a study by [15] and [11] which reported that negative attitude of caretakers towards GMP as a contributor towards non-continuation of GMP in Zambia. It is common with parents to develop a negative perception towards public services in general and this may generally lead to shunning the service. To reverse the perception, it requires a number of interventions like improving the quality of services, reduce the waiting time, friendly health workers, privacy and availability of medicine and other medical equipment.

Conclusion

The study investigated a number of social demographic factors (Age, marital status, gender, occupation, educational level, age of mother) to determine whether there is positive correlation with the use of GMP. It was discovered that only gender and occupation are significantly correlated to the dependent variable. Under gender it has been established that more women were utilizing GMP than men. The study has further reported that age and educational level was positive correlated and significant. The other variable which has been reported as significant is the knowledge levels. The parents and guardian were not knowledgeable on the need to continue GMP after 24 months.

Recommendations

In order to improve the attendance of growth monitoring and ensure the health and wellbeing of children in all ages, the following are recommended:

1. There is need for Ministry of Health and other stakeholders involved in provision of GMP to focus their intervention towards age, educational level as demographic factor and knowledge levels as service-related factor.
2. District management team and partners should package the awareness messages to focus towards age categories, educational levels going together with knowledge levels. The study has established that utilization of GMP is influenced by the mentioned variables.

3. The Ministry of health and stakeholders to consider revising the frequency of GM visits from monthly to quarterly especially for those children who are growing well as most respondents in the study indicated that it was tedious and not necessary to frequent the facility when the child was growing well. The reduced frequency might encourage mothers or caregivers to continue beyond 24 months and in return capturing many children. This may help in improving the picture towards meeting sustainable development goal number 3 which is aimed at ensuring healthy lives and promoting well-being for all age group.

Conflict of interest

The author declares no conflict of interest and the research was not sponsored.

Akowledgement

This piece of work arose from the dessertation that was submitted to the University Of Zambia Institute of Distance Education (UNZA- IDE) as partial fulfilment for the award of Master of Science in Public Health Nursing under the school of Nursing Sciences. Many thanks to the scchool, the supervisors and the Ministry of Health under Kaoma District health office and Mulamba clinic. No forgeting the participants for their paticipation in the study.

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