Nursing staff’s experiences of working with children's Growth Monitoring and Promotion in Zambia
Sjuksköterskepersonals erfarenheter av att arbeta med barns Growth Monitoring and Promotion i Zambia

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Abstract

Background: Approximately 6 million children under the age of five die every year, and around 45% of these deaths are estimated to be directly linked to malnutrition. Zambia has among the highest prevalence’s of malnutrition in the world. Growth Monitoring and Promotion (GMP) is carried out worldwide as a strategy to tackle malnutrition and functions as a key element in Zambia’s pursuit for better child health. Little is known about nursing staff’s experiences of working with GMP.

Aim: The aim of the study was to describe nursing staff’s experiences of working with children’s Growth Monitoring and Promotion in Zambia.

Method: The study was carried out as a descriptive qualitative study. Semi structured interviews were used for data collection and the material were analysed using qualitative content analysis.

Result: The following six categories were found: Important tool, provides a comprehensive approach to child health, critical role of health workers recognized, resource demanding tool, program consistency required and rewarding for the nursing staff.

Conclusion: GMP was perceived as important and can serve as a platform for other child health interventions to be carried out. The cooperation between the nursing staff and community health workers were found to be essential for GMP to work. Resources and consistency are required if GMP is to function sufficiently.

Keywords: Growth Monitoring and Promotion, Malnutrition, Nursing staff’s Experiences, Zambia
Table of content

1. BACKGROUND ................................................................................................................ 2
   1.1 Child health ...................................................................................................................... 2
   1.2 Malnutrition ...................................................................................................................... 2
   1.3 Zambia .............................................................................................................................. 3
   1.4 Growth Monitoring and Promotion (GMP) ................................................................. 3
      1.4.1 Definitions ................................................................................................................. 3
      1.4.2 History ....................................................................................................................... 4
      1.4.3 Growth Monitoring and Promotion (GMP) in Zambia ............................................. 4
   1.5 Theoretical framework ..................................................................................................... 5
   1.6 Statement of the problem ................................................................................................. 6
2. AIM .................................................................................................................................... 6
3. METHOD ........................................................................................................................... 6
   3.1 Selection ........................................................................................................................... 6
   3.2 Data Collection ................................................................................................................. 7
   3.3 Data analysis .................................................................................................................... 7
   3.4 Ethical consideration ........................................................................................................ 8
4. RESULTS ........................................................................................................................... 9
   4.1 Important tool ................................................................................................................. 10
   4.2 Provides a comprehensive approach to child health ...................................................... 10
   4.3 Critical role of community health workers recognized .................................................. 11
   4.4 Resource- demanding tool .............................................................................................. 12
   4.5 Program consistency required ........................................................................................ 13
   4.6 Rewarding for the nursing staff ...................................................................................... 14
5. DISCUSSION .................................................................................................................. 14
   5.1 Method Discussion ......................................................................................................... 14
   5.2 Result Discussion ........................................................................................................... 16
6. CONCLUSION ................................................................................................................ 18
7. CLINICAL IMPLEMENTATION .................................................................................. 19
8. FURTHER RESEARCH .................................................................................................. 19
9. ACKNOWLEDGEMENTS ............................................................................................. 19
REFERENCES ......................................................................................................................... 20
Appendix 1. Informational letter .............................................................................................. 22
Appendix 2. Topic guide .......................................................................................................... 24
Appendix 3. Written informed consent .................................................................................... 25
1. BACKGROUND

1.1 Child health

The world has made great strides towards reducing the child mortality rate globally, which was one of the eight millennium goals ending in the year 2015. Although great improvements, the child mortality-rate remain high with approximately 6 million children under the age of five dying every year (The United Nations, [UN], 2015). The World Health Organization ([WHO], 2016) states that the leading causes of death in children under five are preterm birth complications, diarrhea, malaria, pneumonia and birth asphyxia. Around 45% of the 6 million children dying every year are estimated to be directly linked with malnutrition. The health of children is a main priority to the world. Hence two of the sustainable development goals produced by the United Nations (UN, 2015) covering year 2015-2030 are targeting children's health:

Goal 2.2 aims to end all forms of malnutrition, including achieving the internationally agreed objective on reducing stunting and wasting in children under 5 years of age.

Goal 3.2 aims to end all preventable deaths of children under 5 years of age, with all countries intending to have an under-five mortality rate less than 25 per 1,000 live births (UN, 2015). Nurses are a key factor to achieve reduced child mortality, both by delivering care and take part in policy making. Nurses therefore has an important role to play in the global vision for increased well-being and better health for children worldwide (Amieva & Ferguson, 2011).

1.2 Malnutrition

Malnutrition is a broad term referring to an inadequate intake of necessary nutrients. It is most often used to describe undernutrition, a state where there is a lack of nutrients, but technically also include overnutrition (Blössner & de Onis, 2005). United Nations Children's Fund (UNICEF, 2010) describes undernutrition as the primary cause of malnutrition in the world. Major reasons for undernourishment among children are lack of food, poverty, repeated illnesses, lack of care, inappropriate breast feeding and poor hygiene (UNICEF, 2010). According to UNICEF (2013) a child’s first five years in life is the most critical period of both growth and development. Undernutrition among children during that time can manifest itself in different ways. UNICEF describes five categories out of which three are relevant for the aim of the study. Stunting means chronic undernutrition which leads to permanent damage in both physical and mental development. It is defined as when a child reach a certain deviation from the standard height for age. Wasting is an acute form of undernutrition and children who suffers from it faces an immediate risk of death. It is defined as when a child does not meet the expected weight for height. Underweight is a form of malnutrition that includes components from both stunting and wasting. It is defined as when a child does not meet the expected weight for age (UNICEF, 2013).
1.3 Zambia

Zambia is a developing country located in the sub-Saharan Africa. It classifies as a lower middle income country and has over the past five years seen steady economic growth (Ministry of Health, [MOH], 2011a). Despite this the citizens are still facing poverty with 60% of the population living below the poverty line. The country has a population of a little more than 15 million people and life expectancy is 52 years (Central Intelligence Agency, [CIA], 2016). According to the National Health Survey (MOH, 2011a) the health care system of Zambia is dealing with a number of challenges. The country has a high burden of disease, characterized by high prevalence and impact of communicable diseases such as malaria, HIV/AIDS, tuberculosis and STIs. The health sector also tackles extensive difficulties including weak logistic management in the supply of medical supplies and drugs, inadequate medical staff, insufficient financing and a weak health system governance (MOH, 2011a).

During the past two decades the child mortality rate has significantly decreased, but remains high with an estimated under the age of five morbidity rate at 75 per 1000 live births (Central Statistical Office [CSO], 2015). The major causes of death among children under five are malaria, respiratory infections, diarrhea, malnutrition and anemia (MOH, 2003). The prevalence of undernutrition among children is one of the highest in the world. According to the Zambia Demographic and Health Survey (CSO, 2015) 40% of the children under five are stunted, 15% underweight and 6% wasted. Another common form of malnutrition is lack of micro nutrients, with more than half of the children suffering from vitamin-A and iron deficiency (MOH, 2003). Poor nutritional status among children in Zambia contributes to up to 52% of all under-five deaths (MOH, 2011a).

1.4 Growth Monitoring and Promotion (GMP)

1.4.1 Definitions

_Growth monitoring (GM)_ is the process of regularly following the growth rate of a child in comparison to standard anthropometric measurements. The purpose of GM is to determine adequacy growth and identify faltering on an early stage, which makes the problem visible before a child reach the status of undernutrition. GM is not to be mistaken of assessing a child's growth at a specific time, thus it has to be periodically over time (Griffith & Del Rosso, 2007).

_Growth Monitoring and Promotion (GMP)_ is a concept used worldwide (Bilal, Moser, Blanco, Spigt & Jan Dinant, 2014). It is a prevention activity comprised of GM and promotional activities, usually in the form of tailored counselling. The promotional activities are based on the GM results, since measuring and analysing the growth of a child will provide foundations from which tailored counselling and other actions can be designed. GMP functions as the core activity in integrated nutrition and child health programs and its objective is to improve individual children's nutritional outcomes (Griffith & Del Rosso, 2007). An issue with GMP has sometimes been the lack of consensus regarding its definition. It has over the years been defined and referred to as a process, an intervention, a tool and a strategy (Mangasaryan, Arabi & Schultink, 2011).

The process of GMP includes the following steps:
1. Measuring a child´s growth at regular intervals.
2. Interpreting and analysing whether the child´s growth is adequacy compared to a standard.
3. Explanation of the growth pattern to the caregiver, followed by individual tailored counselling based on the growth status. The main objective of the counselling is to convey information about suitable actions on how to prevent faltering (Mangasaryan, Arabi & Schultink, 2011).

The main assumption benefits of working with GMP in developing countries are reductions in undernutrition and mortality among young children. Other potential benefits are facilitation of regular contact with primary health care services and intervention on an early stage when a child’s growth is faltering. It could also enhance the knowledge about how nutrition and diseases affect growth and increase motivation among families to take action against undernutrition (Ashworth, Shrimpton & Jamil, 2008).

1.4.2 History
Growth monitoring (GM) has been used frequently around the world for a long time (Ashworth, Shrimpton & Jamil, 2008). It was established on the basis that anthropometric indicators can be used to describe children´s nutritional status and general health. GM was considered to be important when working in developing countries to detect faltering growth, and was well documented by David Morley in the 1960s in Africa (Mangasaryan, Arabi & Schultink, 2011). According to Griffith and Del Rosso (2007) UNICEF has been supporting GM as a tool or model in their nutrition programming since the 1960s. In 1978 the WHO presented a new international standard chart for monitoring growth in children aged 0-59 months. In connection with that UNICEF included GM as one key component alongside oral rehydration therapy, breastfeeding and immunization in their selective primary health-care program, which intended to improve the health of children at risk, by involving communities to carry out the interventions (Ashworth, Shrimpton & Jamil, 2008). In the mid-1980s there was a great deal of confusion surrounding the efficiency of GM. A call for promotional activities as a supplement to GM was requested. Therefore the term promotion got added to the concept and Growth Monitoring and Promotion (GMP) emerged as a strategy (Mangasaryan, Arabi & Schultink, 2011). It has since been a crucial element of UNICEF´s overall strategy to detect and prevent malnutrition. GMP has specifically been serving as a fundament in UNICEF´s nutrition programs and the community based health care in developing countries. Even though functioning as a core activity the effectiveness of GMP has been questioned during the past two decades (Griffith & Del Rosso, 2007). Due to this Ashworth, Shrimpton and Jamil (2008) reviewed the evidence of impact for GMP and found that where GMP exist as a current strategy it should be kept.

1.4.3 Growth Monitoring and Promotion (GMP) in Zambia
The Ministry of Health (MOH, 2011a) in Zambia has since the late 1970s implemented plenty of child survival interventions into the health care system to improve the health of children. One of the strategies that has been used frequently is different programs focusing on feeding practices of young children. The latest up to date National Health Strategic Plan (MOH, 2011a) mentions GMP as one of the key strategies to improve the nutritional status of the population in Zambia. The GMP-program that applies currently is targeting children under the age of five (MOH, 2011b)
GMP has in the community setting been a common tool in the country’s strive to reduce the child-mortality rate and increase the health of Zambian children. Even though it has been carried out for many years, several studies have shown it is insufficient and not optimally implemented. In 1988 Msefula (1993) did an evaluation of the growth monitoring program in Lusaka. Her findings proved that poor training of the community health workers (CHWs) who perform GMP was a problem, which directly affected the outcomes of GMP in a negative way. Subsequently Charlton et al. (2009) did a study to evaluate the effectiveness of the GMP program in the Lusaka district of Zambia. The results from their study demonstrated that GMP was functioning sub-optimally. That was because CHW did not give appropriate feeding advice and individual counselling. Lack of motivation and poor supervision amongst the staff were also seen. Other weaknesses affecting the efficiency of GMP were bad community involvement, poor logistics, supplies and proper shelter to house the projects.

Nursing staff is key providers for GMP services to the Zambian children. They are the ones who organize the GMP activities both at health facilities and in the communities. Nursing staff also needs to ensure that equipment are ordered and made available for GMP to be conducted. Another role they have is to deliver care that is included in GMP services, such as weighing, health education, nutritional counselling and others. Nursing staff further needs to work with others, especially (CHWs) who help out to provide GMP services (C. Zulu, personal communication, 14 march 2016). Community Health Worker (CHW) is according to WHO an umbrella term that includes volunteers who help out in carrying out health services in their own communities (Lehmann & Sanders, 2007).

1.5 Theoretical framework

GMP is a prevention activity, why the Tannahill health promotion model was used as a conceptual framework for discussing the results. The Tannahill model has been used frequently in nursing research and originally consisted of three overlapping spheres of activities. These three spheres were health education, health protection and prevention, and they served as a fundament for carrying out health promotional activities (Tannahill, 2009). Tannahill (2009) revisited his model in 2009 were he came up with a new definition of health promotion:

<table>
<thead>
<tr>
<th>Box 1. A new definition of health promotion.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainable fostering of positive health and prevention of ill-health through policies, strategies and activities in the overlapping action areas of:</td>
</tr>
<tr>
<td>- social, economic, physical environmental and cultural factors</td>
</tr>
<tr>
<td>- equity and diversity</td>
</tr>
<tr>
<td>- education and learning</td>
</tr>
<tr>
<td>- services, amenities and products</td>
</tr>
<tr>
<td>- community-led and community-based activity</td>
</tr>
</tbody>
</table>
1.6 Statement of the problem

To eliminate malnutrition and further reduce the under-five mortality rate, much effort has to be made in Zambia. GMP is one of the main strategies used in Zambia to prevent undernutrition and reduce child mortality (MOH, 2011a). Ashworth, Shrimpton and Jamils (2008) conclusion when reviewing the evidence of impact for GMP, is that where GMP exist as a current strategy it should be retained. Focus should be on strengthening weaknesses and improving the program in order to maximize its potential. That conforms to Charlton et al. (2009) recommendations for the GMP program in Lusaka, hence they state that more research is required. The GMP program needs to be reviewed and evaluated so a better effectiveness can be achieved when working with GMP. By describing nursing staffs experiences including difficulties and possibilities with the GMP program, and their thoughts regarding it, a greater understanding of the phenomena can be brought to the table. The nursing staff’s experiences can contribute to address factors that affect the GMP outcome, which can help in pursuing better efficiency when working with GMP in Zambia, and eventually also in other developing countries.

2. AIM

The aim of the study was to describe nursing staff’s experiences of working with children's Growth Monitoring and Promotion in Zambia.

3. METHOD

The study was carried out as a descriptive qualitative study. Semi-structured interviews were used for the data collection and the material were analyzed using qualitative content analysis.

3.1 Selection

Two weeks prior to the author’s arrival in Zambia, an application for ethical approval was sent in to the University of Zambia (UNZA) biomedical research ethical committee. Due to different circumstances the approval got delayed. After one week in the country the study had not yet been approved. While waiting for the ethical approval to come through the authors asked for permission to visit health clinics. The purpose of the visits was to familiarize, explain the nature of the study and ask around for suitable participants to the interviews. The authors visited four clinics in the rural area of the Chongwe district and another four in the urban districts of Lusaka. The eight clinics were picked as appropriate by the author’s supervisor. In all these clinics a brief meeting with the nursing officer was held. An oral presentation of the authors and the study was given and an informational letter explaining the study was handed out (Appendix 1). Inclusion criteria’s were good English verbal skills and
experience of working with GMP. Thus the study aimed to describe nursing staff’s experiences of working with GMP, it was also a criteria that the participants were either registered or enrolled nurses. After the ethical approval was obtained, five of the eight clinics were chosen deliberating logistics and time limitation for the study. The nursing officers at these clinics were asked to find suitable participants for the study. By doing so a reputational case sampling strategy was used, which means that a key informant is used to come in contact with the informants. A reputational case sampling approach is convenient in a context were the authors have little knowledge about how to proceed with sampling and must rely on the guidance from others (Polit & Beck, 2012). By interviewing nursing staff in both rural and urban areas a diversity of the phenomena was requested. Eight female, enrolled and registered nurses took part in the study, aged 29 – 63. The majority of the participants were enrolled midwives. Four of them were picked from two urban health clinics and four from three rural health clinics. In the result and the discussion of this study the participants will be referred to as nurses, instead of nursing staff.

3.2 Data Collection

Data was collected during February 2016 by using semi-structured interviews. This approach is recommended by Polit and Beck (2012) when the authors know what to ask but cannot predict what the answers will be like. Semi-structured interviews are meant to let the participant speak freely about the questions (Polit & Beck 2012). The interviews lasted between 15 and 24 minutes. Prior the interviews a topic guide with open ended questions was prepared (Appendix 2). The questions were formulated to give the participants the opportunity to provide rich and detailed information about the phenomena. Before the interviews, the participants were given both written and verbal information regarding the aim and design of the study. They were also ensured about confidentiality and that they participated voluntarily with the option to withdraw at any time (Appendix 3). During the interviews one of the authors acted as the leading interviewer. The interviewer’s job was to encourage the participants to give rich and detailed information about the phenomena. The interviewer was free to ask follow-up questions such as “how do you mean” or “how did you feel then”. The second author’s task was to observe, handle the recorder and if needed fill in with complementary follow-up questions. To prevent data loss the interviews were recorded using an audio-recorder, after granting permission from the participants. Directly after the interviews the recordings were stored on a computer and encoded to guarantee the participants confidentiality.

3.3 Data analysis

Qualitative content analysis as described by Danielsson (2012) was chosen as the method to analyze the manifest content of the collected data. Qualitative content analysis is the analysis of the narrative data content, which aims to identify prominent themes, and subsequently patterns among the themes. It involves breaking down the data into smaller units before coding and naming it accordingly to the content it represents. Thereafter the coded data get divided into groups based on shared concepts (Danielsson, 2012). An inductive approach was used. That is according to Elo and Kygnäs (2008) profitable if there is little known about the phenomena.
The recorded interviews were verbatim transcribed by the leading interviewer. It was done as soon as possible after they were conducted, which decreases the risk of transcription errors (Polit & Beck, 2012). The material were then listened and read through by both authors in order to verify the accuracy of the transcriptions. The transcribed data was carefully read through several times by both authors in order to gain an overall impression and a deep understanding of the content. Thereafter the content was broken down into different units or sentence-units. This was done separately at first followed by a comparison between the author’s findings. The sentence-units were color-coded, one color for each interview. The units with corresponding information in content or meanings were then condensed into codes, collaborative by the two author’s. This was done carefully in order not to lose the content of the units. Subsequently the codes were sorted into 12 adequate sub-categories, which later on 6 categories emerged from (Danielsson, 2012). Investigator triangulation was used throughout the whole data analyzing process, which means that the authors compared and discussed all matters regarding the analysis and every decision was made in collaboration (Polit & Beck, 2012).

Table 1. Example of data analysis

<table>
<thead>
<tr>
<th>Meaning Unit</th>
<th>Condensed Meaning Unit</th>
<th>Code</th>
<th>Sub- category</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Though we depend on the community. There are volunteers who come to assist us with the weighing of the babies</td>
<td>Depending on the community. Volunteers assist in the weighing</td>
<td>Community health workers</td>
<td>Cooperation between nurses and community health workers</td>
<td>Critical role of community health workers recognized</td>
</tr>
<tr>
<td>The otherwise, the benefits of growth monitoring, it helps us to manage a child. It helps us to identify a problem on HIV</td>
<td>During GMP sessions screen for HIV</td>
<td>Health status</td>
<td>An opportunity to conduct child health interventions</td>
<td>Provides a comprehensive approach to child health</td>
</tr>
</tbody>
</table>

3.4 Ethical consideration

The study was granted approval from the University of Zambia (UNZA) biomedical research ethical committee. After that the ministry of community development mother and child health admitted the study to be conducted. Although the study involved human participants, it was completely safe and non-invasive. The study was assessed to be beneficence with minimal risk of harm. The authors also clarified they are undergraduates in a learning process, with no intention to judge or moralize. The justification of the study was also illustrated to the
participants, thus it had the capacity of contributing to improve their working situation when implementing GMP. Data collection took place in a cultural context that the authors had little knowledge about. Hence a humble approach and a research regarding the culture of the environment to where the interview were about to take place, was performed in advance. Before the interviews were conducted both verbal and written information (Appendix 1) explained the nature and the objective of the study for the participants. Adequate information about confidentiality and privacy was also conveyed. Polit and Beck (2012) describes that participants should be treated as autonomous individuals with the right to self-determination, which means they can ask questions, withdraw from the study and refuse to give information. It was therefore of paramount importance that the participants did not feel obligated to take part in the interviews. When they were fully aware about the interviews being voluntarily and that they could withdraw whenever without consequences, a written informed consent (Appendix 3) was obtained. The collected data was stored in a locked computer file and different codes were used for each interview in order to obtain confidentiality. By promising confidentiality to the participants the authors assure them that no information which could identify them will be publicly reported (Polit & Beck, 2012).

4. RESULTS

The data analysis resulted in 9 sub-categories, out of which 6 main categories emerged (see table 2). The result is presented in categories with underlying sub-categories. Quotations from the participants are used to explicate the meaning of the sub-categories and strengthen the trustworthiness of the study.

<table>
<thead>
<tr>
<th>Table 2. Overview of the findings</th>
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</thead>
<tbody>
<tr>
<td><strong>Sub- Category</strong></td>
</tr>
<tr>
<td>Important tool</td>
</tr>
<tr>
<td>An opportunity to conduct child health interventions</td>
</tr>
<tr>
<td>Health education and feeding advice</td>
</tr>
<tr>
<td>Cooperation between nurses and community health workers</td>
</tr>
<tr>
<td>Encourage the community health workers more</td>
</tr>
<tr>
<td>Human resources</td>
</tr>
<tr>
<td>Material resources</td>
</tr>
<tr>
<td>Documentation</td>
</tr>
<tr>
<td>Cooperation with mothers</td>
</tr>
<tr>
<td>Relocating and outreach</td>
</tr>
<tr>
<td>Rewarding for the nursing staff</td>
</tr>
</tbody>
</table>
4.1 Important tool

*GMP is a good and important tool*
All nurses that participated in the interviews agreed on the fact that Growth Monitoring and Promotion is a good and important tool. They also looked upon it as effective, and their experience was that it reduces malnutrition. Some nurses pointed out that it is very helpful, hence it guides you as a nurse to see whether a child is healthy and growing well or not.

*I think, it's a good. Though, growth monitoring looks simple. It's one of the things that we have to do on every child. To see, to give us a direction. To see, is this child growing well or not well?* (Rural nurse 3)

Two nurses from the rural area stated that GMP is good and easy to use, and even more essential in the rural area considering there is often no doctor nearby. Although one of the nurses from the rural area did not perceive GMP as very effective, because people are relocating a lot and there are sometimes a lack of recourses to perform GMP in a sufficient way.

4.2 Provides a comprehensive approach to child health

*An opportunity to conduct child health interventions*  
Most of the nurses talked about other activities interacting with GMP, such as immunizations and screening for HIV. They are often taking place on the same occasions, why GMP could be conceived as a platform, or as an entry point to care as one nurse described. As a result of GMP being conducted every month within the first year of a child's life and on a regular basis after that, it supports frequent contact with health care for the mother and her child. One nurse from the rural area explained that other activities surrounding Growth Monitoring (GM) is vital, since GM cannot work on its own.

*So, growth monitoring on its own, it cannot work. But with other components surrounding it, then it can work in like screening, the weighing itself, even in nutritional, even in, even family planning it can help the mother, and even in cases of HIV*” (Rural nurse 3)

Many of the nurses described GMP as an opportunity to assess the general health status of the children that are attending GMP-sessions. Hence the nurses can screen the baby, check its nutritional status and identify if there is a problem, such as diseases. Half of the nurses claimed that GMP provides a chance to screen for HIV.

*Benefits are many. Because it's only through GMP, that's where we are also able to detect the HIV positive children*” (Urban nurse 4)

Working with GMP on a regular basis also gave the nurses an opportunity to check for what vaccinations and supplementations the child is in need of. Most of the interviewed nurses described vaccination as a part of GMP, or an activity conducted during GMP-sessions. The majority also commented that deworming and supplementation of vitamin A is administrated at the same time.
"The benefits are there, because as we are weighing this child, we are also checking even on the vaccines. Has the child completed the vaccines?" (Rural nurse 3)

Health education and feeding advice
The majority of the interviewed nurses spoke about counselling consisting of feeding advice and especially breastfeeding as an integrated part of GMP. Thus some commented on GM and information about feeding separately. A consistently theme among the nurses was however that GMP-sessions give an opportunity to emphasise the value of a balanced diet. Half of the nurses declared that they are conducting cooking demonstrations alongside the feeding advice. A nurse from the urban area also described that they are giving other health information on her clinic that indirectly affect GMP and malnutrition. That information included counselling about hygiene and family planning.

"Because as we do the growth monitoring, there is also education that goes out to the parents. We educate them on good nutrition with their children" (Rural nurse 1)

4.3 Critical role of community health workers recognized

Cooperation between nurses and community health workers
A general opinion among the nurses that participated in the interviews was that they are really depending on the CHWs for GMP to function sufficiently. The clinics are often understaffed according to the nurses, why it is a must that CHWs help out. A minority of the nurses stated that they would not manage without them, concerning the number of children visiting the health clinics. Another advantage by cooperating is the CHWs good knowledge about the community. They are the ones living close to the mothers and their children, why they understand the community well when it comes to communication and local languages. Most of the nurses described the CHWs as links who enhances and strengthen the cooperation between the nurses and the community when working with GMP.

"It is because they’re the ones who are in the community, and the ones who knows the community very well, then the staff here. They interact well with the community" (Urban nurse 1)

All the interviewed nurses highlighted the importance of good cooperation and communication between nurses and CHW. Most of them also agreed upon it being a successful one. A nurse from the rural area even mentioned it as the main component of GMP functioning so well.

"So, I think... The success thing that I would say is that the community and the health workers, we are working together". (Rural nurse 3)

Encourage the community health workers more
The nurses were satisfied with the efforts continuously made by the CHWs. When they gave suggestions to what could improve and strengthen that GMP-program, a little more than half of the nurses targeted the CHWs job conditions. They suggested that more CHWs should be trained in performing GMP, and that they should be encouraged and appreciated more for what they are doing.
"And those people who are trained to assist us, like from the community, are also supposed to be motivated in one way or another. When I say motivation I don't say they are supposed to be put on a salary, but once in a while they should get something. So that they look forward to say, when I do this, I will be given something at the end of the day" (Rural nurse 4)

4.4 Resource- demanding tool

Human resources
The majority of the participants had good experiences from working with GMP, and could not point out too many difficulties or weaknesses in the program. More than half of the nurses however felt they are often understaffed which results in a heavy workload. A nurse in the urban area described that she repeatedly has to delegate working duties to volunteers (CHWs), as she cannot manage the tasks at hand for that particular day.

"Ok, the difficulties we are encountering now is the large number of people that we are seeing. Because as a midwife we are understaffed... So most of the times I'm forced to delegate that duty to volunteers". (Urban nurse 4)

The data analysis also revealed human resources as the most addressed issue among suggestions that could improve and strengthen the GMP program. Several participants stated that they are in need of more health care providers with good knowledge about GMP and mother and child health. They also proposed an ongoing orientation of the CHWs in order to enhance and maintain their knowledge and practical skills when working with GMP.

"Suggestions could be that we need more health providers, trained in growth monitoring and promotions programs.... Mm. And orientation, continuously orientation of, on these volunteers. It's also important". (Urban nurse 4)

Material resources
Half of the nurses explained the relevance of material resources to achieve effectiveness when working with GMP. A nurse from the rural area had from her experience noticed the benefits of having cooperation partners that help out and supply the clinic and the community with resources.

"When we are having cooperation partners, those that are helping out with resources, empowerment and when there are like such cases I seeing success somehow, because when we have everything we need at hand then everything works on well"(Rural nurse 2)

The key material resource for GMP to work sufficiently was according to the nurses transportation. A majority of the participants thought of the outreach program as a significant component to attain the intended purpose of GMP. Possessing reliable transportation makes it possible for the nurses to attend the hard to reach areas and the different zones within the community where GMP is conducted. Lack of transport was mentioned several times as a difficulty when working with GMP and some nurses suggested transport as something to address which can improve the GMP program.
"In short I can say, it has been a challenge for us when it comes to transport". (Rural nurse 4)

A nurse from the urban area also emphasized the lack of shelter at some GMP-zones. During heavy rains the GMP-sessions may have to take place under a tree, which complicates procedures like for example giving vaccinations.

4.5 Program consistency required

Documentation
The under-five card was identified as a useful documentation paper by almost all the participants in the interviews. The growth and administered vaccinations are plotted on the card, thus it is of importance when following a child's growth and health frequently over a period of time.

"The under-fives which we use. They are lines which show if the child is growing normally, that if is the child is gaining weight, or if the child is losing weight. Or if the child is on danger sign. The under-five cards, the information is there on the under-five cards". (Rural nurse 4)

Insufficient documentation and a lack of under-five cards were found to sometimes impede the consistency that is required in the GMP program.

Cooperation with mothers
Cooperation with mothers were found to be a crucial part for the consistency of the GMP program. A few nurses from the rural area described that cooperation with mothers is sometimes a problem due to shame and denial. The nurses said that malnutrition is associated with poverty, why mothers tend to be embarrassed and shine away from the GMP-program if their child is malnourished. That is because they do not want to be identified with such in the community.

"They feel that the only thing that can cause their children to be malnourished, maybe is poverty. So they will hide themselves to say, "No my child I give everything, I provide everything for my child, so there is no way my child can be malnourished". (Rural nurse 1)

The nurses also recommended more informational health education to the community and the mothers, in order to increase their knowledge about the benefits of bringing their children to the GMP-program.

Relocating and outreach
According to one nurse from the rural and one nurse from the urban area, relocating is a rife issue which makes GMP less effective. They both described that people tend to shift areas and move from one place to another, which impedes working with GMP and following up the children.
"I would say it is ok, though I don’t see it very effective because sometimes, you’d find a child who really needs help because their growth is somehow. But then eventually that child would just disappear because where we are staying, you know there are a lot of relocating, the parents have gone. So really the monitoring like the moment you just start the program you find that maybe they have shifted gone away and like" (Rural nurse 2)

Some mothers live far from the clinic in hard to reach areas as reported from the nurses. The majority of the nurses described outreaches as frequently occurring every week. They also viewed it as a crucial element of GMP and the consistency in order to follow the children regularly over time.

4.6 Rewarding for the nursing staff

Even though the workload can be overwhelming sometimes, as described from one of the nurses, everyone that participated in the interviews were experiencing job satisfaction when working with GMP. Working within mother and child health was mentioned as stimulated. Performing GMP-services, leads to interaction with both children and their mothers. Helping out a child or guiding someone in a good and sustainable direction felt well according to the nurses. Witnessing progress and well-being for a child, after contributing by delivering care or health education to the mother felt especially good.

"You, you, you saw a child who was severely malnourished. You see them pick up, it's a blast!" (Urban nurse 4)

5. DISCUSSION

5.1 Method discussion

Lincoln and Gubas (1985) framework for developing trustworthiness was used throughout the whole process. It provides a platform when conducting research and consists of Credibility, Dependability, Confirmability and Transferability. The aim of the study was to describe nurses’ experiences of working with children’s Growth Monitoring and Promotion. A descriptive qualitative approach was used. Qualitative studies has its roots in the holistic tradition and aims to explore personal experiences of a phenomena (Henricson & Billhult 2012). By choosing a method that is relevant regarding the aim of the study, trustworthiness is enhanced (Polit & Beck, 2012).

The field of the study was not well known by the authors. Preparation in order to increase cultural awareness and achieve better understanding of the phenomena’s context was therefore undertaken. The preparation consisted of spending 4 weeks in the field and familiarization with the health clinics, which enhanced the authors’ comprehension. Getting to know the study site and the cultural context is called prolonged engagement. It is essential for gaining trust and makes it more likely to obtain accurate and extensive information which boosts the study’s credibility (Polit & Beck, 2012).
In qualitative research there are no fixed rules about sampling size but a guiding principle is that data collection are to continue until data saturation is achieved. Sampling should therefore go on until no new data emerges and redundancy is achieved (Polit & Beck, 2012). The author’s intention was to conduct ten to twelve interviews or until the point where data-saturation was obtained. Due to the fact that the ethical approval got delayed and the authors had limited time in Zambia, the number of participant had to be reduced to eight. This relatively small sampling might have had an impact on the result and one could argue that data-saturation was not guaranteed. This could have had a negative impact on the study’s trustworthiness.

To avoid a negative impact on the result and raise the trustworthiness of the study participants were picked from different health clinics. By choosing clinics in both urban and rural areas a diversity in the result was sought and achieved. Using a reputational case sampling strategy might be conceived as a relative weakness for the study, but it was appropriate because of the complex setting that the authors were not familiar with. In addition, the key informant followed the inclusion criteria’s as requested by the authors. The sampling was therefore strategic. All the participants had extensive experience ranging from 4 to 28 years of working with GMP on regular basis. Thus all of them were rich sources of information. This sampling strategy was therefore the best suitable option. Only female nurses took part in the study. It might had strengthened the study and added more diversified descriptions of the phenomena if some of the participants had been male nurses.

Semi-structured interviews were used for data collection, since it is applicable if the researchers have moderate experience of conducting interviews (Kristensson, 2014). It is also profitable when comprehensive data with the participants own expressions are requested (Polit & Beck, 2012). The interviews were undertaken during the participants working hours, which could have resulted in a feeling of stress and therefore affected the quality of the collected material. A consequence of this could be the relatively short interviews, with one interview being only fifteen minutes. According to Polit and Beck (2012) a calm and private environment with as little disturbances as possible is preferable when conducting interviews. Even though the most convenient rooms were picked for the interviews, the majority got disturbed by background noises and two of them were interrupted by nursing colleagues.

Two pilot interviews were booked to evaluate the topic-guide and for the authors to gain interview experience. Due to the long delay in obtaining the ethical approval they had to be canceled, which might have affected the quality of the interviews. The interviews were conducted in English even though it is neither the authors nor the participant’s mother tongue. It sometimes complicated the transcription of the interviews with a couple of unintelligible accents and a few misunderstandings occurring. There is also a possibility that non-verbal communication such as facial expressions and body language are perceived different in Zambian and Swedish cultures. The authors experienced that some participants did not have the confidence or the skills to express their feelings and their full points of view. All these language barriers might have affected the results.
When analyzing the data the authors discussed all the decisions made and collaborated throughout the whole process. According to Polit and Beck (2012) investigator triangulation is when two or more researchers perform the coding and the analytic decisions. By doing that the risk of bias was minimized and the confirmability and credibility of the study increased. The use of many quotations in the results was done to enhance the study’s confirmability (Polit & Beck, 2012).

One quality enhancement strategy used by the authors was reflexivity. Self-reflecting throughout the whole process is essential to establish confidence in the findings because the authors are the data collecting instruments in qualitative research (Polit & Beck, 2012). A journal was kept and continually discussions about values, prejudices, background and biases were held in the end of each working day.

5.2 Result Discussion

The result in this study shows that GMP is perceived among Zambian nurses as an important tool. Almost all participants also considered it to be effective as an approach to reduce malnutrition and increase child health. Even though the effectiveness of GMP has been questioned over the last two decades (Griffith & Del Rosso, 2007), the finding in this study correlates with previous research about health workers perceptions of GMP. A study conducted in Nigeria found that 98,4 % of the primary health care workers had a positive attitude towards GMP, considering it to be necessary in improving the children's overall health status (Olugbenga-Bello & Asekun-Olarinmoye, 2010). When evaluating the efficiency of GMP in the Lusaka district of Zambia, Charlton et al. (2009) discovered that all health workers participating in their research thought of GMP as useful. Although the effectiveness of GMP is disputed according to the literature, this study might strengthen the fact that GMP is viewed as good, important and effective among health care workers and in particular nurses.

Apart from perceiving GMP as important, the nurses also experienced job- satisfaction. When exploring the correlation between job satisfaction and performance among midwives in Iran, Talasaz, Saadoldin and Shakeri (2014) found a direct relationship between the two factors. It was also revealed that job- satisfaction increased the quality of educational performance. Nurses have according to Amieva and Ferguson (2011) an important role to play in the global vision to increase the health of children worldwide. They are also a key element in the pursuit to reduce the child mortality rate. Even though the implementation and effectiveness of GMP may sometimes be questioned, knowing that health workers perceive GMP as good and experience job satisfaction enhances the possibility for it to be successful.

Zambia is a developing country where the child mortality rate is high and GMP is used as a key strategy to battle child mortality and malnutrition. This study demonstrates attitudes, perceptions and feelings of nurses conducting GMP in Zambia, why it could have a value for further strategies and designing of child intervention programs. Assuming that performing GMP is rewarding for the nurses should be highlighted and addressed as something positive, especially taking into considerations the correlation between job satisfaction and performance.
The nurses’ experiences in this study was that one benefit with GMP is that it provides a comprehensive approach to child health. Since GMP is conducted on a regular basis it gives the nurses an opportunity to provide a wide range of services, such as vaccinations and health education. The majority of the nurses spoke about GMP and other interventions as a unity in a program for mother and child health, where GMP could be conceived as the platform. When reviewing the evidence of impact for GMP Ashworth, Shrimpton and Jamil (2008) stated that GMP can provide a platform for child health interventions. The findings therefore correlate with previous research.

Health education in the form of feeding advice was according to the nurses an integrated and essential part of GMP. According to Griffith and Del Rosso (2007) nutrition information is a fundamental component of GMP, thus a child’s nutritional status are often dependent on feeding and caregiving practices in the home. During GMP sessions, nurses are given an opportunity to educate the mothers on the importance of a balanced diet and more. That enhances the mother’s empowerment capabilities of taking care of her child. Health education and intervention constructed to promote empowerment and life skills is according to Tannahill (2009) one of the five overlapping action areas to promotional health work. One fundamental role of the nurses in Sub-Saharan Africa is according to Ugochukwu, Uys, Karani, Okoronkwo and Diop (2013), to convey health education to patients and communities. Bastable (2006) describes health education as a core activity in the nurse profession that promotes adherence to treatment plans, which also makes health education essential for consistency.

The findings underscored the importance of consistency for GMP to operate adequate. An inconsistency in documentation papers like the under-five card impedes the nurse’s work with GMP. Relocating and deficient cooperation with mothers were also mentioned as factors that complicates the follow-up on the children. The nurses experiences of consistency in the program conforms to Griffith and Del Rossos (2007) definition of GMP, since it is the process of following the growth rate of a child regularly over time, not a one-time measurement.

The findings in this study indicates that nurses in Zambia consider the cooperation between nurses and CHWs to be crucial if GMP is to be implemented in an effective way. It therefore highlights the CHWs role as critical. The ministry of health in Zambia emphasized the need for CHWs in 2010, due to a demanding human recourses shortage (MOH, 2016). They therefore embarked on a CHW strategy, aiming to standardize and formalize the CHW role. Doing that enabled equity of access to health services and eventually contributed to strengthen management of preventive health care in Zambia (MOH, 2016). There is according to Lehmann and Sanders (2007) sturdy evidence that CHWs can carry out actions, especially within child health that improves health outcomes. Charlton et al. (2009) came to the conclusion that poor community involvement in the Lusaka district affected the efficiency of GMP in a negative way. The results in this study shows that nurses perceive the CHWs involvement as satisfying. They also think of the collaboration as a successful one, contributing to meet the intended purpose of GMP. This challenges Charlton et al. (2009) conclusion about deficient community involvement when working with GMP, even though great caution should be taken when making assumptions. That is because the nature and limitations of this study does not allow any generalizations.

The nurses highlighted the CHWs good knowledge about the community as a contributing factor to strengthening the collaboration between the nurses and the community. According to Tannahill (2009) the community-led and community-based activities are vital in achieving
health promotion. Thus it is essential to address the grass-root perspective by which empowered communities, groups and individuals can get on board in computing health issues and designing solutions. Since the CHWs have the necessary knowledge about the community, they will help in increasing the health promotional work conducted by nurses according to the Tannahill model (Tannahill, 2009). The nurses requested more appreciation and encouragement of the CHWs in order to keep them motivated. Mangasaryan, Arabi and Shultink (2011) stated that appropriate implementation of GMP is depending on the staff’s motivation, and that incentives or payment are crucial for its quality. GMP is a key strategy to fight malnutrition in Zambia and the CHWs have an important role in carrying it out. More appreciation of the CHWs can therefore enhance the efficiency of GMP, which in the long-term could contribute to achieve the sustainable development goals in Zambia.

The nurses’ experiences was that GMP is a resource demanding tool. Adequate human and material resources are required to meet the intended purpose of GMP. The two most addressed issues were lack of staff with comprehensive knowledge and transport. Therefore these factors should be highlighted, since it is fundamental for GMP to work sufficient according the nurses personal experience.

Even though similar results might be found if the study was repeated in another context, it is important to keep in mind that this is a qualitative study with a small sampling that reflects the nurses’ personal experiences. Therefore the findings cannot be generalized and directly transferred to other contexts.

6. CONCLUSION

Nursing staff’s experiences of Growth Monitoring and Promotion in Zambia was that it is a good and important tool. Working with GMP was also rewarding and satisfactory for the nursing staff. One of the main benefits was that it provides a comprehensive approach to child health and serves as a platform for other important child health interventions to be carried out. In the study a critical role of community health workers was recognized. The cooperation between the nursing staff and CHWs was found to be an essential part for GMP to work properly. The nursing staff identified several components, which they have experienced as crucial for GMP to function sufficiently. When there is a lack of human and material recourses the program works sub-optimally. A shortage of professional staff and transport were found to be frequently occurring. The nursing staff described consistency as fundamental for GMP to be effective. Insufficient documentation, failure in cooperating with mothers and relocating were factors that sometimes complicated the nursing staffs work with GMP.
7. CLINICAL IMPLEMENTATION

GMP is frequently used worldwide and carried out as a main strategy to tackle malnutrition in Zambia. Knowledge, feelings and attitudes about GMP as a phenomena from the people working with it is therefore important. By pointing out strengths and weaknesses in the program this study contributes with knowledge that could be used to increase the effectiveness of the program in Zambia. Nursing staff’s perceptions of crucial factors for GMP to operate adequate could also bring clarity to similar contexts, when trying to implementing GMP in the most effective way.

8. FURTHER RESEARCH

Nursing staff is really dependent on the CHWs and good cooperation between the two occupational groups is fundamental for the effectiveness of GMP. It would be interesting to conduct a research focusing on how to allocate the human recourses in the most effective way, to meet the expected outcome of working with GMP. Gaining more knowledge about nursing staff’s feelings and thoughts regarding their role as cooperation partners could also be valuable for the future. Another suggestion would be to describe male nurses’ experiences of working with GMP, since this study only had female participants. All nursing staffs that participated in the interviews referred to the caregiver as the mother. Munjanja, Kibuka and Dovlo (2005) described that women in a broad context are the main caregivers in communities in sub-Saharan Africa. They also declared that Africa needs to organize its health work force in order to respond to gender issues in the communities. Evaluating research about male involvement in child health care and GMP-sessions in Zambia and how it could enhance, is therefore requested by the authors. The distribution between the two genders in caring for children and how that affect outcomes and efficiency of GMP would be of interest as for further research.

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REFERENCES


Appendix 1. Informational letter

Information letter and request for participation in an interview entitled:
Nurses’ Experiences of Working with Children’s Growth Monitoring and Promotion In Zambia

Dear participants,

We are two nursing students from the university of Örebro, Sweden. We are carrying out our undergraduate thesis in Zambia to earn a bachelor degree in the science of nursing. The aim of the study we are conducting is to describe nurses experience of working with children’s growth monitoring and promotion (GMP) in Zambia. Evaluations have been made regarding the effectiveness of GMP, but little is known about nurses experiences of working with the model/strategy.

The reason for us doing our thesis in Zambia is because we are both really interested in different cultures. Our university also has a collaboration with the university of Zambia, department of nursing sciences, and everyone involved has spoken delightful of the country and its citizens.

Undernutrition amongst children is according to UNICEF and WHO a big issue in Zambia. The child-mortality rate has gone down but still remains unacceptable high. Hence we would like to learn and maybe contribute to increase the effectiveness of GMP in Zambia.

The interview is estimated to take approximately 30-45 minutes, and will take place when and wherever suits you. Taking part in the study is voluntarily and you can withdraw whenever you want without consequences. The interview contains of semi-structured questions regarding your experiences of working with GMP. The interview will be recorded but kept confidential, which means it is anonymous and no one will therefore be able to identify what you have told us. Content analysis will be used to analyze the interview. It is important to bear in mind, the purpose is not to compare answers or make moral judgment. We are merely to guest students interested in learning about this subject in Zambia.

Please feel free to contact us if you have any questions regarding the study or the interview.

Best regards,

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Appendix 2. Topic guide

Questionnaire

Demographic data

Age?

Gender?

What kind of nurse are you? (Enrolled, registered)

For how long have you been working as a nurse?

Further questions

For how long have you been working with growth monitoring and promotion (GMP)? (How much experience would you say you have?)

How have you been trained in implementing GMP? What did you learn about it?

Can you describe how you have been working with GMP?

What are your experiences of working with GMP? How do you consider it as a tool or strategy to detect and prevent malnutrition?

What difficulties have you encountered?

If yes, can you describe a typical case when working with GMP has been non-successful?

What are the benefits of working with GMP from your point of view?

Can you describe a typical case when working with GMP has been successful? What was contributing to the success?

Are you experiencing job satisfaction when working with GMP?

Do you have any suggestions that could improve and strengthen working with GMP?
Appendix 3. Written informed consent

Written informed consent

I understand the purpose of the study, how data is collected, handled and that it is kept confidential. I also understand that I participate voluntarily and are free to withdraw at any time without giving a reason for doing so.

I have read and understand this consent form and I agree to participate in the study.

_______________________    _________
Signature of participant       Date

______________________    _________
Signature of the interviewer      Date

______________________    _________
Signature of the observer      Date