Fall 2013

A Comparison of Malnutrition Causes and Treatments: A Case of Mwanamugimu Nutrition Unit, Mulago National Referral Hospital, Kampala District and Nakifuma Government Health Unit, Mukono District

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SIT Study Abroad

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Acknowledgement:

I would like to acknowledge Dr. Charlotte Mafumbo for all her hard work and dedication throughout the research process. She is an amazing worker and deserves all the praise in the world. I would also like to thank my advisor, Dr. Jolly Kamugisha, for all her guidance and support with my research project. Additionally, I could not have completed my rural research without the help of Dr. Paul Muwanguzi for all his help in the Mukono community. Lastly, I would like to thank both Mulago and St. Francis Naggalama Hospital for allowing me to conduct research on their campuses and to speak with their patients; none of this would have been possible without their help and support.

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Abstract:

In beginning of the investigation process, the researcher set out to study malnutrition in Uganda. She wanted to study an urban region in comparison to a rural region and so based her research out of both Kampala and the Mukono region. The researcher set out to learn more about the causes of the condition and why children become malnourished. She also was interested in the differences that exist between the two different locations and why they exist. Finally, the researcher was eager to learn what malnutrition meant to each community and how health care professionals go about treating the condition in each location.

In order to accomplish all of the above, the researcher employed a variety of research methods throughout her investigation process. In Kampala, the researcher mostly conducted one-on-one interviews with caretakers with the help of a translator. She also had the opportunity to speak with some health care professionals including Dr. Jolly Kamugisha. Finally, she was fortunate to have the opportunity to visit a total of six homes in the area to observe first hand how the children live and in what environment they grow up. In Mukono, the researcher did a few one-on-one interviews but her research mostly consisted of focus group discussions and immunization outreaches. She conducted the focus groups both at Nakifuma Government Health Unit (NGHU) and on immunization outreaches. In each group some children were malnourished and some were not, so that she could try to compare differences between the two, though not many were found. Again, the researcher had the chance to speak with health care professionals and visit a total of four homes in the community.

The researcher made many findings throughout her research, some of which she will briefly mention here and all of which she will expand on later in the paper.

Findings included differences in resources between the two communities, financial standing, food availability, and severity of condition.

Abbreviations:

CP: Cerebral Palsy

HDI: Human Development Index

MNU: Mwanamugimu Nutrition Unit

NGHU: Nakifuma Government Health Unit

NPW: Naggalama Pediatric Ward

OPD: Out Patient Department

OTC: Out Patient Therapeutic Care

ReSoMal: Rehydration Solution for Malnourished Children

SAM: Severe Acute Malnutrition

SDTM: Specially Diluted Therapeutic Milk (F100 diluted for children under 6 months)

UDHS: Uganda Demographic Health Survey

1.0- Introduction:

Throughout her semester studying in Uganda, the researcher has become more and more interested in public health. For this reason, she decided to enroll in the public health elective to further explore this newfound interest. During this two week period, the researcher became immensely interested in nutrition, and more specifically, malnutrition. Shortly after beginning this elective, she decided that this was something that she would like to further research during her independent study project period during the second half of the semester.

In the research, a comparison between an urban and a rural hospital in how they diagnose and treat malnourished children was studied. The researcher also looked deeper into causes for malnutrition at each location and family dynamics that may contribute to a child becoming malnourished. Through this research, she has found some trends that exist in malnourishment in regards to upbringing, parental socioeconomic status, and education. In this paper, the researcher will be presenting her findings on a variety of issues that she has been researching for the past six weeks. During the research, the researcher was given the opportunity to visit some households in both of the communities in which she was studying. This helped establish the living circumstances of these children and families and why the children may have fallen ill to begin with.

In order to compare an urban hospital to a rural hospital, the researcher split her time equally between the two communities. For the first three weeks of research, the researcher spent her time studying at Mulago National Referral Hospital in the Mwanamugimu Nutrition Unit in Kampala district. For the final three weeks of her research, she resided in a more rural community in Mukono district and spent her time

at the St. Francis Naggalama Hospital in the pediatric ward. There is no nutrition unit at the latter hospital, though they do see many cases come into the pediatric ward, hence why she decided to spend her rural research time there.

There are four main objectives that the researcher aimed to address through her in-depth study of malnutrition, namely; (i) to establish what malnutrition is to each community in comparison to an official definition of the condition, (ii) to examine causes for the condition in each location and analyze similarities and differences, (iii) to examine ways that malnutrition is treated in each location, and finally, (iv) to provide some advice for the future for each given community.

The researcher has put a great deal of effort and time into this research through working with unit doctors and members of the community. The researcher hopes that the reader will enjoy what she has discovered.

The paper is organized into various parts. The first section of the paper covers the background information as to why this topic is important to study. She will then give a justification as to why she believes her research will help improve treatment of acute malnutrition. The next section will be the statement of objectives and the research questions that she set out to answer at the beginning of her research process. Following this will be a section on the methods that were used in this study- this will explain specifically how she went about collecting her data and the tools she used to complete it. The next section will be the findings and discussion section which will be the bulk of this report and answer the research questions that were being investigated. Conclusions of the research process will be the next section and then the recommendations the researcher has for patients with acute malnutrition and their parents/guardians. The last

two sections will be a reference and appendix section that the researcher refers to throughout the paper.

1.1- Background to the Study:

The official definition of malnutrition according to the Medical Dictionary powered by Farlex is: "The condition that develops when the body does not get the right amount of the vitamins, minerals, and other nutrients it needs to maintain healthy tissues and organ function." The source goes on to define under nutrition as: "a consequence of consuming too few essential nutrients or using or excreting them more rapidly than they can be replaced" (2013). The researcher referenced this definition throughout her research process to assess malnutrition in each location, as well as, differences and similarities that may or may not exist.

Through taking the public health elective, the researcher learned a great deal about the statistics that exist in Uganda in relation to malnutrition. Malnutrition is a very prominent issue in Uganda, and is in fact becoming more and more of an issue as time has gone on. According to a report published by the USAID, 33% percent of children under the age of five currently suffer from chronic malnutrition, otherwise known as stunting, and 14% percent suffer from being underweight (UDHS, 2011). During the public health elective, the researcher was lucky to hear from Dr. Daphne Masaba who informed her as to the deficiency in iron that children in Uganda have. She reported that 49% of children in Uganda struggle in this way (Masaba , 2013).

The researcher also used literature in order to further understand this topic and the need for further investigation in the area. Many factors contribute to a child becoming malnourished and not one can be identified as the tipping factor, but many

can be identified as contributing factors. One of the key aspects that the researcher would like to investigate is socioeconomic status and whether or not it has an effect on a child becoming malnourished. According to Owor, Tumwine and Kikafunda (2000), in Uganda, children who were bred in homes that did not own livestock were at a higher risk for developing malnutrition; the reason being, that they had less access to proteins and dairies that would stimulate their body and keep them well-nourished. Similarly, in an article entitled *Does Urban Agriculture Help Prevent Malnutrition? Evidence from Kampala* (1998), it stated that the more farming that can be done in a family, the less likely a child is to become malnourished. Though their income is lower, they grow crops mainly for their own consumption and therefore are well nourished for the most part .

Another contributing factor to malnutrition is breast feeding practices. Owor, Tumwine and Kikafunda (2000) found that by not being properly breastfed, children can become malnourished as their bodies are not acting in the way in which they are programmed. There are many other sources to back up this statement including an article entitled *Risk Factors for Early Childhood Malnutrition in Uganda* (1998) published by the Pediatrics Journal. It stated that prolonged breastfeeding can cause stunting in children and that no breastfeeding at all can cause children to become underweight among children under the age of five.

Another interesting aspect that the researcher looked into is parental educational attainment. In an article put out by the International Journal for Equity in Health entitled *Mothers' education but not fathers' education, household assets or land ownership is the best predictor of child health inequalities in rural Uganda* (2004), it examines how the education a mother receives directly affects the health and nutrition of their child. Part

of this is due to their sophistication and cognitive abilities, but it also relates to socio-economic status. Socio-economic status plays a major role in a child's becoming malnourished; if a family does not farm and cannot afford to buy food, their sources of nutrition are limited. Jean-Christopher Fotso, Ph.D. (2007) found that in Uganda there is a very low Human Development Index (HDI) , and that maternal education level has a larger effect on child nutrition status than the fathers, though the paternal income has a large effect as well. Therefore, the researcher investigated as to how educated parents/caretakers of malnourished children are and where their income comes from in both the urban and rural location.

Malnutrition is easily preventable and for that reason the researcher is very interested in looking more into this issue. Malnourishment can be avoided through education for caretakers along with giving children proper immunizations and by transitioning from breastfeeding to complementary foods in a timely manner. Through doing an in-depth study on malnutrition, the researcher hopes to raise awareness about malnutrition and ways that it can be prevented and treated.

1.2- Justification:

Malnutrition is one of the most prominent issues in the developing world, and very prevalent in Uganda. In Uganda, 33% of children are stunted, 5% are considered wasted, and 38% of children are deficient in vitamin A (UDHS, 2011). This prompted the researcher to spend the past six weeks doing a comparative study between the rural community of Mukono and the urban community of Kampala. Through her research she looked at treatment quantity along with quality and the services that are available

for patients. The researcher believes that there may be a difference in treatment options for children when comparing the two different locations.

This research is immensely important because malnutrition is one of the leading causes for illness and sometimes death in Uganda, and it can easily be preventable with the proper education and guidance. The purpose of this research report is to raise awareness about the causes for malnutrition and to try and recommend some ways to prevent them in the future. By providing some basic education in health and nutrition, hospitals and clinics could help the country of Uganda suffer less in terms of malnutrition. Also, by giving children proper immunizations and by proper transitions from breastfeeding to complementary foods, malnutrition can be minimized, if not avoided. This would enable the country to have better hopes for the future as the younger generation will be strong from birth and not constantly fighting back from childhood illness.

1.3- Statement of Objectives:

In doing her research on malnutrition and comparing the two locations, the researcher had a variety of objectives she aimed to meet throughout her research process:

I. to establish what malnutrition is in the two communities in comparison to the official definition

II. to examine the factors that cause malnutrition in the two communities and reasons for the differences or similarities

III. to examine the different ways malnutrition is treated in both settings and why differences may exist

IV. to develop recommendations for each hospital so that they can better advise caretakers in the future

In addition to the stated objectives, the researcher has an array of research questions that she will be trying to answer throughout the process of her doing research of malnutrition:

I. What are the conditions of the family? This includes socio-economic status and household environment.
II. What differences and similarities exist between the two locations and why may they exist?
III. How much education have parents attained and what role may that play in a child's becoming malnourished?
IV. What cultural, religious, and gender stereotypes may be related to food and play a role in a child becoming malnourished?
V. Do outreach programs exist in both locations? How successful are they?

1.4- Methodology:

Data Collection Approach

The researcher employed both the qualitative and quantitative methods in conducting her research. She decided this was the best way to go about her research as she was able to use previous statistics and relate them to statistics that she found in the field. She also used qualitative observations so that she could find trends among children who suffer from malnutrition.

Sampling used in the Study

Participants in the study were recruited through sampling, the researcher used this method because consent was needed for participation and not all caretakers wished to participate. Participants were picked randomly from MNU and based on direct observations at NGHU though if they did not wish to participate, they were not

obligated to do so. The researcher was able to collect data from a total of forty-six participants, twenty-three from MNU and twenty-three were from the Mukono area. The researcher decided to speak with caretakers between the ages of eighteen and thirty-five (for the most part) as children of young parents are more likely to suffer from malnutrition; though as the researcher chose to speak to the main caregiver, which was most commonly mothers, fathers and grandmothers were also among participants. The researcher used a combination of narratives from caregivers and direct observations based on the guidelines she used to evaluate malnutrition in both locations.

Materials

The researcher had the aim of collecting data related to socio-economic status, educational attainment, feeding practices, and home sanitation. The researcher used a questionnaire to collect the majority of her information (see Appendix 1 and 3). Questions asked to participants were done so in order to provide information for the researcher so that she can provide prevention methods for participants in the near future. Though she attempted to compare the two locations, she is aware that they are different in that the first is a public hospital (MNU) and the latter is a private not-for-profit (St. Francis Naggalama Hospital).

Procedure

I. Interviews

The researcher began her data collection in both locations with interviews with caretakers of children who had been admitted to MNU and St. Francis Naggalama Pediatric Ward (NPW). At MNU this process was relatively easy as all patients were malnourished and it was just a matter of learning their medical history and parental mindset. At NPW, this was a more difficult process as the researcher was the one

evaluating whether or not children were malnourished. She took all the measurements of children and put them into the Child Health Card put out by the Republic of Uganda, Ministry of Health, by which she determined whether children were malnourished or not. This was a much more difficult process as very few of these caretakers knew their child was malnourished. Due to this, the research questions had to change in order to not offend caretakers without them knowing the circumstances. In doing all of these interviews, the researcher made sure that participants were comfortable with participating in the research and then had them sign a consent form. Both the consent forms and the questionnaire were written in both English and *Luganda.*

In all of her interviews, the researcher had the help of a translator. At MNU this person was either a nurse in the ward or Dr. Kamugisha. In the Mukono area, her translator was the head of medical records at NGHU, Elisea Munyandara. Translators in both locations were immensely helpful for the researcher and her understanding of malnutrition and all told her that they also learned some through the process.

The first few interviews she had at each location were a pilot experience as she had to adjust some questions to make the process flow more smoothly and add some so that she could get more valuable information, though she did learn something new from each and every interview she conducted. The researcher was also able to conduct some interviews with health care workers and nutritionists at each location and was therefore able to understand more about how they classify malnutrition and problems that they see within their community in regards to health and nutrition.

At MNU the researcher interviewed caretakers of patients in the ward at different stages of management, namely; stabilization (phase 1), transition and recovery (phase 2) as well as those who were merely part of the Out Patient Therapeutic Care

(OTC) Clinic. All of the information she gained from these interviews was very different depending on which stage of management the child was in. For patients recently discharged from the inpatient care, and the OTC clients, she inquired if it would be okay for her to visit their homes the following week many of these caretakers gave her permission. However, after struggling through interviews for a few days at St. Francis Naggalama Hospital the researcher decided to branch out to the Nakifuma Government Health Unit (NGHU) to find more participants.

II. **Focus Group Discussions**

In the Mukono area the researcher was presented with a large problem that she had not previously anticipated- the majority of children were malnourished though very few caretakers were aware of the condition. The researcher shifted her approach and decided to conduct focus groups discussions (FGDs) to find major trends in the community. She conducted these at NGHU with willing participants. After the focus groups had concluded, the researcher calculated whether or not children were malnourished so that it did not influence her opinions during the focus group. The researcher was torn-unsure whether she should have told them their children were malnourished or not. She decided against it as she did not feel that it was ethically responsible as she is not a medical professional. The researcher did notice some differences between the habits of mothers of malnourished children and children who appeared healthy, though there were few. The researcher only found six children out of the thirty-four interviewed, to be healthy. This means that 82% of the children she interviewed where malnourished to some degree. Sadly though, only two of the caretakers were aware of their child's condition (one being a grandmother).

The researcher is aware that focus groups may not reveal all information as participants may not want to share this information with their peers. Additionally, there is a possibility that "mob mentality" could take over- participants will agree with previous answers to avoid being judged.

III. **Observations**

The researcher was continuously making observations while at the MNU. She had the opportunity to make first hand observations through visiting the homes of participants. The researcher was grateful to have spent the third week of her research at MNU volunteering in the ward and observing how the ward functions. She spent a great deal of time observing the ward and what the regular flow of patients and staff is like in the ward without her there. Immunizations and IV injections are given daily or bi-daily depending on the condition of the child, as caretakers had told the researcher previously. Additionally, ReSoMal is always available for mothers to request for their children, another job that the researcher adopted.

At St. Francis Naggalama Hospital and NGHU she was also constantly making observations though noticed very little in regards to treatment of malnutrition. Though she did observe a poster in the pediatric ward about portions of milk and water that should be given to children she never saw it referenced by staff members.

Data Collection Tools

The researcher used a questionnaire when collecting data from participants. Additionally, she had informal interviews with people of higher rank including Out Patient Department (OPD) staff members from St. Francis Naggalama Hospital and Dr. Kamugisha from MNU. Questions that she asked varied on the information the

researcher had gathered each day. The researcher also used a mental checklist when evaluating children. This included: skin shade, uniformity of skin color, hair texture, whether a child had shiny skin, if a child was bloated, and if a child's eyes were sunken. The last data collection tool that the researcher used was home visits.

The researcher was also able to make direct observations through volunteering at MNU. In addition to becoming an extra pair of hands, the researcher had more informal conversations with some caretakers in the ward. Through these conversations she was able to learn more about the causes for malnutrition, some of which she did not expect to see. She was also able to counsel some caretakers who had never had the opportunity to talk about their experience with someone other than doctors or their spouse. This was a great experience for the researcher as she was able to become a part of the community and truly felt useful. She also believes that this was quite helpful for the caretakers as well as some were able to express themselves in ways they had never done before; they felt better after being able to let their stress out.

I. Home Visits

The researcher was fortunate enough to do a total of ten home visits throughout her research. In the Greater Kampala region, she was able to do a total of six home visits and in the Mukono area she completed four home visits. The researcher employed a Luganda teacher from the School of International Training (SIT), Angela, to help translate in Kampala; she employed Elisea Munyandara in the Mukono district. During this process, the researcher was able to make direct observations and compare what participants had reported to what she observed. She also re-asked some questions to participants to see if answers varied and added some new questions based on her observations in the moment.

II. Volunteering

During the final week of her time spent at MNU, the researcher immersed herself in the work of the ward. The researcher was prepared to do whatever the staff asked of her to help out around the ward. She therefore learned how to mix therapeutic milk solutions (F-75, F-100, and Specially Diluted Therapeutic Milk (SDTM)) and what each solution does to help the child become healthy again. She also measured the prescribed quantities of milk for each child and handed them out at appropriate times at least twice a day, though feeding was done on two or three hourly basis depending on the condition of the child.

III. Shadowing at Immunization Outreaches

In Nagglama, the researcher was very lucky to have the opportunity to accompany Elisea on his immunization outreaches. The researcher went on two different outreaches with him and learned a lot of valuable information upon doing them. She held a total of three focus groups when on these outreaches and was presented with new information at each one. This was a very good learning experience for the researcher and exposed her more to the struggles that caretakers of rural Uganda face on a daily basis.

Ethical Considerations

The researcher followed all ethical guidelines that she was aware of. This included having the participants sign a consent form prior to conducting any research as well as making sure that they were aware that their participation was voluntary and they could withdraw from the study at any point, some of whom did. (See Appendix 2 for consent form).

2.0- Findings and Discussion:

Figure1. Most common causes for Malnutrition in the Mukono Region

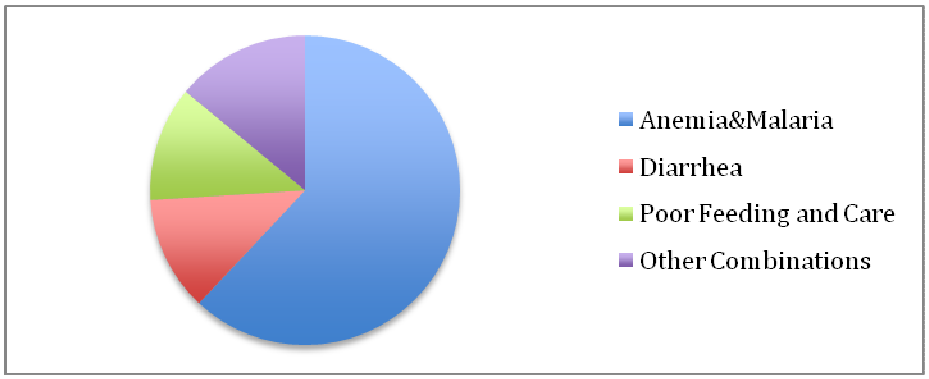
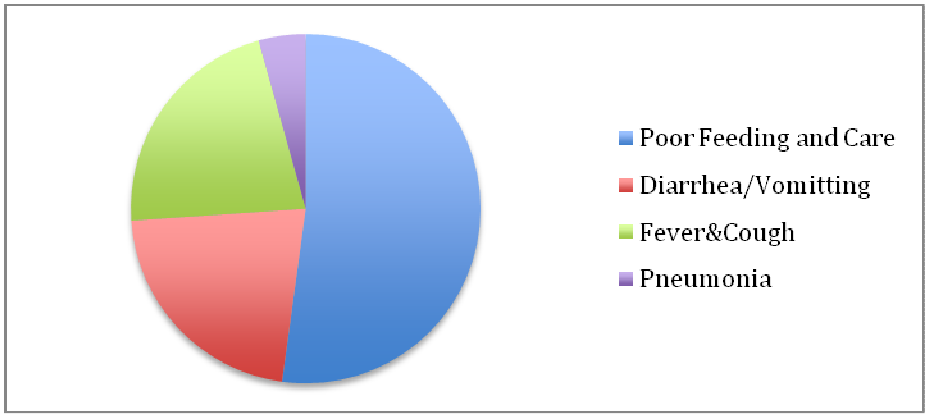


Figure 2. Most common causes for Malnutrition in the Greater Kampala Area



In the following section the researcher will delve deeper into how each community views malnutrition and parental education and how those two can be a leading cause of malnutrition.

2.01- Awareness and Mindset and Available Educational Resources

In Kampala, there are many educational resources for caretakers about how to best care for their children. Antenatal classes that include nutritional advice exist both at hospitals and at clinics all throughout the city in attempts to educate the community and decrease the rates of malnutrition. Classes usually meet three or four times and caretakers can attend more than this if they wish to do so. Though some caretakers do not take advantage of this resource, many do. On the contrary, in the Mukono rural community, though antenatal classes are advertised at hospitals and clinics, there

seemed to be a lack of support in this area. Caretakers who said they had learned about feeding practices said they were at clinics in Kampala but that none existed in their community.

The difference between these two circumstances is parental mindset. Though caretakers in Kampala tend to take the classes more often, they seem to pay less attention to them and not value the information. If caretakers took advantage of these classes more, it is likely that a lot of them would not end up at MNU months or years after their child was born. Through observation, the researcher felt that caretakers at MNU were more concerned with when their child will be able to leave the unit, than the process of curing them. The routine of therapeutic milk and injections, has become robotic for these caretakers. They know the procedure and see it as part of life now, but do not seem to care as much about how it works, or how they progress from F75 to F100. Additionally, the researcher observed a few caretakers trying to give their children tea, porridge or small amounts of *matooke*, which defeats the purpose of the MNU feeding program. Initially, the unit had an Oxfam kit, that had a small bucket for F75 (not designed for weight gain) and a big bucket for F100 (designed for weight gain). The different sizes were very helpful in teaching caretakers what each formula did for their child. However, when these got old and out of use, they were replaced with new buckets that are the same size- one blue and one pink. The two bucket colors represent the different formulas (F75 and F100) and though caretakers should be able to differentiate what formula their child is getting based on this, many caretakers only know the color bucket their child feeds from (Dr. Kamugisha , 2013).

On the contrary, in the Mukono district the researcher found caretakers to be very interested in learning about feeding though they were uneducated. When the

researcher asked if they had learned anything about caring for their child, they said they had not but were open to learning as much as possible. One mother responded: "I want to learn how to best feed my child, how to breastfeed right, and how they should be sleeping". Additionally, upon doing immunization outreaches in the rural community, the researcher asked why the caretaker had come; the most common response was: "to learn from you, I heard you can help me". There was a clear difference in the attitude of caretakers in the rural community as they took time out of their days to go and meet the researcher and to try to learn more about caring for their children. Had an optional focus group been held in Kampala, the researcher is less convinced that caretakers would have attended and been motivated to learn.

Comparing these two communities in terms of education available on parenting, a sad truth must be explored; though caretakers in Kampala do not have much, they take what they do have for granted. There are plentiful resources though many caretakers disregard them and therefore their child becomes malnourished. In the rural community, all they want is this education so their child can be healthy though the resources and education are not there for them to learn. Every caretaker who the researcher spoke with in the rural community asked for advice on how to better care for and feed their child whereas in Kampala, caretakers were more concerned with money and some even asked the researcher to give them some or provide treatment for their other children.

This is not to say that the caretakers in the urban setting do not care about their children; there is just an extreme difference between the caretakers in the way in which they care for their children. The amount of exposure that caretakers in Kampala have in comparison to caretakers in the rural setting plays a large role in how they raise their

children, knowing that there are resources if their child does get sick, they seem to be less concerned with using preventative methods.

This section explores what malnutrition means to each community along with how the condition is treated in each location.

2.02- Acute vs. Chronic Malnutrition

Cases in Kampala are much more abundant than in the Mukono region. The researcher has a few hypotheses as to why this is. The first is that Mulago National Referral Hospital's MNU is a national referral unit for treatment of severe acute malnutrition (SAM). For this reason, cases come from every corner of Uganda to a very specific and advanced unit of treatment. In the Mukono region, there is not a national referral hospital or specified unit for malnutrition. While there, the researcher spent some time at the St. Francis Naggalama Hospital and some time at NGHU. The researcher was able to find more cases at the government health center than the private hospital. She believes this could be because people who have malnourished children are of lower socio-economic status, so they would not be able to afford a private hospital.

Another large difference that the researcher observed between the two communities is the level of severity of malnutrition in patients. At MNU the researcher saw some cases where bones were almost peeking through skin and where children could barely move or breathe due to the extremity of their condition. In the rural setting, the majority of children that the researcher observed were malnourished though in less extreme ways. The researcher determined this by observations of skin quality, hair quality, and by using the Child Health Card put out by the Republic of Uganda, Ministry of Health.

Though the cases at MNU were much more severe and immediately life threatening, they were almost all acute cases. Children had become sick within a few weeks or a month of coming to the hospital and would be cured within a few weeks or a month of being there. The care at MNU is very advanced and can do miracle work for children who would not be able to survive without their help. On the contrary, cases that the researcher was presented with in the rural setting were much more long lasting. The researcher spoke with caretakers who told her that their child had been "sick and weak" for months, even a year in one case. Unfortunately, these cases seem to be of the more chronic nature. Through collecting data, the researcher found that of the twenty children she measured at NGHU, thirteen were malnourished to some extent (65%). The researcher learned that many of these caretakers had only taken their children to the health facility to get the routine immunizations, without knowing their child was sick with either malaria or the flu which could thereby lead to their child becoming malnourished.

Similarly at St. Francis Naggalama Hospital, the researcher collected a total of forty-three previous cases that she thought could be linked to malnutrition, though only thirteen of these were diagnosed as malnourished (30%). Of these, twelve were either admitted or sent to MNU and only one was treated without admission. The way that they treat malnourished children at St. Francis Naggalama Hospital is mostly through educating caretakers on better feeding practices, though there is not nearly as much support given as at MNU. The researcher learned after doing a full analysis of the data that thirty-five of these children were malnourished (81%) in some form of severity. This means that not only is the hospital missing diagnoses, but they are unaware as to the severity of the issue in their community. Upon asking OPD workers what

percentage of children in the area he thought were malnourished, they told the researcher "10-15%", based on what they had seen (OPD Staff Members, 2013) though they had really seen more and not known it. If the health care professionals do not know it, how could caretakers?

Reasons for admission and treatment for these data points according to St. Francis Hospital most commonly were anemia (60%), malaria (47%), diarrhea (21%), and dehydration (14%); though many children had more than one of these conditions. It makes sense to the researcher that these four conditions could lead to malnutrition as appetite decreases and there are more bodily fluids excreted from the body so nutrients are being lost.

The concern that exists for the researcher is that the children who are chronically malnourished in the rural setting will never fully be cured. In time, their brain functioning will be stunted and though the severity of malnutrition in MNU is extremely concerning, because most of the cases are acute, brain damage is less likely and children are more likely to be cured as resources are readily available.

In the following section the researcher will identify some main causes that lead to malnutrition.

2.03- Hygiene

Though the researcher asked in every interview how often the house is cleaned, this did not seem to correlate with what she observed in the home visits. In Kampala, every mother whom she spoke with, told the researcher that she cleaned the house at least once, if not twice a day. With exception to one home, hygiene seemed to be a large contributor as to why their child fell ill. At all of the home visits, the researcher observed that cooking and cleaning of clothes were done in the same area, if not at the

same time, at different points of the day, but the same location nonetheless. This is an unhygienic practice, as dirt from the clothes could fall into the pot that food is being prepared in. Additionally, in two homes that she visited, when the researcher asked about cooking she was surprised to hear that the traditional charcoal cooking stove was used inside the home. The first mother said that she only brought the stove in at night if it had not gone out yet, though recognized that there was not enough ventilation in the house and her child had developed asthma and a cough due to this problem.

The researcher met one mother in her shop, as she spends all of her day there. She told the researcher that she cooks the food inside the small store, while there is ventilation, it visibly affects the cleanliness of the store. She told the researcher that she cleans everyday though dust looked to be piling up for months untouched. Her child always went to work with her and it was clear through the visit, that this was not a healthy environment for the baby to be spending the majority of her time. Additionally, most of the neighborhoods that the researcher visited were filthy-covered with trash on the streets. There were also animals wandering around almost all of the neighborhoods that she visited. It is very unlikely that they were properly immunized and therefore are a further threat to the children's health. Many mothers did note this and said that they did not like it but had no other choice as it was the only affordable housing in the area. Hygiene is something that could so easily be managed though caretakers do not understand how dangerous acts like this can be to their child.

In the rural Mukono community, upon asking caretakers how often they cleaned, answers ranged from once a week to three times a day. The researcher observed that the neighborhoods were dirty when she did home visits, though not as

dirty as Kampala neighborhoods. She felt the hygiene issues in the rural community were more based on dirt that compiles from plantations that are very close to the home and trash that surrounds the homes as there are not proper places to discard it.

Through doing home visits in both locations, the researcher noticed that neighborhood conditions were very crowded and trash was spread on the streets all the way up to the family's front door. The researcher also observed how cluttered homes were and how little ventilation there is. The researcher noted the toilet and bathroom situation at the majority of homes she visited to further assess hygiene.

In Mukono, each home visit varied from the previous one. The researcher visited a plantation where the family lived in the middle of the field along with one crowded neighborhood, with animals wandering everywhere and trash displayed all over the place. Finally, she visited two homes where the women had recently moved in with their brothers as their husbands had become unreliable and unhelpful. Though the latter two homes seemed well off, the researcher was not able to see their previous homes where the problems began. Though these homes were different in many ways from the homes in Kampala, they all still provided health concerns for children. Many families also informed the researcher that once their trash decomposes or dries out, they use it as fertilizer, which again, is not the most healthy practice.

2.04- Food Availability

The researcher looked at food availability as a cause of malnutrition along with socio-economic status. The researcher noticed after spending three weeks in the Mukono region, plantations are very abundant and food is very available. Almost ever parent that the researcher spoke with was a peasant and grew their own food for their family. Some caretakers sold produce for money while others did not, but having food

never seemed to be an issue. On the other hand, in Kampala, having food is a major issue for many families. As it is an urban setting, there is essentially no room to grow food in the city. For this reason, caretakers need money to buy their family the food that is readily available in the rural village. With only 40% of the caretakers at MNU whom the researcher spoke with working (menial jobs), this leaves a lot of room for problems to ensue for urban families. Without money in Kampala, options are very limited in terms of food and access to it which is a large difference from the rural community.

In the rural community, money poses an issue as care is more difficult to obtain and transport is expensive to Kampala; though the food resources are more readily available, there is no education on how to best prepare foods for babies.

2.05- Maternal Mental Well-Being and Responsibility

One similarity that the researcher observed was the mental well-being of the mother of the child and how it can affect a child's health. At MNU, the researcher spoke with one mother whom the staff identified as "psychotic". Though the researcher did not think this was an accurate diagnosis, she did feel that the patient was emotionally unstable to care for her child. The mother was very depressed and lonely and for this reason, along with being confused within herself, she pushed her care of her children to her side. According to the hospital staff, this was the fourth admission of her child and they called it her "second home". This mother really should not be allowed to care for her children as she is incapable of doing so, though there is no help or support for her to change her situation so she has no other option.

Similarly, the researcher spoke with a grandmother at NGHU who told her that her daughter has "mental issues" and cannot care for her children. Her daughter has two children now, both of which her mother cares for. Her daughter knows she is

incapable of taking care of children and so has handed her children off to her mother, though she has not stopped having children because of this. The researcher never discovered what the "mental issue" was specifically as she did not meet the daughter, and the grandmother could not give much further explanation. The grandmother told the researcher that her daughter was very irresponsible and could not be relied on to give her children medicine when they needed it or provide food or clothes for them.

Another problem that existed in both of these communities was young mothers. Being young and having a child, or multiple children, is a very common leading cause of malnutrition. Young mothers are less experienced and therefore have less knowledge as of how to best treat children and themselves during pregnancy. For this reason, many of the mothers whom the researcher spoke with were very young and many had more than one child.

Figure3. Maternal Age in Mukono Area

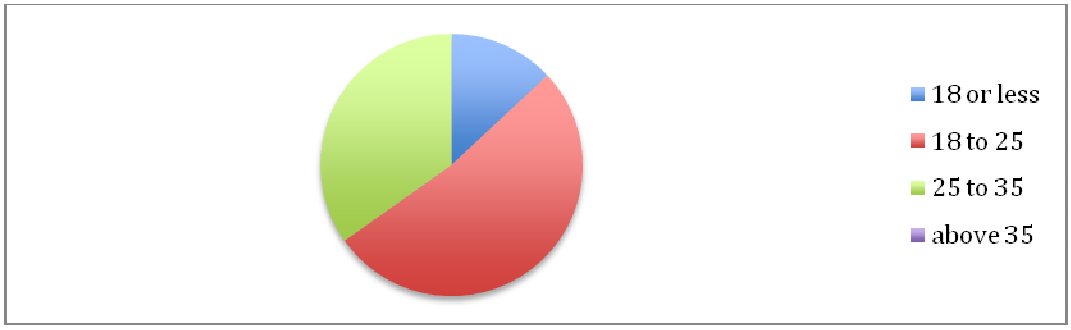
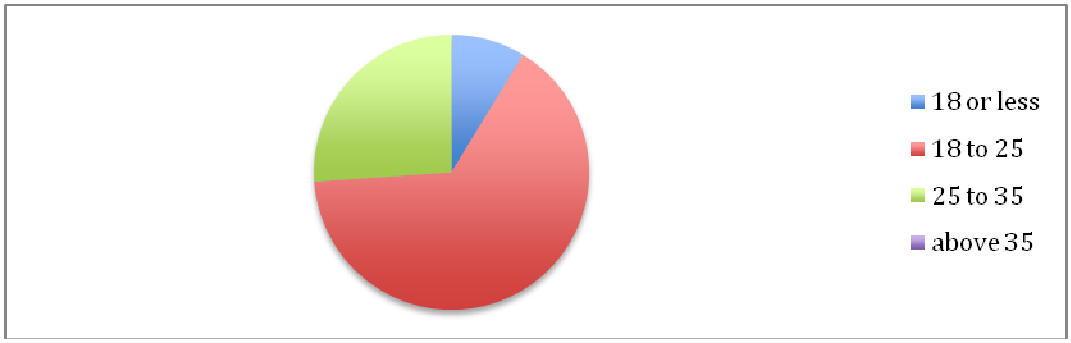


Figure4. Maternal Age in Greater Kampala Region



2.06- Cerebral Palsy and Other Illness

One situation that the researcher found in seven different cases at MNU was cerebral palsy (CP). Though she did not find any of these cases in the rural community, it is still a large cause for malnutrition that must be discussed. The official definition of CP according to WebMD is:

> A group of chronic "palsies" or disorders that impair control of movement, due to damage of brain development. It is a non-progressive brain disorder and is one of the most common causes of chronic childhood disability.

One major cause of a child being born with CP is illness during the mother's pregnancy. It is very probable that with Uganda's rates of malaria and other infectious diseases, that mothers were sick during pregnancy and didn't think much of it, and thereby passed CP onto their unborn child. According to Dr. Kamugisha, malnutrition is a common problem in children with cerebral palsy. Since CP affects the coordination of muscles and control of movements, children with CP may not be able to chew and swallow easily and thus struggle to feed. This puts children at risk of malnutrition which later on leads to physical and developmental problems (Kamugisha , 2013). Some of these problems include cognitive development while others are more physically debilitating. Through spending a full week in the ward, the researcher met a few of these children. After talking to one of their mothers, she learned that the child was paralyzed on half of his body and the mother feared his becoming blind and cognitively incapable of success. Other mothers have informed the researcher that their child could not eat food because their body mechanics were not developed to the extent that they should be at the age they were.

Another major issue in relation to illness and malnutrition is maternal illness both pre and post pregnancy. The researcher spoke with six mothers who told her they

were HIV-positive. Some of their partners were also positive and some were not. Knowing that the immune system is compromised when positive for HIV, it is more likely that children who are positive will become sick easily. Along with this, these mothers are often quite young and uneducated, which are other factors that often lead to malnutrition. If a mother cannot properly take care of herself, how can she be expected to take care of a baby, let alone a baby who is suffering from such a severe illness?

The researcher also spoke with one couple at MNU that dealt with post-pregnancy illness. After some prying, she learned that the mother fell ill about a month before the baby did. When asked what specifically she had gotten sick with, the mother could not provide a diagnosis apart from "a cough", though the story seemed reasonable. The mother informed the researcher that her child had been very healthy before she, herself, fell sick and their house was clean (the researcher did believe it was more clean than some of the other homes she saw). She told the researcher though, that once she fell sick she could no longer care for her child and her husband worked full time at a bakery. He told the researcher about how much he struggled to work a full time job and care for his ill wife and child at the same time. He acknowledged that he was not able to adequately care for them at this time.

After being treated by MNU, they have seen steady improvements. When their child was admitted to the unit she weighed 5 kilograms. During the researcher's first encounter with her, the child weighed about 6.3 kilograms. During the home visit, the mother informed the researcher that her daughter had reached 9 kilograms though only had a target of 7 kilograms. Due to her quick and steady improvement, it can be

concluded that the mother's condition prior to the child becoming sick played a major role in her malnutrition status.

2.07- Family Social Issues

Another major issue that the researcher found through her work over the past six weeks was social problems within family units. The researcher spoke with a few mothers who told her that once their child fell sick, their husband left them and had no part in the healing of their child. When this happened, the child sickened at a quicker rate and soon enough, the child was admitted to the unit or the mother sought out care from a health center.

Similarly, the researcher spoke with six mothers who were HIV-positive, two of whom had husbands who were also positive. Based on these women, there is a strong correlation between abandonment and the news of being HIV-positive. Though only one of the husbands left his wife, they all changed their attitudes towards their wives and provided limited support. Of the two husbands who were also positive themselves, one used to support his wife and her child, though with time he has had a "change of heart" and sends less money and visits her and her child more infrequently. The other gives what he can though the mother does not feel as if it is enough to support her child. Of the mothers who are positive and have an HIV-negative partner, the researcher heard time and time again that the husband left soon after finding out the status. Some of these mothers also unfortunately infected their babies. These husbands likely lost trust in their wives as they themselves are not infected with HIV; loyalty was questioned and there was no longer a desire to provide support.

Another branch of social issues is passing off children to family members or neighbors. Through doing home visits in both locations, the researcher learned that two of the mothers whom she interviewed either sent their children to live with, or spend a significant part of the day with, someone in the village. In Kampala, the researcher spoke with a mother who told her that her mother-in-law took her two older children when she became pregnant again because she could not care for them and there was not enough space. Unfortunately, when this transition happened, one of her children became increasingly ill and soon was admitted to the unit. As her mother-in-law was older and had not cared for young kids in many years, she likely was not following proper protocol for children under five. She was likely not keeping the house clean enough and was feeding the children food that they were not ready eat; these factors are strong indicators of malnutrition.

In the rural community, the researcher spoke with one mother who was taking care of her husband's other wife's child. The other mother was incapable of caring for her, so when the child was a few months old, she took on this responsibility. Though this was a good gesture on her part, it is likely that there was some resentment of this mother towards the child, her husband and his other wife. Therefore, the care for this child was likely hindered. Additionally, as mentioned above, the researcher spoke with one grandmother who took on the responsibility of raising her grandchildren due to her daughter's instability. Though she seemed to have good caring methods, being older and burdened with being a mother all over again, she likely compensated the children's health to some extent.

Another mother whom the researcher spoke with in Kampala, informed the researcher that she would leave her child with her neighbor when she went to work.

She told the researcher that her daughter was often sick prior to becoming malnourished, though once this transition took place, she became more and more sick. When asked why she thought this was, she said that she thought it was a dirty house. Upon being asked why she left her child there knowing it was dirty, she responded: "I didn't have another choice and needed to earn some money." What this mother expressed is a sad reality of the situation in Uganda and how malnutrition is fueled.

A final upsetting statistic that the researcher found through her research was the trend of husbands having multiple wives. Though this is a common practice in Uganda, this does not mean that it ensues a trustworthy relationship. When asked about this, women either uncomfortably laughed, or said "I'm used to it by now". Neither of these are responses that encourage confidence in the relationship. Not being able to trust one another makes family decisions based on health that much more difficult, as the wife may feel as if she does not have the full support of her husband, as he has other women to worry about. This may hinder her from looking for solutions and asking him for support in fear of him lashing out at her. In her study at MNU, the researcher found that of the married women, 40% of them reported that their husbands had at least one other partner while in Mukono, 57% of married women reported this. The high rates of having multiple partners could be a factor in how a child is treated and whether or not care is searched for and if so, at what point in the child's illness it is sought out.

2.08- Maternal Abandonment and Absence of or Prolonged Breastfeeding

One finding that the researcher made, which she did not expect to find, was maternal abandonment. Of all the fathers whom the researcher spoke with in Kampala, only one said that his wife was still involved in the child's life. All of the other fathers

who the researcher spoke with had similar stories in that their child became ill after the mother abandoned the family. Two of the fathers who the researcher spoke with said that their wives left either for work or for adventure but did not care about their child or husband in any way. One mother left in spite of her husband, who was telling her she did not have to work and should be breastfeeding. There are many reasons for this abandonment leading to malnutrition. One major reason for this rapid illness is lack of breastfeeding and constant care. Once the mother leaves, the child is no longer able to breastfeed, which is a very important source of nutrition for young children, especially under the age of six months.

On the other hand, in some cases mothers introduced complementary foods around five months. Though in many cases, breastfeeding is prolonged and therefore causes children to become malnourished and often stunted. Of the forty-six caretakers whom the researcher spoke with, thirty breastfed their child only, for longer than six months before introducing complementary foods (68%). Others introduced complementary foods earlier than six months while still breastfeeding their child (13%). Once a child is over six months old, breast milk alone is not enough to keep their body well nourished. When the child is malnourished for other reasons and can only take breast milk, parents tend to stick to this method longer than they should. Additionally, fathers who were abandoned and the grandmother who was left with her grandchild were unable to breast feed and this can lead to wasting of a child (19%).

Additionally, without the mother to care for the child, the father both has to care for the child and provide an income for himself and the child to live on. One father who the researcher spoke with said that he would take his son into the field with him for the first few years of his wife's being gone, but soon enough the work was too

much and he felt badly for his child. He then brought the child to his mother-in-law who inadequately cared for the child; this is when he got sick and soon became malnourished. This story is common among fathers that the researcher spoke with. Sometimes children would be left with neighbors instead of family, though in both cases the caretakers usually knew the home was not hygienic enough, though they had no other choice.

In the rural community, the researcher did not speak with any single fathers, though she did speak with one father who seemed as if he was the primary caregiver for his children. His wife was twenty years old when she gave birth to her malnourished child. The father was very loving but would travel quite a bit for work as he was both a musician and a truck driver across the Congolese border. When he would leave, the children would stay under the care of his wife. He told the researcher that his son became sick seven months ago. When she asked if he had gotten called for a trip around that time, he said that he had. He told the researcher that when he left, his son was fine, but when he returned, he was sick. In speaking to his wife, the researcher learned that it was also around this time that she stopped breast feeding the baby, though his twin sister was fine through this whole process which raises some red flags for the researcher.

2.09- Twins

Another interesting finding that the researcher discovered was malnutrition among twins. Throughout her study, the researcher was faced with five sets of mixed gender twins. Among the children, only the boy in each set was malnourished with the exception of one set where both children were malnourished. The researcher found this to be an interesting finding. When she asked caretakers about their practices, they of

course said that they treated both children the same and that one just would not take food or got malaria and that made him ill while the other didn't get malaria. Though this may be true, there are also differences in how Ugandans treat boys in comparison to girls. Through talking to Dr. Kamugisha and the head of records at St. Francis Naggalama Hospital, baby girls are more loved among parents and hence favored by their mothers since they are assumed to be more vulnerable than baby boys. The OPD staff members told the researcher that mothers tend to address the female baby's needs first and then deal with the boy. For this reason, they believe that boys are more susceptible to becoming malnourished among twins (OPD Staff Members, 2013).

Figure5. Gender ratio malnourished children in the Mukono Region

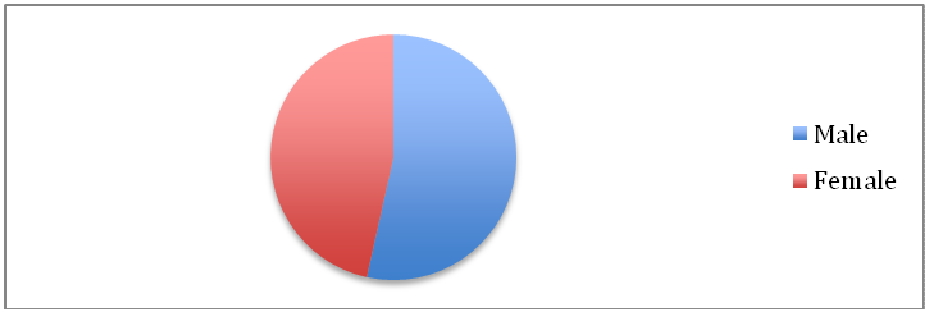
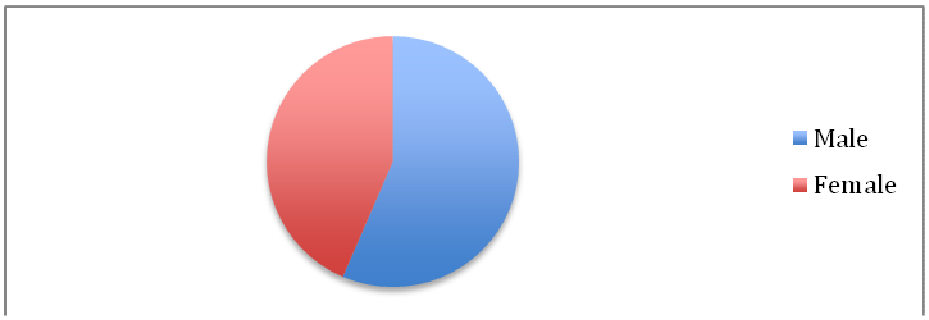


Figure6. Gender ratio malnourished children in the Greater Kampala Area



2.10- Religion

The researcher found that amongst both communities, malnutrition was most common among Muslims followed by Roman Catholics when compared to other

religions. In both of these religions there are restrictions on eating and what one can eat at different points of the year for extended periods of time. Though it is okay for adults to abide by these rules, children should be getting a full array of foods at all times. It is very likely that parents of these children are having them follow the same rules as they are part of the family and they do not see a reason for them not to as they are inappropriately educated about child health and eating practices.

Being in the field through MNU and in the rural community of Mukono the researcher feels that she has learned a great deal about malnutrition. She was fortunate to spend time both in the field and at the health facilities and was able to learn both the problems with malnutrition in these communities along with successes and improvements that are possible. Though she knew these problems existed prior to beginning her research, she was unaware as to the extent, and how harmful they are to children. After speaking with mothers about their practices and habits in relation to feeding and hygiene, the researcher was able to understand more clearly why malnutrition is so prevalent in Kampala. Speaking to mothers in Mukono, the researcher learned how valuable education is in Uganda and that without it, children can go months or years without proper nourishment. She felt very useful as for many of these mothers, she was the only education they received.

Almost all of the mothers she spoke with, both in urban and rural environments, had a lack of knowledge as to what is healthy for a child in comparison to an adult and that a difference does exist between the two. After visiting homes both in Kampala and in the Mukono district, the researcher had much more clarity as to how serious these causes are and reasons that exist that caretakers may be unaware of. This was a great way to go about her research as she first learned what the mother had to say, and then

was able to judge it herself and make observations. Through seeing the homes that these children grow up in, she was able to better understand how unhygienic many of them are and how they are a potential cause for a child becoming ill and malnourished.

3.0- Conclusions:

Through doing a six-week in-depth study of malnutrition, the researcher has learned a great deal about the condition both in general and within the Ugandan context. The researcher is aware that a limitation of her research is the type of health unit that she was observing in each location as they were different from one another. In Kampala, the researcher was based at a national referral hospital, free of charge; while in the Mukono region, the researcher traveled back and forth between a private not-for-profit hospital and a government health unit III, free of charge. The researcher knows that this difference does play a role in the information that she found as at the national referral hospital, she was dealing with the worst cases in the country, while cases at the more local health units were much more mild. Though this must be considered in analysis, the researcher learned that less than five cases have been referred from the Mukono area to MNU in the last three months, much fewer than should have been.

One large concern that the researcher developed throughout the rural portion of her research was how unaware and uninformed rural medical staff are about malnutrition. As said earlier in the paper, in speaking with the OPD staff at St. Francis Naggalama Hospital, they reported only 10-15% of children to be malnourished (OPD Staff Members, 2013) when truly above 80% of children are considered malnourished to some extent. Though when she asked them about how they go about diagnosing, it seemed thorough, there were aspects they were missing as many cases were going

undiagnosed. This worried the researcher, as the medical professionals in the area are also ill-informed of the prevalence of malnutrition in their community.

Another major conclusion that the researcher can draw from her research is eagerness for resources. A major difference between the caretakers whom the researcher spoke with in Mukono and with the caretakers in the Greater Kampala region, was interest. In Kampala, the researcher felt as if caretakers were uninterested in their child's condition in comparison to the rural caretakers the researcher spoke with. This is not to say that they do not care, it is only to say that due to the abundance of resources, these caretakers become less interested as they know there are people there to help their children. On the contrary, in the rural region of Mukono, resources are scarce and so caretakers seemed to rely on the researcher and the little information that they could learn to make a difference in their child's life.

The researcher is also able to understand that malnutrition in each location is quite different from one another. Malnutrition in the Greater Kampala Region is very drastic. Children at MNU who the researcher had the opportunity to see were quite emaciated and some could barely breathe, skin color could be both dark and very white on the same child as nutrients are lacking in large quantities. In the Mukono area, malnutrition was much more mild which is a likely cause of why the majority of cases go undiagnosed. Children's hair texture changes and skin color lightens though not to the extent of the cases that the researcher saw at MNU.

The final conclusion that the researcher will speak about is financial stability. In the rural region of Mukono, almost every participant whom the researcher spoke with was a peasant. Due to this, they need less money to buy food products as they are growing them on their own. The major problem with money for these people comes in

forms of transportation and medication. The researcher spoke with a few caretakers who expressed their desire to go to Mulago or MNU, though they did not have the money to pay for transport there. Additionally, the researcher found a common problem among caretakers to be having enough money to buy their child medicine when they are sick. These caretakers have no choice in the matter; as medicines are hard to get for free. They are aware that their lack of money is leading to their child's condition, which is a hard truth to face.

On the other hand, in Kampala, money is necessary for food as land is scarce for growing food. Money is more of an everyday issue as the majority of food for these families comes from open-air markets and grocery stores. Though about 40% of these caretakers reported being employed, many were employed in menial jobs where not much money was made for their family and its survival. For this reason, it makes sense that children become much more severely malnourished as food is very scarce whereas in the rural communities, food is available though education is lacking as to how to best prepare it for children.

The researcher had a few major expectations for her research when she began, one of which she will discuss here. Upon starting her research process, the researcher thought that there would be many severe cases in the rural region and a few moderate cases in the urban region. She thought that because of the lack of education and resources in the rural environment malnutrition would be more emphasized than in the urban community where there are more of these resources. The researcher knew that money would be more of an issue for urban families than rural families, though she did not expect the differences that she found in terms of severity of condition. Since completing her research, this does make sense as food is more prevalent in the rural

community than in the urban community; this was not something that she seriously thought about prior to beginning her research process.

The attention paid to resources was an interesting finding for her to make as well. She was able to apply a psychological view to it in terms of parental mindset and how they absorb, or do not absorb, information given to them. She found it very interesting that urban caretakers seemed less concerned with the condition than rural caretakers though their child's condition was visibly much worse.

Recommendations:

There are a few suggestions that the researcher would like to make to health care professionals along with a few suggestions for caretakers. For the health care professionals in the urban area, the researcher would like to recommend the "scare factor" in antenatal classes. She thinks by warning caretakers of the worst case scenario of malnutrition, caretakers will pay more attention to their babies and young children while growing up. She thinks that one way to engrain this in the caretakers, would be to have mothers come and tell their story to classes about how they got to where they are and what they wish they had done differently to have a healthy child and not be worrying about their child's health constantly. By putting a mother and baby's face to these fears, it may encourage caretakers earlier on to pay attention and care more closely for their child.

As far as suggestions for rural health care professionals, the researcher suggests to hold seminars at the immunization outreaches. Many caretakers attend these as they know they are important. If at each outreach, the health care professional brought with them a nutritionist or an employee from MNU to further educate these caretakers, it would be a step in the right direction. These caretakers are eager to learn and the

immunization outreaches would be a good place to do this, as many caretakers show up on these days currently.

For parents and caregivers, the researcher also has a few suggestions. For urban families, the researcher suggests to be particularly cautious about their child's health and well-being. She suggests that if they sense any difference in behaviors or eating habits to seek help and not wait weeks or months, as many do. She also suggests that caretakers plan out how they will spend the money that they earn so that they are providing their family with enough nutrients to lead successful lives. Lastly, she suggests that these caretakers pay attention to the cleanliness of their neighborhoods, as many that the researcher visited in Kampala were quite dirty. If the caretakers were able to set up a system among themselves and their neighbors to keep the neighborhood clean, this would make a significant difference for many children.

In the rural community, the researcher suggests that caretakers attend immunization outreaches and learn from MNU health care professionals. She thinks that by learning basics on the proper way to prepare food for children and what times they should be given food, these caretakers will have much healthier children. Additionally, she believes that if they are informed as to what regular sleeping patterns are, common signs and symptoms of malnutrition, and how to breastfeed their child properly, children in the rural community will suffer from malnutrition much less frequently than they currently do.

From what the researcher has learned about malnutrition in Uganda, she believes that there is great potential to lessen, if not eliminate, malnutrition. With a simple change of attitude in the urban community and a small increase in education in the rural community, significant changes are in the near future for children of Uganda.

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Appendix 1- Questionnaire MNU

Wusuze/osiibye ottayno nnyabo?

Is it okay if I ask you a few questions about yourself and your child? It will only be used for my research and nothing else. If you want to stop at any time, that is okay.

SECTION A : BIODATA

1. What is your name? (Optional, initials will be recorded for purposes of study)
2. How old are you?

a. Less than 18 years b. 18-25 years c. 25-35years d. above 35 years

(Tick appropriately)
3. How are you related to this child?
4. How old is this child?
5. How many children do you have? Of these, how many are under five years?
6. How old were you when you had your first child? This child?
7. Do you want to have more children?

SECTION: KNOWLEDGE, ATTITUDE AND PRACTICES ABOUT CAUSES OF MALNUTRITION

1. When was child admitted at Mwanamugimu nutrition unit, Mulago hospital?
2. What were you told as some of the reasons for your child's condition that required admission to Mwanamugimu?
3. Before coming to Mwanamugimu, what did you think was the cause of your child's condition? And now?
4. Have you been staying with this child since birth?
5. If not, how long have you stayed with the child?
6. What was the child eating prior to coming here?
7. Do feel you and your child have received appropriate help since coming to Mwanamugimu?
8. If yes, explain how you and your child have been helped
9. Have you been taught how to care for your child while at Mwanamugimu during the different phases of management?

SECTION: SOCIOECONOMIC FACTORS

1. What level of education did you complete?
2. Were you employed before coming to Mwanamugimu?
3. If yes to question 2, are you assured of getting your job back when your child is discharged from the hospital?
4. Are you married?
5. Does your husband or partner have any other wives that you know of?
6. Does your husband or partner provide any financial support for you and/or the child?
7. If no to question 17, how do you support your child?
8. Do you know about family planning?

a. If yes, have you ever used it? If not, was that your choice or your partners' decision?
b. Was this child planned or unplanned?

29. Did you feel pressure from your parents, partner, or society to have a child?
30. Do you know your partners' HIV Status?

SECTION C: HEALTH SEEKING BEHAVIOUR

1. How long has your child been sick?
2. How long did you take to bring your child to Mulago hospital from the time she/he started falling sick?
3. Did you first take your child for treatment somewhere else?
4. How far do you live from this hospital?
5. Why did you decide to come here and not go somewhere else?

SECTION D: PREPARATTION OF CARETAKERS FOR DISCHARGE/ CONTINUED CARE AT HOME

1. Have you been taught how to care for your child while at Mwanamugimu? And at home
after discharge?
2. What knowledge and skills did you gain from Mwanamugimu that is helpful in caring
for this child (undernourished child) and other children at home? (for OTC client)
3. What are your largest worries about having a malnourished child?
4. What are your largest worries about the future?
5. Is there anything I did not ask you about your child or background that you think would
be helpful for my understanding of malnutrition and research?

Weebalenyo Nnyabo. Siiba Bulungi !

Appendix 2 –Consent Form

Malnutrition Among Children: Comparing Naggalama and Mulago Hospital

<u>Purpose:</u>

The researcher is setting out to study malnutrition in Uganda. She would like to look at the differences and similarities between rural and urban hospitals along with rural and urban homes. She would also like to look at cured patients and patients who are currently being treated to note differences that may exist. She would like to both interview you and observe your home. By signing below, you are allowing the researcher to observe your home.

Participant's Signature & Date _____

Rights Notice:

In an endeavor to uphold ethical standards, this study has been reviewed and approved by a Local Review Board and/or The School of International Training (SIT) Review Board. If at any time, you feel that you are at risk or exposed to unreasonable harm, or would like to end participation, you may do so. Please take some time to carefully read the following:

a. Privacy→ All information you provide in this interview will be recorded and safeguarded, only for access of the researcher. If you wish for information to not be recorded, please inform the researcher.
b. Anonymity→ All names will remain anonymous and alias will be put in their place in the report unless the participant would like their name to show.
c. Confidentiality→ All names and information will remain confidential and fully protected by the researcher.
d. Purpose→ All information/ data generated will be used for purely academic purposes

By signing below, you give the researcher full responsibility to uphold this contract and all that it contains. The researcher will also sign a copy of this contract for you to receive.

_____ _____

Participant's Name Printed Participant's Signature & Date

_____ _____

Interviewer's Name Printed Interviewer's Signature & Date

Appendix 3- MUKONO QUESTIONAIRE

SECTION A : BIODATA

1. What is your name?
2. How old are you?
4. How old is this child? Weight? Gender?
5. How many children do you have? Of these, how many are under five years?
6. How old were you when you had your first child? This child, premature?
    - Other children ever been malnourished? You ever been malnourished?

SECTION: KNOWLEDGE, ATTITUDE AND PRACTICES ABOUT CAUSES OF MALNUTRITION

1. Why did you bring your child here? Were they showing any signs of weakness or not wanting to eat?
2. What were you told as some of the reasons for your child's condition and treatment plan?

a. How has this affected your everyday life?

b. Were you ever recommended to go to Mulago?

4. Have you been staying with this child since birth?

a. Normal or C-Section?

6. What was the child eating prior to coming here?
    - Breastfeeding ended when?
    - Greens?
    - Water, boil it? How do you keep it?
    - How often does your child bathe?
    - Diarrhea/ vomiting?
    - Sleeping patterns?
    - Rubbish/toilet?
    - How often do you clean at home?
7. Do feel you and your child have received appropriate help since coming here?
9. Have you been taught how to care for your child better? If not, what would you like to learn?

SECTION: SOCIOECONOMIC FACTORS

1. What level of education did you complete?
2. Were you employed before coming to Naggalama?

4. Are you married?
5. Does your husband or partner have any other wives that you know of?
- what religion are you?
6. Does your husband or partner provide any financial support for you and/or the child?
7. Do you like your neighborhood? Why/why not?
8. What is the biggest health problem about your home for you child?
8. Do you know about family planning?
b. Was this child planned or unplanned?
29. Did you feel pressure from your parents, partner, or society to have a child?

SECTION C: HEALTH SEEKING BEHAVIOUR

1. How long has your child been sick and how long after falling sick did you seek treatment?
4. How far do you live from this hospital?

SECTION D: PREPARATTION OF CARETAKERS FOR DISCHARGE/ CONTINUED CARE AT HOME

3. What are your largest worries about having a malnourished child?
4. What are your largest worries about the future?
5. Is there anything I did not ask you about your child or background that you think would
be helpful for my understanding of malnutrition and research?