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## A Qualitative Study on Pediatric Health Concerns in Ghana

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## **A Qualitative Study on Pediatric Health Concerns in Ghana**

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### **Abstract**

Children in Ghana face health challenges that are magnified by the high cost of health care and limited access to resources. Ghanaian children suffer consequences from illnesses such as malaria, respiratory infections, gastrointestinal disturbances, sickle cell disease, injuries and accidents, and seizures. It is important to recognize the prominent diseases of this population so that funding can be allocated to relieve the burdens caused by the disease progression. This study aims to explore the health care needs of Ghanaian children and answer the question, “What are the significant health care concerns of the pediatric population in Ghana, Africa as perceived by health care personnel, educators, and parents?” The variable in this study is the health concerns of 0-18-year-olds in Ghana.

In February 2020, a qualitative descriptive study was conducted using nineteen interviews with a school administrator, a dietician, a local cook, a medical director, a lab technician, teachers, nurses, and doctors. Malaria, gastrointestinal disturbances, and respiratory infections were found to be perceived as the prevalent concerns for Ghanaian children. Second to these, malnutrition was recognized as another issue. Additionally, seizures and fever were mentioned as common symptoms presented in children. Other health issues such as disabilities, asthma, and injuries were experienced by children in this community, but were not seen as the primary concern.

These findings have implications for education and clinical practice. Health professionals can be educated in how to prevent, reduce risk factors, and intervene early for these common diseases. Families can be taught about local resources and how to monitor for signs and symptoms. In clinical practice, more funding could be allocated to implement strategies to

reduce the prevalence of these diseases. Screenings can be applied in health professionals' routine assessments so that early intervention can reduce negative consequences. Overall, this study identified the perceived health needs of the pediatric population in Ghana and is valuable for developing solutions to the problems that these children face.

## **Introduction**

In the world of nursing, different cultures practice health in different ways. These differences can be attributed to government policies, leadership styles, and cultural traditions. Furthermore, economic status, religious affiliation, and social standing affect health care delivery and availability. All of these factors are influential in the health care outcomes of the country of Ghana. Of the population in Ghana, children are a particularly vulnerable group. As reported by the World Health Organization (WHO) in 2018, out of 1,000 live births in Ghana, 48 children had the probability of dying before reaching the age of five (2020b). Other statistics show that enteric infections are responsible for “25% of pediatric mortality” for children under five years of age (Akuffo et al., 2017, p. 1). These studies provide evidence of a need for improved health care quality and availability for the pediatric population of Ghana.

## **Background**

The children of Ghana face many health challenges. Certain diseases and illnesses are significant in this geographic area, and patients’ socioeconomic statuses contribute to further problems. Children can experience health problems from contagious illnesses and genetic diseases to even unforeseen traumas. Some specific health problems identified in Ghana that have been found in the literature include malaria, respiratory infections, gastrointestinal disturbances, sickle cell, accidents and injuries, and seizures.

## **Availability and Cost**

Access to health care can be problematic for the people of Ghana. The hospital’s distance, the cost of supplies, and the lack of education in knowing when professional medical help is needed all contribute to the limited accessibility. Insurance programs and government

policies have been implemented to help Ghanaian citizens with medical expenses. Those who qualify for specific programs may receive free medical services. However, despite its attempts, the government lacks sufficient funding for these programs to be effective (Escribano-Ferrer et al., 2016). According to the World Health Organization, as of 2014, Ghana spent approximately 3.6% of its gross domestic product on health care and roughly \$145 per capita (2020b). In the same year, the United States spent 17.1% of its gross domestic product and \$9,403 per capita on health care (WHO, 2020a). Limited funds lead to deficits in health care delivery, quality, and availability. Added issues arise when hospitals lack the necessary equipment and training to provide appropriate care (Escribano-Ferrer et al., 2016).

### **Misdiagnosis**

Patients who are able to access health care may encounter complications in receiving care. One factor that leads to complications is misdiagnosis. For example, the signs and symptoms of pneumonia can easily be mistaken for malaria. This often leaves pneumonia untreated and indicates a higher need for malaria testing before treatment is initiated. Consequentially, the use of wrong antibiotics in treating pneumonia can lead to antibiotic resistance in these children (Druetz et al., 2015). Overall, antibiotic resistance is a growing problem. Limited access and restrictions on cost lead to a diminished list of available antibiotics, adding to the antibiotic resistance issue. This growing problem can lead to future unless action is taken now to only use these medications as indicated for specific infections but also to obtain a variety of antibiotic options (Afari-Asiedu et al., 2020).

## **Infections**

Ghanaian children are susceptible to many infectious diseases. This includes malaria, pneumonia, tuberculosis, typhoid, and diarrhea. These exemplars are discussed below.

### ***Malaria***

One infection that children in Ghana face is malaria. According to the World Health Organization, malaria is defined as a “life-threatening disease caused by parasites that are transmitted to people through the bites of infected female *Anopheles* mosquitoes” (WHO, 2020c). Symptoms include fever, headache, chills, sweating, nausea, vomiting, and diarrhea. If not treated within 24 hours, it can progress to severe illness, often leading to death (WHO, 2020c). Malaria’s prevalence can be attributed to the tropical climate of this area and the community’s lack of participation in preventative strategies. The infection is “highly seasonal, peaking in a single wet season (June–October) in the northern savannah area” and of the population in Ghana, “all 27 million inhabitants are susceptible to malaria infection” (Awine et al., 2017, p. 2). Prevention measures include mosquito nets, vaccination, and antimalarial drugs such as sulfadoxine/pyrimethamine. Education on what areas to avoid, what times of day to stay inside, and the importance of bug repellent spray is also beneficial. There are many programs set in place by the WHO and the National Malaria Control Program attempting to eradicate the contraction of the illness and provide people with the resources they need to be educated and practice techniques to prevent the illness.

### ***Respiratory Infections***

Another significant infection faced by African children is pneumonia, a variety of infectious diseases found in the lungs. A study performed in 2008 discovered that pneumonia



was the leading cause of death for children under the age of five in sub-Saharan Africa, and in this area, 750,000 child deaths were due to pneumonia (Druetz et al., 2015). African children are at risk of contracting and dying from pneumonia due to the lack of accessible treatment and the misdiagnosis of the disease (Druetz et al., 2015). Additionally, the clinical assessment of pneumonia in children can be difficult because “symptoms vary with age and can be non-specific in children, and etiology is often unknown at presentation” (Haq et al., 2017, p. 1). Symptoms consistent in most children include low oxygen saturations, increased respiratory and heart rates, respiratory distress, and irregular breathing. Bacterial pneumonia also presents with a high fever and is typically treated with antibiotics (Haq et al., 2017). With the lack of available treatment and the common misdiagnosis of this infection, the children of Ghana are suffering negative consequences from this disease.

Additionally, tuberculosis is an impactful infection experienced by the children in Ghana. According to the Mayo Clinic, tuberculosis (TB) can be defined as “a potentially serious infectious disease that mainly affects [one’s] lungs” that is “spread from one person to another through tiny droplets released into the air via coughs and sneezes” (2020). According to the World Health Organization, Ghana had 44,000 TB cases, with a rate of 148 cases per 100,000 people in 2018 (2020d). Of these cases, 6% were children between 0-14 years of age (WHO, 2020d). In Accra, Ghana, S. A. Ohene, S. Fordah, and P. D. Boni studied childhood TB and discovered that it is difficult to accurately quantify the number of childhood TB cases due to lack of reporting, improper diagnosis, and unsuitable or unavailable equipment for TB testing (2019). Furthermore, the lack of preventative interventions to help reduce the spread of the infection leads to increased incidences. For patients that are correctly diagnosed and treated, poor

outcomes result from a lack of follow-up care. Additionally, multi-drug and rifampin-resistant TB (MDR/RR-TB) is common. This type of TB is resistant to most medications and is challenging to treat. In an attempt to decrease TB occurrence in the pediatric population, children are expected to receive the Bacillus Calmette-Guerin (BCG) vaccine (Mayo Clinic, 2020).

### ***Gastrointestinal Infections/Diarrhea***

Typhoid is an infection also common in Ghana. Typhoid is a bacterial infection that causes severe diarrhea. According to Z. A. Bhutta, impoverished areas see as many as one in five children under the age of ten acquire typhoid (2018). In recent years, antibiotic use has helped control this disease, and vaccinations are being developed and tested for children under the age of two (Bhutta et al., 2018). Safe drinking water and efficient toileting systems drastically lower the risk for typhoid, which is why thriving socioeconomic systems report fewer cases. However, in Ghana, many children do not have access to clean water or adequate hygiene facilities. Therefore, typhoid is contracted and spread easily (Bhutta et al., 2018). The symptoms of typhoid include diarrhea, fever, and vomiting. Without proper intervention, children can quickly become dehydrated and suffer severe complications. Typhoid can be easily mistaken for other illnesses with these symptoms, leading to misdiagnosis and mistreatment. This causes poor outcomes for the children of Ghana.

Diarrhea is also a common concern for the pediatric population of Ghana. Diarrhea can be a side effect of several different infections or diseases. Infection with malaria, rotavirus, and other bacterial or viral illnesses can lead to diarrhea. Disease-related diarrhea is the “second leading cause of childhood mortality worldwide” (Krumkamp, 2015, p. 2). Additionally, 78% of diarrhea-related childhood deaths come from Africa and South-East Asia (Krumkamp, 2015, p.

2). These significant statistics are due to diarrhea's ability to severely dehydrate those it affects. Dehydration can lead to fatigue, cognitive impairments, and even death. Any delay in seeking medical help can result in dire consequences.

### **Genetic Diseases**

Sickle cell disease (SCD) is a major health problem for Ghanaian children. SCD is a genetically inherited disease that causes malformation of red blood cells. Common symptoms of SCD include acute pain, anemia, reoccurring infections, and chronic organ damage. Every baby that is born in Ghanaian hospitals is tested for SCD. Korle-Bu is the main hospital in Ghana that treats patients from Ghana and surrounding countries. Korle-Bu has reported that 15,000 (2%) of all babies born in Ghana are diagnosed with SCD annually (Asare et al., 2018). E. V. Asare performed a study at Korle-Bu Hospital, evaluating the prevalence of sickle cell, the patients' demographics and hospital history, and common complications. The study showed that mortality rates within the first year of life are dramatically lowered with increased screening at birth (Asare et al., 2018). Due to this screening protocol, over 90% of babies born in Ghana are now reaching adulthood today (Asare et al., 2018).

### **Injuries/Accidents**

Although infections are a leading cause of death, injuries from traffic accidents, burns, and assaults are very prevalent and pose a threat to the health of children in Ghana (Blankson et al., 2019). One study performed by P.-K. Blankson examined the epidemiology of injuries seen at the accident center of Korle-Bu Hospital. According to the study, 39.1% of the injuries that were treated were caused by road traffic accidents (Blankson et al., 2019). Road traffic accidents, especially motorcycle-related accidents, are a significant cause of injuries in Ghana. Most

patients injured through road traffic accidents are pedestrians, and 50.1% of deaths caused by road accidents involve pedestrians (Blankson et al., 2019). Children are at increased risk due to walking to school and other activities. As the population in major cities increases and motor vehicle ownership becomes more common in Ghana, the rate of road traffic accidents will increase. Injury management is essential to help decrease the death rate of children in Ghana and the number of severe injuries treated in hospitals.

### **Seizures**

Another growing concern for the youth in Ghana is seizures. Seizures are interruptions in the regular nerve stimulation of the brain. Various disease processes can cause seizures. However, few studies have been done to analyze the incidences and origins of seizures in the children of Africa. It is suspected that in Africa, the rate of acute seizures is “twice that in high-income countries” (Kariuki et al., 2017, p. 14). This rate may be elevated due to the large number of infectious diseases among Africa’s pediatric population. Gastroenteritis, malaria, typhoid, pneumonia, and other illnesses resulting in elevated temperature can lead to febrile seizures, which are seizures that are triggered by high fevers. Malaria in particular has been identified as the “most important cause of acute symptomatic seizures in malaria-endemic countries” (Kariuki et al., 2017, p. 9). Seizures often require medical intervention and are considered medical emergencies. Without intervention, seizures can lead to hypoxia, brain damage, or aspiration. When a child experiences a seizure, the effects of the seizure must be mitigated, and the underlying cause must be identified and treated. These actions may not be possible for a child in Ghana with little access to health care.

Overall, many factors contribute to the vulnerability of children's health in Ghana. For instance, limited resources, education, and healthcare mean many children do not have access to standard treatments for their health problems. In addition, the geographical region puts this population at a risk for certain infectious diseases such as malaria, pneumonia, tuberculosis, and typhoid (Asare et al., 2018). Ghanaian children also experience traffic accidents, burns, and assault. Additionally, African children are susceptible to diseases such as sickle cell disease due to their genetic predisposition (Asare et al., 2018). Other health concerns Ghanaian children may face include febrile seizures and dehydration from diarrhea.

### **Significance**

The children of Ghana are at significant risk for many disease processes, illnesses, and injuries. Early identification of a disease process can help aid in a patient's recovery and overall prognosis. Knowing what children are at risk for in their community can help health care providers better anticipate each geographical location's needs. The country of Ghana, as of 2016, had over 28 million people (WHO, 2020b). Of this population, the children are vital for the growth and development of the country. The survival of Ghana's children is important because they will be the country's next generation of laborers and leaders. If the young are unhealthy, unmotivated, and uneducated, they will have difficulty improving and advancing the country in future years.

This study was aimed at researching the health concerns of the children in Ghana. Identifying prevalent and common issues experienced by this population can help health care workers effectively care for prominent needs. Overall, Ghana does not allocate abundant resources to devote to health care. Monetary funds, time, and personnel are limited. Health care

teams must be selective in who receives treatment, what treatment is appropriate, and how the care is implemented. This study intended to help identify priority problems among children in Ghana. The findings can be shared with health care personnel, enabling them to allocate resources effectively. Because of the limited number of health care professionals, nurses in Ghana manage a majority of patient care. They help organize clinics, serve as midwives, and administer medications. As the front line of patient care, nurses are responsible for promoting health and advocating for patients that receive substandard care. Knowledge of priority issues in the pediatric population can help nurses in Ghana focus on their patients' primary concerns and promote preventative measures for common illnesses found in children.

### **Problem, Purpose, and Research Question**

With limited resources, health care personnel, and funds, it is important to focus efforts in Ghanaian health care for the pediatric population. The goal of this qualitative study was to explore the significant health care needs of the pediatric population in Ghana through the eyes of health care personnel, educators, and parents. Therefore, the question this study sought to answer is, "What are the significant health care concerns of the pediatric population in Ghana, Africa as perceived by health care personnel, educators, and parents?"

### **Definition of Variables**

The research variables for this qualitative thematic analysis were perceived health concerns for Ghanaian children from birth to eighteen years of age. Health concerns ranged from mild infections, chronic conditions, and genetic abnormalities to life-threatening illnesses. The population that was studied was comprised of Ghanaian individuals who interacted with the pediatric population.

## Methods

This study was a qualitative thematic analysis using interview as the data collection method. An interview guide was developed by the research team prior to the trip, and the students were trained in its use (see Appendix A). An IRB was obtained through ORU for this study. Dr. Patricia Catts was the principle researcher, and nursing students collected the data. The data was collected through one-on-one interviews with nurses, doctors, teachers, a lab technician, a dietician, a local cook, a school administrator, and a medical director. Six interviewers were directed to perform 3-4 interviews and acceptable interviewee characteristics were discussed. The team performed surveys with twenty interviewees. One interview was inaudible and unable to be analyzed. Therefore, the data was from nineteen interviews (see Table 1).

**Table 1**

*Interview Statistics*

Interviewer	Number of Interviews	Shortest Interview	Longest Interview	Average Time for Interviews
Interviewer 1	4	7:51	19:53	11:28
Interviewer 2	3	5:01	12:26	8:53
Interviewer 3	3	5:54	8:16	6:59
Interviewer 4	3	7:57	39:24	21:43
Interviewer 5	2	6:59	7:23	7:11
Interviewer 6	4	4:47	8:32	6:44
Total	19	4:47	39:24	10:30

The interview guide was utilized to ensure consistency in data collection (see Appendix A). Throughout the interviews, the questions were adapted for individual clarity. Interviews were

conducted in Ghana February 14<sup>th</sup>, 2020 through February 19<sup>th</sup>, 2020 during an international clinical rotation. Verbal consent was obtained before the interview, ensuring the subject's privacy would be maintained. Personal identifiers were omitted, but demographics were recorded. After consent, the interviews were voice-recorded on mobile devices. Interviews were transcribed after leaving Ghana over a period of approximately 8 months and analyzed as a requirement of a nursing research class as a group and with the assistance of the principle researcher, Dr. Catts. Significant statements were identified then themes developed.

### **Findings**

The sample for this study consisted of nineteen individuals in a large, metropolitan city in Ghana. These individuals worked in a local hospital or school with direct contact with children. The professions represented include nurses, doctors, teachers, a lab technician, a dietician, a local cook, a medical director, and a school administrator. Eight nurses were interviewed, including community nurses, pediatric nurses, an outpatient clinic nurse, a staff nurse, and a director of nursing. Community nurses serve the population through well-baby clinics and traveling clinics. Outpatient clinic nurses work in the out-patient department, which is similar to an urgent care. The director of nursing, known as Matron, oversees the nurses throughout the hospital, scheduling and designating resources. Two doctors were interviewed, one an outpatient clinic doctor and the other a medical director. Five teachers were interviewed from elementary, middle, and high school classes, along with one school administrator. One lab technician, one dietician, and one local cook who served the school were interviewed.

After transcription, interviews were reviewed for significant statements and then categorized according to health concerns. Each of the major categories is described below.



**Infections**

Infections were found to be a major concern in this community. Several infections were mentioned in the interviews. These included malaria, respiratory related infections, and gastrointestinal infections that cause diarrhea.

***Malaria***

Fifteen of the nineteen people interviewed mentioned malaria as a common illness among Ghanaian children. Eight of the nineteen interviewees stated that fever was a common symptom of malaria. Other symptoms reported in the interviews included diarrhea, vomiting, headache, loss of appetite, and febrile seizures. One interviewee stated that “cerebral malaria” is when “malaria has affected the brain and leads to convulsions” (Interview 1, 2020).

Based on the interviews, prevention of malaria in Ghana may be limited due to financial reasons and lack of resources such as mosquito nets. Additionally, the high prevalence of mosquitos adds to the pervasiveness of the disease. Overall, this disease was often referenced in the interviews as one of the most common illness encountered in children.

***Respiratory Infections***

Several interviews related respiratory infections and many interviewees recognized symptoms of upper respiratory infections. Out of the nineteen interviews, colds were mentioned eight times, cough/coughing was mentioned seven times, and upper/lower respiratory infections were mentioned five times. Of the other common issues, sneezing was mentioned three times, pneumonia mentioned four times, bronchitis mentioned three times, sore throat or pharyngitis mentioned three times, and flu mentioned two times. One major cause of respiratory problems in

children is the particles of dust in the air that come during the “Hamatan season” which commonly leads to upper respiratory infections (Interview 1, 2020).

Both hospital staff and teachers noticed respiratory complications in the children. While it may be difficult to prevent the children from getting sick due to high rates in the community and the heavy presence of dust in the air during the Hamatan season, educating them on how to manage symptoms and reduce the amount of time they are sick may allow them to miss less days of school. It can be concluded that these are the most common health concerns perceived by this community for Ghanaian children in relation to the respiratory system.

### ***Gastrointestinal Infections/Diarrhea***

Throughout the nineteen interviews, several gastrointestinal themes were identified. Out of nineteen interviews, ten mentioned diarrhea, seven mentioned stomach ache, and six mentioned gastroenteritis. Typhoid was mentioned once but was seen as uncommon. Vomiting and diarrhea were also discussed as symptoms of malaria. When asked about common illnesses in children, most interviewees referred to malaria first, then gastrointestinal issues second. For example, one interviewee said, “The common one is malaria or stomach pain” (Interview 15, 2020). Another claimed that the main illnesses dealt with were “malaria and diarrhea related” (Interview 9, 2020). Others mentioned ulcers and food poisoning.

If a child presented symptoms of malaria or a gastrointestinal issue, many times the child would be sent home from school or to the hospital for treatment and rest. Known cause of gastrointestinal issues in children in Ghana can also include malnutrition, contaminated food or water, malaria or other sources of infection. Diarrhea can be deadly to children, causing severe

dehydration. From these interviews, it can be concluded that gastrointestinal illnesses are perceived as one of the major threats to Ghanaian children.

### **Genetic/Congenital**

Genetic diseases tend to be prominent in specific areas among close groups of people. One of the common congenital problems experienced in Ghanaian youth is sickle cell disease. Others are disabilities and asthma.

#### ***Sickle Cell Disease***

Opinions of sickle cell disease as a problem of children in Ghana differed among the interviewees. Three of nineteen mentioned sickle cell as common. One stated that “out of 100 people, maybe three” had the disease (Interview 6, 2020). However, one believed sickle cell disease to be “very prominent” (Interview 10, 2020). Another admitted to seeing a few cases recently in school (Interview 12, 2020). Sickle cell may not be encountered by some because of the mortality of the disease. As one interviewee stated, “For most children to make it to adulthood with sickle cell, it is a miracle” (Interview 1, 2020).

If children diagnosed with SCD pass at an early age, this could lead to the perception that SCD is not common due to little experience with the disease. The various perceptions of SCD were likely due to the different areas in which these people work. The interviewees who have experience in more extensive clinical settings were the ones that identified SCD as common. Interviewees did identify joint pain, anemia, infections, and shortness of breath as common symptoms for SCD.

### *Disabilities*

Eight out of nineteen interviewees mentioned disabilities, and five of them perceived disabilities as uncommon within the community. Most pointed out that children with disability issues were transferred to other schools and facilities. Individuals that have observed children with disabilities mentioned weakness being a major cause of dysfunction. Two interviewees mentioned polio, a disease that causes “limb deformities” (Interview 1, 2020). However, they stated that polio is not common anymore due to the polio vaccine.

Overall, most of the nurses, teachers, and doctors reported rare encounters with children with disabilities. This was seen as being a minimal health care concern. Many of the adolescents with disabilities or injuries are sent to larger cities and hospitals for care, limiting the interaction between disabled individuals and those interviewed.

### *Asthma*

Three of nineteen interviewees mentioned asthma as a problem. It was mostly noted in the schools. Teachers help monitor these students and “don’t let them get involved in activities outside where there is a lot of dust” (Interview 2, 2020). One nurse in the hospital mentioned that they often nebulize asthmatic patients in the outpatient department (Interview 16, 2020).

Overall, asthma exacerbations are often seen with weather changes and physical activity. School teachers were the ones that noticed this among their students. Those in the hospital setting only encountered asthmatic patients if they had a severe exacerbation. In conclusion, some of the interviewees saw asthma as a problem, but it is not prioritized as a leading concern for the pediatric population.

## **Environmental/Social**

A child's environmental can influence a great number of health issues. Socioeconomic factors constitute a large proportion of these issues. The common social problems identified among the Ghanaian population included malnutrition, accidents and injuries, and mental health disturbances.

### ***Malnutrition***

Twelve of nineteen interviewees mentioned malnutrition in their interview. Four interviewees said that malnutrition was not a common problem they encounter. Six interviewees discussed malnutrition as a prevalent issue. Two interviewees mentioned malnutrition being problematic only in downtown Ghana and remote villages. One teacher mentioned occasional food allergies among the school students (Interview 2, 2020). One nurse mentioned that culturally, they do not believe in giving children eggs because they will "start stinking" (Interview 13, 2020). Due to this belief and limited resources, children receive a carbohydrate-based diet. Vegetables can be expensive, and proteins are given in smaller quantities to the children. A doctor mentioned protein-calorie malnutrition and failure to thrive as a commonality among Ghanaian children (Interview 1, 2020). It was also mentioned that malnutrition is prevalent when the mothers begin to wean the children off breastmilk (Interview 1, 2020).

Of the interviewees that discussed malnutrition, most of them saw it as an issue. Overweight or obesity issues were not seen as a prominent issue. If a child were to suffer from nutrition issues, it would most likely be from nutrient deficiencies. Some interviewees believed malnutrition is more of an issue for other communities, such as rural villages and the inner city area. Others claimed that malnutrition was not common. However, most interviewees mentioned

malnutrition as a problem. Cultural beliefs, lack of resources, and lack of education regarding nutrition could all lead to nutrition deficiencies in Ghanaian children.

### ***Injuries/Accidents***

Interviewees disagreed in their perception of the prevalence of accidents and injuries. Two interviewees saw accidents and injuries as uncommon. Five interviewees perceived this as a health issue, but most mentioned that major cases were sent to other facilities. Five interviewees discussed the frequency of minor cuts and injuries but denied seeing many serious situations. Several types of injuries and accidents were discussed. Burns were mentioned nine times, motor vehicle accidents four times, fractures six times, falls six times, cuts, bruises, or minor harms four times, and foreign body in the nose one time. Two interviewees discussed burns caused from the child coming in contact with boiling water or liquid. Because of the lack of hot water heaters, people in this community often “boil water on the gas or electric stove and pour [it] in a bucket,” and then “the bucket falls on the child” (Interview 13, 2020).

Some interviewees may not have seen accidents often because most children with severe injuries are sent to the regional children’s health center to receive treatment. Most interviewees that discussed injuries mentioned minor incidents. Other interviewees who do not have much patient contact, such as teachers, a lab technician, and a dietitian, may be unaware of the prevalence of accidents and injuries due to their job description and work environment.

### **Mental Health Concerns**

Various opinions on the prevalence of mental health concerns were found. Seven of nineteen interviewees mentioned seeing signs of mental health problems regularly. However, two of the nineteen mentioned the presence of mental health to be uncommon in this area of

Ghana, stating, “We haven’t gotten some here” (Interview 7, 2020). Three teachers discussed students having difficulty focusing or expressing their feelings. Two interviewees mentioned autism as a common mental health problem. While referring to autism, a nurse stated, “Yes, we have those people too. But we don’t see them [in] this place. When they come, we refer them” (Interview 16, 2020). Neglect and depression were each mentioned once. Some interviewees acknowledged that most mental health cases are referred to other facilities.

Overall, mental health is perceived as a problem. However, most do not view it as the major threat to children in this community. Interviewees discussed seeing signs of mental health issues, but when asked to identify the major health concern, most referred to physical illnesses. Mental health was mainly discussed only if the interviewee was asked about it. This perception of mental health could be due to the frequent referral of mental health patients to larger facilities. This also shows that this community may not prioritize or recognize issues related to mental health. Their definition of health revolves around the physical attributes of wellness.

### **Other**

When asked about what they believed to be common among children in this community, a few interviewees gave various answers that could not be categorized with other illnesses mentioned. These are placed in the miscellaneous category. Interviewees were also asked about common signs and symptoms among Ghanaian children. Additionally, seizures became a common theme mentioned.

### ***Seizures***

Eight of the nineteen people interviewed reported having seen children with seizures at the hospital or at the school. Six of the eight said that the seizures are often due to extremely high

temperatures in the children. Two interviewees reported that the high fevers were often from malaria, sepsis, and meningitis. In addition, the high fevers often occur because mothers frequently decide to treat their children at home, and then “when the child starts having a seizure, they rush in” (Interview 13, 2020). Other causes of seizures were seizure disorders and rabies. One interviewee mentioned “cerebral malaria” and stated that it is “where malaria has affected the brain” and causes convulsions (Interview 1, 2020).

Overall, the most common cause of seizures stated by the interviewees was high fever related to malaria. The high fevers can be attributed to parents deciding not to treat the fever before it gets too high. Reasons for this could include lack of resources or finances to treat the illness and fever.

### *Miscellaneous*

Some of the most common concerns mentioned in the miscellaneous category were integumentary issues such as skin infections, dermatitis, abscesses, and cellulitis. Four out of the nineteen interviewees mentioned otitis media as a common infection in children and eye infections such as conjunctivitis. Four interviewees mentioned that anemia is commonly seen in children, and three interviewees mentioned meningitis as another infection presented in children. HIV was seen to be common in two to three people out of every hundred (Interview 6, 2020). One interviewee stated that a common illness seen in teenagers in Ghana is “Burkitt’s lymphoma” which is a “tumor of the lymph nodes that swells on the side of the jaw” (Interview 1, 2020).



The miscellaneous illnesses were seen in school or occasional cases that came into the hospital. However, they were only mentioned by a few interviewees. Therefore, they are not perceived to be major issues by most participants.

### *Signs and Symptoms*

The most common sign of illness identified by the interviewees was fever. Seven of the nineteen interviewees stated that fever is a common symptom that is usually caused by malaria. A doctor stated, “Children come to the hospital for several reasons some being fever, disability... also diarrhea and vomiting, and the children generally being weak and unable to eat” (Interview 10, 2020). The second most common symptom mentioned was lethargy and weakness, followed by diarrhea, vomiting, cough, runny nose, and excessive crying. When asked about common symptoms seen in children, one interviewee stated, “When a child has malaria, you see the child running temperature... runny nose, sometimes vomiting, loss of appetite, the child will grow a bit thin. And then sometimes diarrhea. And they cry often” (Interview 16, 2020).

Fever, weakness, vomiting, diarrhea, and irritability were all mentioned as common symptoms among Ghanaian children. They were often mentioned in relation to malaria. Diarrhea was also mentioned when discussing gastrointestinal disturbances. Seizures, discussed above, and fevers are determined to be the most common symptoms. Second to these were diarrhea and weakness.

### **Summary of Findings**

Among the interviewees, malaria was perceived as common for fifteen of the nineteen interviewees. Malaria is common in this area due to the high number of mosquitoes. These findings suggest that further measures are needed to prevent this disease. Respiratory infections

were also prevalent. Colds, coughs, upper and lower respiratory infections, pneumonia, and bronchitis were a few that were mentioned by the interviewees. The frequent occurrence of respiratory issues could be attributed to the Hamatan season that causes vast amounts of dust and dirt to pollute the air. This unavoidably poor air quality leads to complications in the pediatric population. Gastrointestinal disturbances were common as well. Diarrhea, stomachache, and gastroenteritis were the most mentioned. Causes of these issues arise from contaminated food or water, infection, and malaria.

Sickle cell disease was mentioned by three interviewees, but overall was not seen as a common concern. The high mortality related to this disease may lead to few cases encountered in practice. These patients may die at a young age prior to receiving help. Additionally, more severe cases were likely transferred to other facilities. Disabilities were viewed in a similar light. Several interviewees mentioned that these patients were transferred elsewhere as well. Asthma was noted mostly in the school setting, but not perceived as the greatest threat to the children in Ghana. The interviewees had mixed views regarding malnutrition, four believed it to be uncommon, two thought it to be only in rural villages and downtown, and six viewed it as common. The cultural beliefs, insufficient resources, and lack of information regarding healthy eating added to this issue. Injuries and accidents were also held with mixed opinions. Two thought it was uncommon, five believed it was an issue, but stated that trauma patients were treated elsewhere, and five confessed to witnessing minor injuries. Common injuries included burns, motor vehicle accidents, fractures, falls, cuts, and bruises. Boiling water was identified as a cause of many burns among children.

Eleven interviewees admitted seeing symptoms of mental health issues. However, it was not perceived to be the greatest issue because interviewees had to be asked in order to discuss this topic. It seems many mental health patients were transferred, and that the community did not recognize issues of poor mental health in their children. Miscellaneous illnesses mentioned included skin issues, otitis media, conjunctivitis, anemia, meningitis, HIV, and Burkitt's lymphoma. Lastly, fever and seizures were mentioned as common signs and symptoms of illness in children. Diarrhea and weakness were also discussed.

Overall, malaria, respiratory infections, and gastrointestinal disturbances have been identified as the most common perceived issues for Ghanaian children. After these three, malnutrition was another concern. Sickle cell disease, disabilities, asthma, injuries, and mental health were encountered in the community but not emphasized as the greatest priorities.

### **Implications**

This study provided insight on the perceived needs of the pediatric Ghanaian community, but further study should be done to obtain more knowledge on the subject. The findings of this study have many implications for education, practice, and future research.

#### **Education**

Continuing education for clinical practice is essential because it helps improve quality of care. Education regarding the health care concerns for the pediatric population in Ghana applies to native and visiting health care professionals. The interviewees perceived malaria, respiratory infections, and gastrointestinal issues as the most prominent concerns. Further education would be centered around creating a consensus regarding prominent concerns among health care professionals, so that resources could be allocated in a cost-effective manner. Health

professionals can be encouraged to monitor for signs and symptoms of these common diseases so that timely intervention can be implemented. The community can be educated on what resources they have nearby in case they need help. Education for the parents would include signs and symptoms to monitor in their children and when to seek medical help.

### **Practice**

This study identified several implications for clinical practice. This research could aid in the allocation of future department resources. Another use for this research would be to provide continuing education to the nurses and other staff regarding alleviating the burden of these prominent illnesses. Early interventions and screening could help reduce the occurrence of these illnesses or decrease the severity of outcomes. Therefore, the standard of care should be changed to include frequent screenings, risk reduction education, and effective interventions. In addition, nurses could be given resources to teach their patients and community to help reduce risk factors for each of the most prominent health concerns in their area. Programs developed for community education would be beneficial as well.

### **Future Research**

Getting a baseline definition of health concerns and analyzing existing data and health statistics would be an important step in knowing what makes Ghanaian children at risk. This would lead to identification of interventions and preventative measures. Research can be done to determine which interventions are effective at reducing the negative outcomes of these diseases. A study could be performed for each individual disease, testing interventions to see which is best at reducing complications. Additionally, serious illness can negatively affect the development of Ghanaian children. Therefore, further research could be done to find the spiritual, mental, and

social concerns related to these diseases. Interventions to maintain developmental progress of ill children would also be an area to study.

### **Strengths and Limitations**

There are many strengths and limitations of which to be cognizant when developing a qualitative study. Strengths include cost effectiveness, multiple methods of data collection, and a wealth of data for analysis. Extensive qualitative data was retrieved through the data collection process. In addition, the data was collected in a cost-effective manner and revealed detailed information from those interviewed. The mentor and principle researcher for this project was familiar with the culture of Ghana, aiding in the adaption of the study for the culture.

A weakness in this approach includes the time-consuming process of data collection. In addition, qualitative live research was unusual for a senior paper and came with challenges from difficult expectations and format. Other weaknesses include the difficulty of data analysis and the inability to generalize the information found in this study to the entire pediatric population of Ghana. Much of the data was collected from interviewees that worked in a specific community. Thus, their responses to questions regarding common health concerns in the pediatric population may have been limited only to what they have seen or experienced in their local community. Additionally, interviewees would want their community to be seen in a socially light. This may have resulted in failing to discuss some health concerns—such as HIV. Ghanaians have a great deal of pride in their country and out of respect may not want to disclose uncomely pediatric problems. A final weakness of this study is that interpretation and implications of the data collected can be subjective depending on the person reviewing the information. There were 6

data collectors, and although scholarly rigor was promoted, each has individual backgrounds and perceptions from which they analyzed their data.

### **Recommendations**

This study was performed with a small sample of nineteen people. If this study were to be repeated in the future, it is recommended that the study be performed with a more diverse group of people in Ghana to produce more varied and expansive data results. Conducting interviews with a larger population and with people from different regions of Ghana may help broaden the research findings rather than limiting them to a specific community. It is recommended that healthcare workers from different hospitals in Ghana be interviewed, as well as mothers, teachers, and dieticians. Individuals from differing socioeconomic classes can also be surveyed, since perception of health can be influenced by how common it is for them to visit a healthcare facility and seek care. Rural and city communities should also be surveyed. Lastly, quantitative data could be obtained through health charts, hospital records, and country mortality and morbidity statistics. Performing this study on a larger population and including quantitative data can help improve findings, as well as guide future research and interventions to address the health concerns of the pediatric population in Ghana.

### **Conclusions**

The children of Ghana are not unique in experiencing health concerns. They are vulnerable to suffering negative consequences from illnesses due to the limited availability of health care and the significant cost for care. Problems that these children face include malaria, respiratory infections, gastrointestinal disturbances, sickle cell disease, injuries and accidents, and seizures. Effective health care for the pediatric population of Ghana is important because it

affects the future generation and the health of the country. Additionally, this study was significant because identifying the prominent illnesses in children will help the country allocate their resources effectively to aid in relief. The purpose of this study was to investigate the health needs of the children in Ghana, and it sought to answer the question, “What are the significant health care concerns of the pediatric population in Ghana, Africa as perceived by health care personnel, educators, and parents?” The variables studied were health concerns of children 0-18 years old in Ghana.

Twenty individuals were surveyed, but only nineteen interviews were able to be analyzed and used for this study. The sample consisted of teachers, nurses, doctors, a school administrator, a dietician, a local cook, a medical director, and a lab technician. From the interviews, malaria, gastrointestinal disturbances, and respiratory infections were perceived as the most common concern for children in Ghana. Beyond these three, malnutrition was seen as an issue as well. Leading signs and symptoms included seizures and fever. Accidents and injuries, asthma, and disabilities were seen frequently, but were not considered the greatest priority. With the results of this study, education can be done in the community on signs and symptoms of these illnesses and when to seek medical help. Health professionals can be taught to screen for these diseases and educate patients on how to reduce risk factors. Implications for practice include funding relief measures, continuing to screen for these illnesses, and incorporating patient education for how to prevent and treat these diseases. Future research could be performed to find effective interventions, how to maintain developmental progress, and the effects on spiritual and mental health. If this study were to be performed again, a larger sample with a wider variety of

individuals would produce a more definitive understanding of the widespread pediatric needs in Ghana.

In conclusion, this study has brought insight into the perceived pediatric health needs of the Ghanaian community. Identifying these needs is vital to the health of children in Ghana. One cannot find a solution before first finding the health concerns. Now that the perceived problems have been identified, action can be taken to alleviate the burdens caused by these health issues. Every day that action is not taken to improve the health outcomes for this population is valuable time wasted and precious lives affected. Ghanaian children have the right to adequate health care yet they cannot fight alone to achieve this end. It is the responsibility of health care and the community to fight along with them for the health and wellness they deserve.



## Appendix A

### *Interview Questions*

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<b>Question 1</b>	What do you think are the health reasons you have seen children “in the hospital,” “in the out-patient unit,” or “coming to be seen at the hospital?”
<b>Question 2</b>	What do you think are the health reasons you have noticed as a reason for children missing school or being sent home related to their health?
<b>Question 3</b>	What kind of infections have you noticed? For example, malaria, colds, tuberculosis, wound infections, other infections?
<b>Question 4</b>	What signs of illness have you noted in the children? For example, fever, stomachache, trouble breathing, runny nose, cough, diarrhea, other symptoms?
<b>Question 5</b>	What kind of accidents have you noted requiring attention? For example, burns, skin injury, bone or joint trauma?
<b>Question 6</b>	Are there any nutritional problems you have noted in the children? For example, losing weight, overweight, underweight?
<b>Question 7</b>	Have you ever noted a child having a seizure?
<b>Question 8</b>	What kind of physical disabilities have you noted in the local children? For example, cannot walk, poor use of arms or hands?
<b>Question 9</b>	What health issues have you noted in children that have sickle cell?
<b>Question 10</b>	Are you aware of any children who have health issues related to being sad or difficulty focusing?
<b>Question 11</b>	Anything else you would like to tell me about the health of Ghanaian children?
<b>Question 12</b>	<i>Demographics:</i> gender, age, job title, number of children, age range of children?

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