Identifying Patterns in Health Care Disparities and Barriers to Health Care in Rural Tanzania

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**Publication Information**

Platts, Karlee; Sanborn, Christina; and Lull, Melinda E., "Identifying Patterns in Health Care Disparities and Barriers to Health Care in Rural Tanzania" (2017). *Pharmacy Faculty/Staff Publications*. Paper 183.  
https://fisherpub.sjf.edu/pharmacy_facpub/183

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Identifying Patterns in Health Care Disparities and Barriers to Health Care in Rural Tanzania

Abstract
Tanzania is a country in East Africa with a population of 55 million people. HIV/AIDS, malaria and nutritional deficiencies claim the lives of many each year across Tanzania. The World Health Organization (WHO) reported in 2013 that approximately 70 percent of the population of Tanzania live in more rural areas where access to healthcare, health education, and medications for these diseases may be limited. The objective of this study was to illuminate significant health disparities in rural Tanzania based on literature and direct observations to identify barriers to quality health care.

A comprehensive literature evaluation was completed on reports published on healthcare and health statistics in Tanzania from 1995 to present using Google Scholar and PubMed searches. This information was compared to direct observations, clinic evaluations and pharmacy inventories completed during a two week service program to villages in rural Tanzania. During this two-week trip, local health systems were directly observed and publicly available information about healthcare disparities in the region was recorded. Inventories of major diseases treated, services offered, and medications at two hospitals, one medical clinic and two pharmacies were recorded in the towns of Iringa and Ipalamwa, Tanzania.

Despite the need, many rural villages, like Ipalamwa, have no functional health clinic and limited pharmacies available to its people, preventing necessary care. In 2013 in Tanzania, there were 159 deaths per 100,000 people due to HIV/AIDS. Observations made in Iringa and Ipalamwa revealed that despite local pharmacies, antiretroviral therapies are not readily available. The WHO reported that 44 people per 100,000 people die every year from malaria and that in all regions of Tanzania, malaria is a major cause of health services for all ages. Observations made in rural Tanzania reveal that government run pharmacies only offer limited medications for malaria treatment, primarily Artequick (artemisinin/piperaquine), Lumiter (artemether/lumefantrine), and Coartem D (artemether/ lumefantrine). From 2010-2011 it was reported that for children in Tanzania under the age of 5 years old, 13.6 percent were underweight, 6.6 percent experienced wasting, and finally 38.4 percent experienced stunting. Initial observations indicate that rates in rural areas well over 50 percent. Rural Tanzanian locations like Iringa are the highest producing maize regions and diet in the areas observed consists mainly of carbohydrate rich foods, such as corn and rice. Nutrient-rich food groups are avoided or sold for income or because of cultural beliefs.

Due to geographic location in rural regions of Tanzania, lack of resources present a barrier to health care. Lack of access to HIV/AIDS and malaria treatment raise concern. Due to the abundance of maize-heavy diets in rural settings, many have an imbalanced diet which leads to nutritional deficiencies and stunting. Despite access to other sources of food, many people do not take advantage due to lack of knowledge and cultural beliefs. Identification of unique issues in rural Tanzania along with specific barriers is critical as this will allow for programs and interventions to be more targeted in rural settings.

Keywords
fsc2019

Disciplines
Pharmacy and Pharmaceutical Sciences

Comments
Presented at American Society of Health Systems Pharmacy Midyear Clinical Meeting in Orlando, Florida, December 2017.

This poster presentation is available at Fisher Digital Publications: https://fisherpub.sjf.edu/pharmacy_facpub/183
Background
Tanzania is a country in East Africa with a population of 55 million people. HIV/AIDs, malaria and nutritional deficiencies claim the lives of many each year across Tanzania. The World Health Organization (WHO) reported in 2013 that approximately 70 percent of the population of Tanzania live in more rural areas where access to healthcare, health education, and medications for these diseases may be limited. Communities around the globe, depend on accessibility and obtainability of food. Malaria production drives the economies of Tanzania. Rural villages like Iringa and Mybeya in the southern highlands are among the highest maize producing regions in Tanzania. The World Health Organization (WHO) considers the prevalence of child stunting in Tanzania to be unacceptably high. It has been reported that one in four children under five are stunted—165 million children. Nutritional deficiencies, insufficient protein intake and infections may be directly responsible for stunting. Malaria has been linked to stunting. According to some studies, continuous reinfection can cause disturbances in growth.

Objective
The objective of this study was to illuminate significant health disparities in rural Tanzania based on literature and direct observations to identify barriers to quality health care.

Methods
A comprehensive literature evaluation was completed on reports published on healthcare and health statistics in Tanzania from 1995 to present using Google Scholar and PubMed searches. This information was compared to direct observations, clinic evaluations and pharmacy inventories conducted during a two week service program to villages in rural Tanzania. During this two-week trip, local health systems were directly observed and publicly available information about healthcare disparities in the region was recorded. Inventories of major diseases treated, services offered, and medications at two hospitals, one medical clinic and two pharmacies were recorded in the towns of Iringa and Ipalamwa, Tanzania.

Results
Figure 1: Map of the country of the observed areas (Iringa and Ipalamwa) starred. 1

Table 1: Table of the most common foods in Tanzania highlighting their carbohydrate rich diet. 1,2

Table 2 (above): Common First Line Malaria Agents Readily Available?

Table 3 (left): Statistics on stunting in Tanzania. 4,5

Table 4: Leading causes of death in Tanzania. 3

Figure 2: Map of Tanzania highlighting maize production is highest in rural area. 1 The observed areas of Iringa and Ipalamwa are both in the Iringa region (bottom center of map). This region has the highest maize production in the country.

Disclosures
Authors of this presentation have no financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.

Conclusions
Due to geographic location in rural regions of Tanzania, lack of resources present a barrier to health care. Lack of access to HIV/AIDs and malaria treatment raise concern. Due to the abundance of maize-heavy diets in rural settings, many have an imbalanced diet which leads to nutritional deficiencies and stunting. Despite access to other sources of food, many people do not take advantage due to lack of knowledge and cultural beliefs. Identification of unique issues and specific barriers in rural Tanzania is critical. Identifying these issues will allow for programs and interventions to be more targeted in rural settings.

References
6) Observed in Rural Tanzania (2017)

Common First Line HIV Regimens Readily Available?

Common First Line Malaria Agents Readily Available?

Total population (2015) 53,470,000
Gross national income per capita (International dollars, 2013) 51
Life expectancy at birth m/f (years, 2015) 60/64
Probability of dying between 15 and 60 years m/f (per 1,000 population, 2015) 311/245
Physician-to-population ratio (per 1,000 population, 2012) 0.031
Deaths due to Malaria (per 100,000 population, 2013) 159
Deaths due to HIV/AIDS (per 100,000 population, 2013) 44
Antiretroviral therapy coverage among people with HIV infection eligible for ART according to guidelines (2012) 61%
Antiretroviral therapy coverage among people with advanced HIV (2009) 44%

Table 2 (above): Demographic information and health statistics of Tanzania. 1,4,5

Country-Wide (2010-2011) Underweight: 13.6 %
Wasting: 6.6 %
Stunted: 38.4 %
Observed in Rural Tanzania (2017) Stunted: >50 %

Table 3 (left): Statistics on stunting in Tanzania. 4,5

Table 4: Leading causes of death in Tanzania. 3

Table 5: Common first line HIV and Malaria medications in Tanzania compared to observed availability in rural Tanzanian pharmacies. 6,7

Common in Tanzania
Millet
Sorghum
Beans
Pilaf
Cornmeal

Lamivudine (3TC) 300 mg / Efavirenz (EFV) 600 mg
No
Artequick® (artemisinin/piperaquine) Yes

Efavirenz (EFV) 600mg + Abacavir (ABC) 600mg+ Lamivudine (3TC) 300mg No
Quinine No

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