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Health of Women and Families in Samburu, Kenya: Chief Concerns and Treatments

Sara Hines
Ecosystem Science and Sustainability
Colorado State University
Fort Collins, CO 80523

Faculty Advisor: Dr. Stacy Lynn

Abstract

This study examined chief health concerns and approaches to curing diseases for women and their families in Samburu County, Kenya. The research objectives involved: 1) identifying Samburu women's greatest health concerns 2) determining how women use modern medicine and local, usually herbal, treatments, and 3) identifying access to and gaps in available health services. Local people in Samburu County, a semi-arid rural county in central Kenya, regularly face health challenges exacerbated by food insecurity, lack of clean water, seasonal factors, and sometimes stigmatization of disease. With a local female translator, fourteen focus groups, averaging eight individuals per group, were conducted with Samburu women across six villages. After identifying their most concerning health conditions, the women evaluated each condition's seasonality, cause, and traditional and modern treatments with varying perceptions of effectiveness. Some of the most prominent concerns were HIV/AIDS, diarrhea, flu, arthritis, malaria, pneumonia, maternal health issues, and tuberculosis. HIV/AIDS—more than any other condition—ranked number one in 40% of focus groups. For some of the conditions, seasonal factors impacted the disease's intensity or prevalence. Women of all groups used both traditional and modern medicine to treat and cure diseases, collectively naming seventy-three medicinal plants used in traditional treatments. Villages usually had a female specialist in traditional medicine and substantial traditional knowledge held by all members. However, even with a wealth of shared traditional medicinal knowledge, 70% of focus groups reported their community as generally unhealthy. This study's identification of Samburu women's most severe, frequent, and concerning diseases can help Kenyan government workers and NGOs prioritize health services to best meet the needs of the local people of the county.

Keywords: Samburu County, Kenya, traditional medicinal knowledge, women's health

1. Introduction

Samburu County is a semi-arid county located in the eastern rift valley in Central Kenya. The rift valley experiences highly variable rainfall, with annual precipitation as low as 200 millimeters in some areas, inhibiting predictively productive agriculture[1]. The main economic activity is extensive pastoralism, a land use which allows livestock herders to move across the landscape turning indigestible plant material into animal protein for human[2]. However, even with mobility, severe droughts cause food insecurity—the entire county is classified as food insecure—which puts stress on the health of Samburu people[3].

Besides issues of food security, women face tremendous gender-related health challenges globally, and it was anticipated that women in Samburu County would face particularly severe health challenges. Global maternal mortality has declined significantly in the last 25 years, yet, still, globally, 830 women die every day from preventable causes surrounding pregnancy and childbirth[4]. As 99% of all maternal deaths occur in developing countries[5], maternal health is likely a particularly challenging issue in Kenya and potentially the rural Samburu area. Sexually transmitted diseases also exert a particularly profound influence on women globally, especially in Africa. One of the most

devastating sexually transmitted diseases, HIV/AIDs, has the most severe impact on African women out of any other demographic worldwide[6] and was predicted to impact the Samburu community as well. Malaria is also likely to be a health challenge for Samburu women, considering its prevalence in Sub-Saharan Africa and the heightened vulnerability of pregnant women to the disease[7]. Diarrheal diseases—while not expected to have gender-differential impacts—were the third largest cause of death in Kenya in 2016[8] and thus were predicted to be a chief health concern among Samburu women.

Considering that up to 80% of the African population relies on traditional medicine as their primary source of healthcare[9], it was anticipated that traditional medicine would play an important role in Samburu women's health treatments. In Samburu County, local healers possess extraordinary knowledge of plant resources which they use to combat ailments ranging from diarrhea to tuberculosis[10]. However, the severity of health challenges, coupled with possible barriers to accessing reliable modern medical care, may outweigh the ability of Samburu people to cope with health challenges.

This project had three research objectives. Research Objective 1 was to identify Samburu women's greatest health concerns. It was hypothesized that women's greatest health concerns would include food insecurity, maternal health, sexually transmitted diseases, malaria, and diarrheal diseases, based on the documented influence of these actors in the larger region. Research Objective 2 was to determine how Samburu women use modern medicine and traditional plant-based treatments. It was hypothesized that traditional treatments would be more accessible than modern treatments, so women would apply traditional treatments first and seek modern medical care only when traditional approaches failed. Research Objective 3 aimed to identify available health services and Samburu women's access to these services, distinguishing between the existence of facilities / services and community members' ability to access them. It was predicted that Samburu women would lack access to facilities that could provide diagnosis and treatment services.

2. Methods

Fourteen all-women focus groups with an average of eight women per group were conducted in six villages in Samburu County. Exclusively women were interviewed because women are considered responsible for the health of their families in the county, and would likely have valuable perspectives and input on health and treatments. Throughout the focus groups, the author asked the women questions in English, which were translated into the Samburu language by a local translator, answered in Samburu, translated back to English, and transcribed by hand. The women arrived upon answers to the questions collectively. In cases of dispute, multiple answers were recorded.

To begin each focus group, an introduction was conducted in Swahili with select Samburu phrases. Following, access or lack of access to a traditional healer in the community was determined. The women reported the name and distance of the nearest dispensary, as well as the nearest hospital. It was then determined whether the women practiced traditional treatments at the household level. The women reported the source of their traditional medicinal knowledge, and described the distribution of traditional medicinal knowledge among community members. The women then reported how healthy, in general, they considered themselves and their families to be. Then, a free-list of concerning health conditions was obtained.

After free-listing all the health conditions concerning to them, the women answered questions pertaining to each ailment. The women identified the demographic groups predominately impacted by the ailment, ranked the frequency that the ailment occurs when it occurs, the severity of the ailment, and their level of concern for the ailment. Then, the women ranked the diseases in order from most concerning to least concerning, which were numbered ascending from most concerning = 1 to least concerning = n. The women described the ailment's seasonality, the perceived causes of the ailment, and the traditional and modern treatments for the ailment. Following, the women described which treatment they use first (traditional or modern) and which is most effective (traditional or modern). After discussing each health condition, the women identified any health treatments, services, or resources that, if provided, would improve their health, and reported on their access to mosquito nets.

The hand-recorded focus group responses were entered into Excel sheets and a descriptive statistical analysis was conducted. The data for two of the focus groups were lost, and thus excluded from analysis. For questions that involved free responses, the responses were consolidated into groups of similar responses for frequency analysis. For questions involving a response index, the index values were averaged across focus groups. Histograms and other figures were created in Excel. To determine the most concerning health ailments, a condition rankings importance index was created based on the comprehensive health condition rankings. The following formula was used in order to fully account for the frequency and magnitude of the rankings attributed to each health condition: index = $5x_1+4x_2+3x_3+2x_4+x_5$ where x_n = # of times a condition was ranked nth most concerning.

3. Results

3.1 Women's Health Concerns

The importance index showed the top 15 most concerning conditions to be, in order from most to least concerning: diarrhea, HIV/AIDS, flu, snake and scorpion bites, arthritis, malaria, measles, tuberculosis, headache, pneumonia, breast pains, pregnancy problems, ear and eye infections, scabies, and backache (Figure 1). The remaining free-listed health concerns, in no particular order, were cancer, chest pains, gonorrhea, mouth sores, pregnancy ailments or complications, trachoma, and toothache.

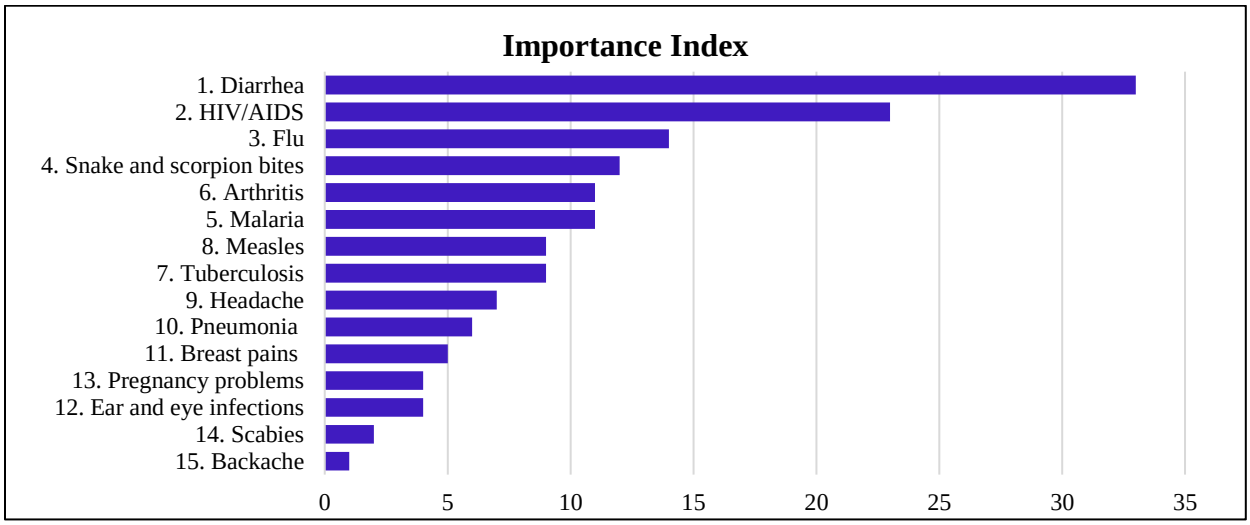

Figure 1. Importance index for each condition ranked in the top five most concerning conditions by at least one focus group. Index derived through the following formula: index = $5x_1+4x_2+3x_3+2x_4+x_5$ where x_n = number of times a condition was ranked *n*th most concerning.

Analyzed across all focus groups, 76% of conditions had a plurality evaluation of occurring with equal frequency in the wet season and dry season, 24% of conditions had a plurality evaluation of occurring more frequently in the wet season, and no condition had a plurality evaluation of occurring more frequently in the dry season. Each condition with a plurality evaluation of occurring most frequently in the wet season—flu, malaria, pneumonia, and snake and scorpion bites—was ranked in the top 10 most concerning health conditions, while 38% of conditions considered non-seasonal were ranked in the top 10 most concerning.

The conditions perceived as non-seasonal were arthritis, backache, breast pain, chest pain, diarrhea, ear and eye infections, headache, HIV/AIDS, mouth sores, pregnancy problems, scabies, trachoma, and tuberculosis, of which arthritis, diarrhea, headache, HIV/AIDS, and tuberculosis ranked in the top 10 most concerning health conditions.

Dirt(iness)/contamination related factors were the most commonly reported causes of health conditions, representing 23% of all reported causes (Figure 2).

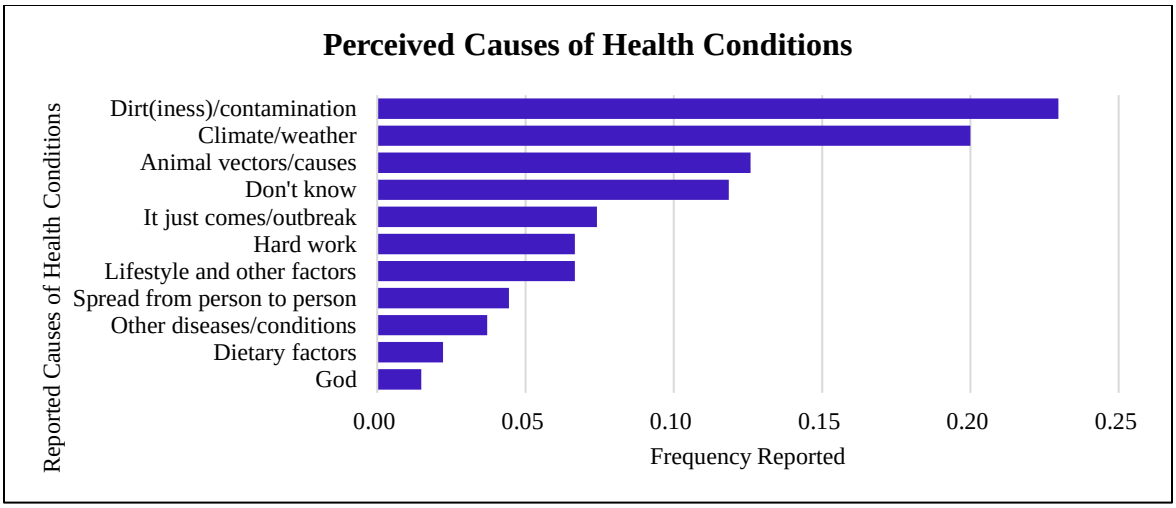

Figure 2. Frequency by which focus groups collectively reported various perceived causes of health conditions.

Climate and weather related factors were the second most frequently reported cause of health conditions, representing 20% of all reported causes. Animal vectors and causes represented 13% of all reported causes, while 12% of the responses were made up of women reporting they did not know the cause of the condition. Other cited causes of health conditions were outbreaks, hard work, lifestyle factors, spreading from person to person, other health conditions, dietary factors, and God.

3.2 Health Treatments

Seventy-three total medicinal plants were used to treat different health conditions (Figure 3).

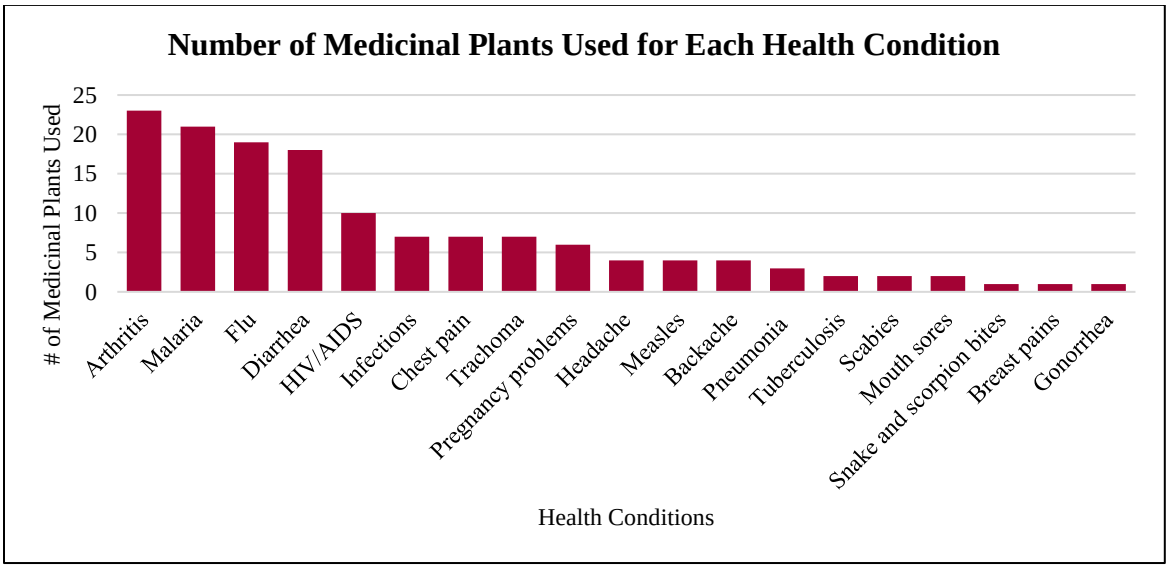

Figure 3. Number of medicinal plants collectively reported by all focus groups for use in treating each health condition for which medicinal plants were employed.

Preparations of traditional plants often involved some combination of the following: crushing the plant, boiling with water and sometimes other plants or meat from livestock, soaking, and adding milk and/or livestock blood and/or tea. On average, considering treatments for all health conditions aggregately, the focus groups reported using traditional medicinal treatments 47% of the time, modern treatments 41% of the time, using traditional and modern treatments

together 9% of the time, and using traditional and modern treatments deferentially based on individual preference 4% of the time. On average, considering treatments for health conditions aggregately, the focus groups reported traditional medicinal treatments to be most effective 35% of the time and modern medicinal treatments to be most effective 26% of the time. Focus groups reported that perceptions of effectiveness of a treatment varied from person to person 17% of the time, and that traditional and modern treatments for a health condition were equally effective 4% of the time. Eighteen percent of the time, focus groups were unable to conclude whether they considered the traditional or modern treatment for a health condition to be more effective. This inability to compare treatment effectiveness had multiple causes. For example, in some cases, the women used only the traditional or only the modern treatment, and thus were unable to compare effectiveness; in other cases, the women always used the traditional and modern treatment in combination, so a comparison of effectiveness would be irrelevant.

The frequency by which traditional and modern treatment methods were employed varied substantially for the top four most concerning health conditions (Figure 4).

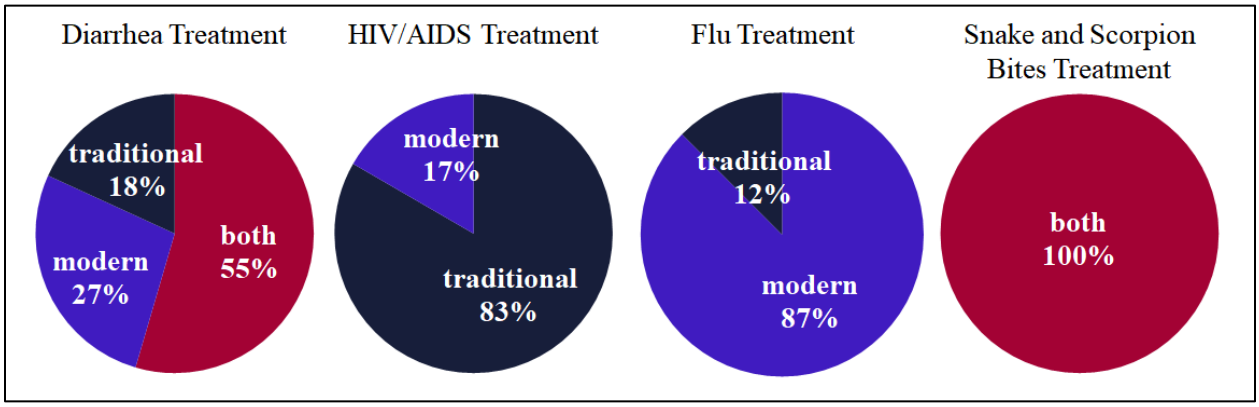

Figure 4. Proportion of focus groups using traditional treatments exclusively, modern treatments exclusively, and both traditional and modern treatments ("both") for the conditions with the top four highest importance index scores.

Fifty-five percent of focus groups reporting on diarrhea reported using both traditional and modern treatments, while 27% reported using modern treatments exclusively and 18% reported using traditional treatments exclusively. Seventeen percent of the focus groups reporting on HIV/AIDS reported using modern treatments exclusively, while 83% reported using traditional treatments exclusively, and none reported using both traditional and modern treatments. Twelve percent of the focus groups reporting on flu reported using traditional treatments exclusively, while 88% reported using modern treatments exclusively. Every focus group reporting on snake and scorpion bites reported using traditional treatments and modern treatments together.

3.3 Identifying Access To And Gaps In Available Health Services

While every focus group reported using traditional medicine at the household level and described some level of access to modern medical services, 70% of focus groups reported being generally unhealthy. Collectively, the women reported travelling to four health facilities: Archers Post dispensary, Lerata dispensary, Womba hospital, and Isiolo hospital. The nearest dispensary was an average of 2.7 hours away walking (all focus groups reported walking to the dispensary). The nearest hospital was an average of 4.3 hours away by a combination of walking and motor vehicle (all focus groups reported needing to locate a motor vehicle for transportation to the hospital). Fifteen percent of focus groups mentioned, unprompted, the extensive travel required to receive modern treatment impacting their treatment decision. None of the focus groups had mosquito nets for malaria prevention, but all wanted nets. Sixty-seven percent of focus groups reported that they had access to one or more traditional medicinal knowledge specialist in their community, while 33% of focus groups reported that they did not. Notably, 54% of focus groups mentioned the cost of a modern treatment being prohibitive, and women in various focus groups requested mosquito nets, medicine for scabies, pneumonia, and arthritis, treatment for cancer, and diagnosis and treatment for HIV/AIDS. The women were appreciative of past government and health center campaigns that had brought medicine; one focus group requested more frequent measles campaigns. These results emphasize that while medical facilities exist, community members' ability to access them is not assured due to distance, limited transportation options and cost burdens.

4. Discussion

Nearly all the hypothesized chief health concerns were free-listed and ranked in the top 10 most concerning conditions, but additional health conditions were also identified as major concerns. It was predicted that food insecurity, maternal health, sexually transmitted diseases, malaria, and diarrheal diseases would be major health concerns. In comparison, the top 10 most concerning conditions given by the importance index, from most to least concerning, were diarrhea, HIV/AIDS, flu, snake and scorpion bites, arthritis, malaria, measles, tuberculosis, headache, and pneumonia. While it is possible that the framing and/or translation of interview questions drove the free-lists towards mainly pathogenic health ailments, food insecurity was not mentioned as a health concern.

It was not anticipated that flu, snake and scorpion bites, and arthritis would figure so prominently in the women's health concerns. The particular impact of flu on children, the highly contagious nature of the flu, and the reported difficulty breathing that the flu causes may explain the high level of concern for the flu. It was not hypothesized that snake and scorpion bites would be problematic, but the women reported that snake bites are especially a concern in the wet season when snakes emerge from underground. When a person is bitten, the extensive travel time to the hospital makes snake bites especially concerning. Arthritis was not anticipated to be a major health concern, but the reportedly painful, debilitating persistence of the disease causes arthritis to be highly concerning.

The conditions perceived to occur most frequently in the wet season—namely, flu, malaria, pneumonia, and snake and scorpion bites—tended to be ranked as more concerning than conditions perceived to occur equally in the wet season and the dry season. It is possible that the aggravation of these ailments in the wet season spurs so many cases that the burden overwhelms the community more than the burden of more consistent, non-seasonal health conditions.

The number one reported cause of ailments overall was dirt(iness)/contamination, which is consistent with the literature[12, 13] on Samburu cultural conceptions of causes of illness. However, the second most commonly reported cause of illness, climate/weather related factors, does not appear to be discussed in the literature on health perceptions in Samburu culture. The high frequency of reporting animal vectors and causes as responsible for illness reflected women reporting mosquitos as the cause of malaria, snake and scorpions as the cause of bites, and flies as drivers of various ailments. Women reported flies as vectors of gonorrhea, and reported that flies play a role in bringing malaria and infections (as well as trachoma, specifically). The association of flies with gonorrhea, malaria, and infections may be rooted in the conception that dirtiness brings illness and the connection of flies with dirtiness.

While use patterns of traditional versus modern medical treatments vary by health condition, overall, the women tended to employ traditional treatments slightly more frequently than modern treatments. The data supported the hypothesis that women would preferentially employ traditional treatments over modern treatments because of the greater accessibility of traditional treatments. The majority of focus groups mentioned the cost of a modern treatment being prohibitive. In comparison, the traditional treatments employed (largely based on freely harvested medicinal plants) are financially accessible, driving women to apply traditional treatments over modern treatments. Additionally, the extensive travel required to receive modern treatment dissuades women from using modern treatments. While this study did not assess the availability of relevant modern treatments at local dispensaries and hospitals, the stock of local health centers may also impact women's health treatment decisions. For example, women reported that they desired mosquito nets for malaria prevention but were not able to acquire them at dispensaries. Considering the comparative accessibility of the 21 medicinal plants collectively reported for use in traditional treatments for malaria, it is likely that the gap in treatment availability drives women towards traditional treatments rather than modern treatments for malaria.

Considering perceptions of treatment of effectiveness collectively across all focus groups and health conditions, the women also tended to perceive traditional treatments to be more effective than modern treatments more frequently than the reverse. Independent of the actual efficacy of the treatments, availability of traditional medicinal treatments was dependent on ecological factors such as climate and weather, as well as social factors such as physical access to areas where medicinal plants grown, and policies allowing or prohibiting harvest, and the passing down of traditional ecological knowledge through generations.

Despite extraordinary traditional medicinal knowledge, the high percentage of focus groups reporting general unhealthiness signals that the health challenges outweigh Samburu women's ability to cope using accessible health services, supporting the hypothesis that Samburu women would lack access to diagnosis and treatment of conditions. The 2.7-hour long travel time to a dispensary requires women in need of medical services for themselves and their families to divert time from their already busy schedule, impairing their access to basic modern medical care. When facing health challenges that require immediate care, the average 4.3-hour long travel time to the hospital can be

incapacitating. Furthermore, the many requests for medicine signal a desire for modern treatment that the women are currently unable to fulfill.

5. Conclusion

This study's identification of Samburu women's chief health concerns can help governmental agencies and non-governmental organizations prioritize the aid they provide. The identification of highly concerning health conditions that are aggravated in the wet season can direct research towards possible ecological drivers of health conditions in the county. With women reporting using contaminated water sources and diarrhea being the number one most concerning health condition, it is likely that water-borne illnesses are a major challenge. Household water filtration systems could greatly reduce the health burden of water-borne diseases. Besides the reported cause of illness of contamination, the additional perceived causes of health conditions can provide insight into Samburu cultural conceptions of illness as well as help guide educational health campaigns. Similarly, the apparent overall preference for traditional treatments over modern treatments hints at cultural conceptions around medicine—as well as indicates a need for research into the effectiveness of medicinal plants. The identification of concurrent use of traditional and modern treatments implores investigation into interaction effects. The requests for mosquito nets; medicine for scabies, pneumonia, and arthritis; treatment for cancer; diagnosis and treatment for HIV/AIDS; and more frequent measles campaigns can guide governmental agencies and non-governmental organizations in their aid efforts.

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