

ORIGINAL ARTICLE

Community Conception and Treatment of Jaundice (Wofie/Ye'wof Beshyita) in Gondar City, Ethiopia

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Abstract

This study aims to investigate the traditional medical treatment of jaundice, locally known as wofie/ye'wof beshyita (lit. bird illness), in Gondar City, Amhara Region of Ethiopia. Jaundice, a condition characterized by yellowness of skin and eyes due to elevated bilirubin levels, is among the major public health concerns in Ethiopia including Amhara Region. Examining how the illness is conceptualized and treated by local communities will help to design effective and culturally contextualized strategies to address the problem. The study employed a qualitative research approach and an ethnographic research design, using purposive sampling. Data collection methods included in-depth interview, focus group discussion (FGD), document analysis, and non-participant observation, with thematic analysis for data interpretation. The finding shows that the symptomatological concept of jaundice coincides with biomedicine, but the local etiological model postulates causational factor different from viral and other biomedically known factors. Perceived causes include eating sweet foods, consuming cold stew, and hunger, but the illness is attributed mainly to exposure to the urine of bat (ye'lelit wof). Local understanding of these causes is deeply rooted in cultural beliefs and experiences, influencing health-seeking behaviors. In general, there is less trust in biomedical treatment for the illness, leading to a strong preference for traditional medical practices. Patients visit traditional healers as a desperate action for failure to get cured in private and government health facilities. Besides, cost of treatment and testimony of success also make them prefer traditional healers over biomedicine. Such decisions may have major public health consequences, including delays in seeking proper healthcare support, exacerbating the severity of the illness. This study underscores the need for integrating traditional and biomedical healthcare systems to improve treatment outcomes and community trust.

Keywords: Traditional Medical Treatment, Ye'wof Beshyita, Gondar City, Traditional Healer, Healthcare

Introduction

Jaundice (*wofie/ye'wof beshyita*) is among the most widely occurring morbid conditions in the world. It is characterized by yellow discoloration of the skin, eyes, and urine due to various underlying causes, including liver dysfunction (Reuben A. 2012 as cited in

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Ayalew 2024). For the biomedicine, it is also primary indicator of numerous diseases and conditions affecting the liver, including viral hepatitis types A, B, C, D, and E. In addition to viral hepatitis, jaundice may result from auto immune hepatitis, liver cirrhosis, liver cancer, hemolytic anemia and malaria (Janghel et al., 2019).

A recent global report confirmed that by 2022, an estimated 1.3 million people died due to viral hepatitis (Alymbaeva, 2024; WHO, 2024), and about 304 million people were living with chronic hepatitis B and C globally (WHO, 2024). The Federal Ministry of Health (FMOH) national strategic plan for the prevention and control of viral hepatitis recognizes viral hepatitis as a serious public health problem in Ethiopia (FMOH, 2021). Neonatal jaundice is another major public health concern in Ethiopia, accounting for 60-80% of neonatal hospitalizations (Burke et al., 2009). In neonates, jaundice often results from the accumulation of bilirubin in the bloodstream, leading to severe health complications if left untreated. Many studies in Ethiopia have examined the prevalence of neonatal jaundice (Bante et al., 2024; Demis et al., 2021; Tessema et al., 2024; Zelelew et al., 2024). For example, studies in Bahir Dar and Dessie revealed neonatal jaundice prevalence rates of 38.8% and 28.8%, respectively (Tessema et al., 2024; Zelelew et al., 2024). Few studies explore the level of knowledge of the community in Ethiopia about jaundice. A systematic review on mothers' knowledge of the danger signs of jaundice highlighted that Ethiopian mothers generally possess very limited knowledge about the condition (Demi et al., 2023).

A study conducted in the central region of Ethiopia indicated that many hepatitis B patients prefer to visit traditional herbalists for treatment (Beykaso et al., 2023). According to this study, herbalist used to diagnose hepatitis mainly based on jaundice symptoms like fatigue, joint pain, fever, nausea, vomiting, and loss of appetite, abdominal pain, and dark urine. Studies also explored the use of herbal treatments and the specific plants employed by traditional healers (Aschale et al., 2023; Beykaso et al., 2023). However, there remains a significant gap in understanding the interplay between cultural perceptions of jaundice and healthcare practices, particularly in rural and underserved areas.

In general, despite the high burden of jaundice and its public health implications, little is known about the conceptualization of jaundice and related healthcare-seeking behaviors across different communities in Ethiopia. Understanding how different communities identify and interpret the symptoms of jaundice, particularly liver-related diseases, is essential for designing and implementing culturally and contextually relevant healthcare strategies.

Ethiopia, with its diverse ethnic groups, cultural practices, and beliefs, is home to a wealth of traditional and indigenous healthcare knowledge (Gemedat et al., 2015). About 80% of the population relies on traditional medicine as their primary healthcare system (Berhane & Vijaibasker, 2015; Chali et al., 2021). This widespread reliance on traditional medicine underscores its critical role in addressing healthcare needs, especially in regions with limited access to biomedical healthcare facilities.

The relationship between culture, health related belief and health behavior is complex. Anthropologists use different approaches to explore the health related culture of different communities. One of these models is the interpretive approach which focuses on the social and cultural constructions of health, illness and disease (Kleinman, 2009). This approach looks at illness from an emic perspective attempting to understand health and disease relative to a particular culture. According to this approach, every society has a shared meaning of what health and illness is, and these issues can better be understood in relation to other cultural traits embedded within the society. Cultures throughout the world use different systems of meaning to describe illness and respond to it.

In Ethiopia, the term *ye'wof beshyita* (jaundice) is used in specific cultural contexts, reflecting the interplay of local beliefs, health practices, and environmental factors (Mulugeta, 2018). Being significant healthcare concern, understanding its causes, symptoms, perceptions, and treatment of jaundice is crucial. This study seeks to fill this gap by exploring the community conceptualization of jaundice and related healthcare seeking behaviors. Specifically, the study aims to address the following research questions.

1. What major conceptions and beliefs related to jaundice and *ye'wof beshyita* prevail in Gondar city?
2. Why do people utilize traditional medical treatments for managing *ye'wof beshyita*?

Materials and Methods

The study used a qualitative research method to achieve an in-depth community level understanding of *ye'wof beshyita* in the city of Gondar. This approach provided flexibility, facilitated rich data collection, and allowed for contextualized insights into human experiences. The study also employed the constructivist paradigm, which is essential for exploring participants' subjective knowledge and understanding the complex nature of *ye'wof beshyita*. The constructivist paradigm posits that people construct their understanding of the world through experiencing and reflecting on those experiences (Ulz, 2023).

This approach was complemented by an ethnographic research design, which was critical for revealing the intricate nature of traditional medical treatments, including the use of herbal remedies, spiritual rituals, and social support systems. Ethnography allowed us to immerse ourselves in the community, providing a holistic view of the beliefs, rituals, and cultural dynamics shaping traditional treatments. This design enabled a deep understanding of the perceived causes, symptoms, and treatments (Strudwick, 2021) of *ye'wof beshyita* in Gondar.

Participants and Sampling Techniques

The study applied a purposive sampling technique to select participants with relevant insights on *ye'wof beshyita*. The primary target populations were herbalists, community

members, healthcare seekers (patients and ex-patients), and modern healthcare professionals. Participants were chosen based on specific criteria relevant to the research goals, a common practice in qualitative research when focusing on specific subgroups. In total, 24 informants (15 males and 9 females) were selected to ensure diverse perspectives and a balance of expertise, lived experience, and professional knowledge.

Data Collection Instruments

A combination of qualitative data collection methods were employed, including in-depth interviews, focus group discussions (FGDs), nonparticipant observation, and document analysis. The primary data collection methods were carefully designed to ensure the validity and reliability of the data. In-depth interviews were conducted with 12 participants:

4 traditional medical specialists, 1 healthcare worker, 2 community members, and 5 patients and ex-patients. The goal was to obtain such comprehensive insights into various aspects of ye'wof beshyita as causes and symptoms, community perceptions and types of treatment. Interview guides were developed to ensure consistency while allowing flexibility for participants to elaborate on their experiences.

Furthermore, to draw additional explanations for the research questions and cross-check the pieces of information collected through in-depth interviews and nonparticipant observation, as well as to explore collective perspectives on ye'wof beshyita, two FGDs were conducted with 6 participants in each group. The first FGD was held with cautiously selected experienced community members, and the second with patients (customers of the herbalists). These discussions explored topics, such as the utilization of traditional medical treatments, community perceptions, and collective beliefs about ye'wof beshyita. It was instrumental to gather shared viewpoints that did not emerge through individual interviews.

As mentioned above, nonparticipant observation was also one of the data collection instruments employed in this study. This allowed observing and documenting the medical traditions, daily activities of traditional medical specialists, and the interactions between patients and healers. To supplement primary data, document analysis was employed. Relevant documents, including local medical records, policy reports, and cultural texts, were analyzed to contextualize traditional healing practices, explore cultural beliefs and norms related to ye'wof beshyita, and grasp treatment modalities and broader social, legal, and regulatory factors affecting the use of traditional medicine in Gondar City.

This triangulation of methods ensured a comprehensive understanding of the subject, enhancing the credibility and validity of the findings.

Data Analysis Techniques

Thematic data analysis technique was used in this study to systematically identify, organize and offer insight into patterns of meaning across a dataset (Riger & Sigurvinsdottir, 2016). The analysis was driven by the principle of inductive approach or the effort of looking for 'what is in the data?' The audio data gathered from in-depth interviews and FGDs

were first transcribed into Amharic language, which is the vernacular of our informants, and then translated into English. Following transcription, translation and sufficient familiarization of the data, the transcribed data were coded manually. The coding process incorporated validation checks to ensure reliability and reduce subjective bias during theme development. After a thorough examination of the codes generated, patterns among them were identified and themes emerged. Then, the generated themes were checked whether they corresponded to the study's specific objectives. After themes were rigorously reviewed, the identified themes were defined and named. Finally, the themes and sub- themes were used to create a meaningful and coherent conclusion while writing the report on the local conception of *ye'wof beshyita* and its treatment by traditional medical practitioners.

Ethical Consideration

In addition to preserving the integrity and reliability of the research process, ethical considerations are crucial for safeguarding the rights and social security of research participants. Therefore, informed consent, voluntary participation, anonymity, confidentiality, minimizing harm, participant respect, honesty, and integrity are some of the most important ethical considerations followed in this research.

Results

Perception of Causes, Symptoms and Treatments of *Ye'wof Beshyita*

Perception of Causes and Severity of *Ye'wof Beshyita*

Unlike biomedical explanation of disease causation, the community and traditional healers attribute *wofie/ye'wof beshyita* to multiple factors. Causation belief includes *mich* (exposure to draft), being exposed to urine of bat (*ye'lelit wof*), polluted water/air, poor hygiene and personal behavior. For instance, one of the community members in the study area listed the possible causes of *wofie* as follows:

The main causes of *ye'wof beshyita* are skin draft (*mich*), anger, exposure to toxic elements like bad smells of the neighbourhood and exposure to bat urine (IDI-03, 44-year-old, 17 March 2024 at Kebele-18).

A urine from a bat as a cause for *wofie* is a frequently stated cause. The name of the illness is also associated with it. Historical documents on traditional medicine also reveal the perceived association of the illness to a bat. It has been reported that some people believe, particularly in rural areas, that the illness can be transmitted either by the bat's

urine dropping on a person outside at night or early in the morning (Metsihafe Mewi by Meseret 2014: 82).

Consumption of a specific kind of food or food which is not properly stored and hunger were among factors the community associated to *ye'wof beshyita*. Many participants from the FGDs argued that *wofie* could be caused by consumption of sugary food and eating cold stew (*wat*). The study community also recognized over consumption of alcohol as possible cause of the disease. Another participant from the community expressed that the causes include eating sweet foods and cold stew (*wat*), hunger, drinking too much alcohol, and the circumnavigation of bat at night or morning.

Symptoms of *Ye'wof Beshyita*

Findings of the study show that there are shared beliefs related to the symptoms of *wofie*. Discoloration of different body parts (e.g. eyes, skin and fingernails) is the widely shared symptoms of the ailment. Other reported symptoms include fatigue, headache, muscle cramps, and general physical discomfort. Additional symptoms can include digestive issues, vomiting, stool bleeding, increased thirst, and excessive water consumption, potentially signaling the body's efforts to maintain hydration. It also seems that the symptoms stated by the healers and other community members are similar.

A 42-year-old traditional healer stated how he and other healers recognize *wofie* when a patient comes in to visit them as follows:

The main symptoms of *wofie* are change in skin, eyes, and urine colour, fatigue, vomiting, and loss in appetite and body weight. The illness manifests through a combination of visual changes to the skin and eyes, as well as disruptions of normal digestive function and overall vitality. These symptoms are interconnected, or often coincide with digestive issues and lack of energy (IDI-01, 12 March 2024 at Kebele-07).

Symptoms are also associated with ability to accomplish daily routines. In this regard, many believe that patients may also experience severe tiredness, which diminishes their ability to engage in physical activities and overall well-being. A 54-year-old healer explained this as:

The main symptoms include accumulation of excessive fluid in our body. If we get tired easily, we experience the signs of energy loss, and there is fluid stored in different parts of our body, especially in the form of swelling around the feet, hands, knees, and toes. Then, we know these are symptoms of *ye'wof beshyita* (IDI-06, 12 April 2024 at Kebele-01).

The symptoms of *wofie* reported by the traditional healers are also similar with the symptoms stated by the local community. In support of this, a 37-year-old female community member stated how healers recognize the illness using the shared symptoms

as:

Healers have employed traditional techniques to identify the symptoms of ye'wof beshyita. They use different illness identification techniques. The most common and widely used technique is the patient's eye color, fingernails, tongue, and urine. Additionally, healers consider the patient's medical history and experience as another method to identify symptoms of ye'wof beshyita (IDI-07, 11 April 2024 at Kebele-17).

Patients who experienced the illness also reported the symptoms they personally suffered from. In their report, they included symptoms which are not stated by the healers and other community members. For instance, a 27-year-old female patient revealed her symptoms as follows:

In addition to the change in the color of my body, there were also other symptoms like insatiable thirst and excessive water consumption. Nausea and occasional vomiting can also occur, which further contributes to weight loss as the person is unable to keep food down. This frequent excessive drinking of water is a noticeable sign of ye'wof beshyita (IDI-08, 26 May 2024 at Kebele-18).

Such variation could occur due to variation in personal experience of the illness or due to the variation of the underlying cause of jaundice or possible co-occurrence of other illnesses.

The symptoms of wofie stated by the community are similar to the biomedical description of symptoms of viral hepatitis.

Perception toward Treatment of Ye'wof Beshyita

Perception toward healthcare service is an important factor for decision to choose from whom to seek healthcare support. Almost all FGD participants of this study reported that they have no or less trust in the biomedical treatment of *wofie*. They believe that the *wofie* illness cannot be cured by a biomedical therapy. They further stated that traditional herbal therapy is better than biomedicine in curing this illness. One of the FGD participants; for instance, shared his belief regarding the risk related to visit to modern health facilities and type of treatment that is effective in curing *wofie* as follows:

There is no effective treatment for ye'wof beshyita in modern healthcare centers. The herbalists and diviners entice people by claiming they have the cure for the illness. As a result, patients go to traditional medical practitioners for ye'wof beshyita instead visiting hospitals and nearby clinics. There is a conventional belief that if a patient of this illness goes to hospital and receives an injection, he will automatically dies. Consequently, the community does not believe that *wofie* could be cured through biomedicine (FGD-01, 25

April 2024 at Kebele-11).

Patients of *wofie* and ex-patients have also shared the belief that effective treatment for the illness is only available in the place where traditional herbal treatment is given. Some tried to justify it by explaining their practical experience related to the illness and the treatment options they sought. Patient testimonies bolster trust in traditional treatments. For instance, 40-year-old male patient stated how he came to the traditional healer after failure in getting cured from *ye'wof beshyita* at the public health facility. In his own words, he was quoted saying:

[...] In the hospital, I diagnosed with a liver illness, and the doctor prescribed some kind of medicine for me, and I took them based on his advice without interruption, but the condition relapsed after initial improvement. Thus, I decided to shift to a traditional practitioner. When I came here [to the traditional healer] for the first time, he was very sure of the illness was *wofie*, and he gave me herbal medicine and told me to come back after one week for a checkup. Then, I came back to hear from him that I was completely cured after I took the medicine for seven days. Now, I rehabilitated and am feeling good (IDI-10, 01 May 2024 at Kebele-18).

There are also other witnesses who confirmed the above views. Patients who participated in this study argued that they transitioned to traditional medicine when they realized that there was no improvement in their health conditions after they had been treated in modern healthcare facilities. In support of this, a 21-year-old female patient noted:

I experienced weight loss, a darkening around my eyes, and dizziness and nausea whenever I smelt food. The biomedical healthcare worker gave me medication to be taken for two months, but my condition deteriorated after initial improvement. Then, my parents decided to turn to traditional medical practitioners. During the first visit, the herbalist recommended herbal medicine and asked for a follow-up visit after one week. Now, after the second visit and taking the herbal medicine, I am completely cured, and there has not been any sign of the illness there after (IDI-09, 01 May 2024 at Kebele-18).

Visit to traditional healers is also a desperate action to try one type of treatment after another looking for a possible success in getting cured. Hence, patients visit traditional healers after the failure of their attempt in biomedicine. Patients also reported that they lost hope at biomedicine after repeated diagnosis and treatment in private and government health facilities. One of the ex-Hepatitis C diagnosed patients reported that he got treatment in more than three private healthcare facilities for three different illnesses with failure in getting cured. Finally, he desperately went for holy (sacred) water. But, he got cured when he attended traditional medical treatment. He illustrated his experiences as:

When the illness started, I got headache and loss of appetite, and I also suffered from nausea, and gradually I felt chilled, and shivered. Then, I went to hospital, and after diagnosis, they told me that I didn't have any diseases at all, and that the symptoms were indicators of anxiety for the drug I was taking for my arthritis (qurimat). To get further treatment and relief from the pains, I went to one of the best private health centers in the city. There, I diagnosed for malaria and pancreas bulge. They told me that the bulge was because of malaria. Then, I got three round malaria and pancreatic treatments. But, this did not bring any change in my health condition. Then, I went to another private clinic and learned I had typhoid for which a drug was prescribed which I tried for few days and stopped as I saw no improvement and thinking this might be a wrong medical result too. After all these attempts, I desperately went to a nearby spiritual healing center and where holy water is poured on to people and is consumed by drinking. I attended for all these practices for about 50 days. To my dismay, my health condition got deteriorated, I lost weight and I couldn't even walk by myself. This time, I came back home with a support of my former student who met me at the center. After this incident, my relatives took me to a new private clinic. Laboratory tests were conducted, and they told us to come back for results. In the meantime, friends suggested me to visit a herbalist in the city. The herbalist looked at my eyes and told me I had *wofie* and gave me herbs to be smoked and gasped using a gourd with water. This was the first time in months I witnessed improvement in my health condition. The nausea stopped, and I began to eat food I used to hate to smell. Meanwhile, I got the laboratory result of my diagnosis at the clinic which showed that I was infected with hepatitis

C. [...]. However, I am now feeling much better. I checked the viral load in the same clinic. I was informed that it was not high and there was no need of taking drugs for it. I think the herbal medicine had good impact in lowering the viral load (IDI-11, 42-year-old man, 18 May 2024 at Azezo).

The experiences of traditional healers also coincide with the explanation of the FGD participants and individual patients. The healers also stated that there are conditions where patients visit them after failure in getting effective treatment at modern healthcare facilities. A 45-year-old female herbalist confidently stated that *ye'wof beshyita* cannot be treated through biomedicine. She further indicated that many of her customers visit her after realizing that the biomedical therapies no longer help them. She explains the situation in her own words as:

Many patients seek traditional treatment after exhausting all options at biomedical facilities. This is particularly common for conditions like ye'wof beshyita (ወፊ), evil eye (ቡዳ), and bashfulness (አይነት), where recovery is often slow and relapses are frequent despite initial improvements. Patients frequently express frustration that prescribed medications are ineffective and thus turn to us in search of a lasting solution (IDI-02, 24 April 2024 at Kebele-06).

Previous experiences and testimonies from friends or family members can be also reasons for a visit to a traditional healer. Individual patients who developed the symptoms of the illness for a second time prefer to visit a healer whom they think would help them recover in their previous illness. One of the patients stated that he experienced the same symptom which he experienced a couple of years ago. Then, he went directly to a traditional healer thinking that he would not want to repeat the same mistake he committed by visiting a modern healthcare facility which showed no success. He remarks:

A few months ago, I began to experience such symptoms as nausea, disgust when smelling food, and amroat [longing for certain food] as if I was a pregnant woman. These were the same symptoms I had witnessed two years ago and got many treatments at a hospital and a private clinic. This showed no improvements. As a result, I finally resorted to a traditional practitioner where I learned it was *wofie*, and I got a successful treatment. So, this time I directly went to the same healer, and he looked my eyes and fingernails. Then, he applied an ointment on my head and covered it with a plastic bag. He told me not to remove it before three day. You can't imagine how successful the treatment was. After hours, I got the feeling of hunger for the first time after a week of avoiding the sight of food. I began eating food. No nausea or headache followed (IDI-12, 35-year-old man, 25 April 2024 at Maraki).

Testimonies from individuals who got cured from *wofie* contribute for the trust for the herbal therapy of traditional healers. Patients often turn to traditional medicine to seek treatment for their illnesses after hearing from close friends or family members about the successful cures they received from traditional medicine. In line with this, a 49-year-old male herbalist explained how patients and their families know about them:

One of the reasons the community choose to come to us is the influence of other customers who previously were cured by receiving our treatment. There are many occasions when we get customers through referrals from other customers who give testimonies about the improvement of their health condition after receiving treatment from us. Old customers send new ones saying that our medicine is effective. They advise people to get the treatment here [from traditional

medical practitioners], and not to go to hospitals or other healthcare facilities for ye'wof beshyita (IDI-04, 17 April 2024 at Kebele-18).

One of the ex-patients, a 35-year-old man, also reported that he told his brother and father, who suffered from the same illness, to visit traditional healers. He narrates the entire situation as follows:

My brother and my father had had similar symptoms like me. I realized from my previous experience that they were suffering from *wofie*. Without knowing about the illness, I spent tens of thousands of Birr for visiting private and public hospitals, without any improvements. I spent also months. It was finally when I visited a herbalist that I got cured. Then, when my father and my brother got sick, I recommended them to visit a traditional healer. I took them there myself, and they got cured after attending the treatment in the form of smoking of herbs. [...] After all, they should not suffer the way I did for long (IDI-12, 25 April 2024 at Maraki).

According to the above quotes, individual experience and testimonies and referrals of previous customers who have received the treatment from herbalists are the reason for the prevalence and continuation of the treatment. This further indicates the health service seeking preference of the local community. There is a noticeable trend where old customers advise new patients to seek treatment specifically from traditional rather than hospitals or healthcare facilities for conditions like ye'wof beshyita. Community narratives reinforce the reliance on traditional medicine, often validated by anecdotal successes shared among patients and families. However, these kinds of views are not accepted by modern healthcare workers who associate such a view with the impatience of patients. For example, as a 38-year-old medical specialist explains:

Most of the patients [of jaundice] come to us half-hearted having the traditional alternative in their mind and demand a fast recovery. As you know, viral infections need different types of diagnoses, treatments and recurrent follow ups. However, the patients you mentioned [ye'wof beshyita tamamiwoch] do not have the patience needed for this. Some of them may not adhere to what we told them to do and properly take the medications that we prescribed so that they may not recover as fast as possible. How can you recover from the illness unless you take the medicines properly? [...] One day a person who was my patient came to my office and told me that the herbs given by traditional healers helped him to recover from his ailment. You know? I remembered him. He was a very difficult and stubborn patient I ever had. Initially, he was admitted for treatment, but he quit all the treatments and hassled us and his family as he preferred to go to traditional healers. [...] How could traditional treatments

“overtake” biomedicine? Ridiculous! (IDI-05, 14 July 2024 at public healthcare facility).

Economic factors may also contribute to the preference of traditional healing services. Traditional healers cost patients very little amount of money as compared to modern healthcare facilities. Most of the participants argued that some herbalists collect the payment in cash while others take the payment in kind. Those herbalists usually ask very small amount of money, approximately between 50 and 200 Birr, including the cost of the medicine. An in-depth interviewee, a 35-year-old ex-patient, stated:

One of the advantages of traditional medical treatments for *wofie*, particularly those based on natural medications and locally available resources can be cost-effective compared to certain modern medications. Affordability can make healthcare services more accessible and offer viable options for those who may not have access to or cannot cover expenses in modern medical institutions (IDI-12, 25 April 2024 at Maraki).

A 37-year-old female community member notes:

We [community] often use traditional medical treatment to treat *wofie*. Even though the government encourages us to use modern medicine, we prefer traditional medical treatment because of its cost-effectiveness and accessibility. Modern medicine is very expensive, but we can get traditional medicines cheaply or even for free. For example, if I had a headache and had to go to a modern healthcare center, I would pay a minimum of 70 Birr for the card. There is also a laboratory test fee which cannot be afforded by an average person like me (IDI-07, 11 April 2024 at Kebele-17).

From the above verbal account, one can understand that traditional medical treatment for *ye’wof beshyita* is cheaper than biomedical treatment costs. In some cases, the payment for diagnosis in modern healthcare centers may cost thousands especially if the diagnosis is not available in the city. One of our interviewees reported that he has paid 4000 Birr to check the viral load of his diagnosed hepatitis C. Therefore, patients and the local communities prefer traditional medical treatments to modern healthcare services regarding *wofie* because of its cost effectiveness, accessibility, efficacy, cultural relevance, and simple process.

Diagnosis and Treatments of *Ye’wof Beshyita*

Like biomedicine, traditional healers use different mechanisms to diagnose patients. The diagnosis may range from interview to urine check and physical examination of the patients. Most interviewed herbalists use a physical examination and collect information from parents and other caregivers along with a review of the patient’s medical history to determine the causes and severity of the illness. The patients or their accompanying

persons are questioned about the symptoms of the illness, the duration, the patient's age, and family medical history in relation to the illness like the medical history-taking process in modern medicine. During the physical examination, herbalists check signs like eye and urine color alterations, abdominal discomfort, and weight loss. However, some herbalists identify ye'wof beshyita merely through the narration of the patients by combining physical examination. A 42-year-old male herbalist supported this idea as:

The diagnosis process is not as simple as you might think it is. We follow different traditional approaches like examining changes in the color of eyes, urine, fingernails, and tongue. Sometimes we may go further, especially cross-examining the patients and the recent medical history of the family as this would help us to see the source of the illness. Besides, we have to be sure of the degree of seriousness of the illness. This will help us decide the kind of medicine that we should give to the patient (IDI-01, 12 March 2024 at Kebele-07).

Patients and ex-patients also reported that they experienced different types of diagnosis in different places. One of the interviewees visited many traditional healers in the city and surrounding woredas. He said that healers use different strategies for diagnosis. He clearly depicts his experience as:

I visited many herbalists and traditional healers, looking for a better one. One of them diagnosed me looking at the color of my eyes and by making interview. In my visit to another healer, the diagnosis was urine check and observation of my fingernails. The healer first took my urine and put it on a coin of martereza [an old silver coin], which turned into foam. Then, he took my fingernails and held it tightly and looked at it carefully. Finally, he claimed that I had ye'wof beshyita (IDI-11, 42-year-old man, 18 May 2024 at Azezo).

Unlike modern healthcare facilities, the diagnostic process in traditional healing centers consumes a very short period of time. Some of the diagnosis procedures followed by traditional healers like urine check and examining observable physical changes are to some extent similar with the diagnosis at modern healthcare centers.

Traditional medical specialists' methods for treating illnesses are varied and deeply rooted in tradition, reflecting a rich tapestry of traditional practices and beliefs. The types of treatment options within traditional medicine can vary greatly depending on the age and physical strength of the patient, the severity of the illness, the cultural context, and the assumptions of the herbalists. In this regard, a 45-year-old female herbalist said:

Sometimes, we give patients herbal mixtures that they are instructed to drink, and some others are advised to bathe their body with herbs before they drink the medicine. There is also a special kind of herb that can be smoked, and the person is required to inhale the smoke

to treat ye'wof beshyita. However, the type of medicine prescribed depends on the age of the patient and the severity of the illness. For example, if the illness is very serious and the patient's condition is much deteriorated, we give medicine that cannot exacerbate the problem, but improve the health condition. This kind of patients may take the medicine for more than two weeks. We start from the simplest one until his or her condition shows some sort of improvements. Then, we administer other powerful medicines and treatment mechanisms until the person is completely cured from the disease (IDI-02, 24 April 2024 at Kebele-06)

A 54-year-old male healer also remarked:

After taking the patient's history, I make herbal medicine to be consumed by mixing it with shero wat (stew of chickpea). I also make herbal medicine mixed with water for bathing and steaming, although this treatment is given rarely. Most of the time, I give herbal medicine mixed with shero wat, which should be eaten early in the morning, and I also prepare herbal medicine for steaming. For children and physically weakened patients, I prefer to give them herbs that can be taken through inhaling the smokes. I recommend seriously ill people to take the herbs that can be eaten with Shero wat and sipped if they meet the required age and physicality (IDI-06, 12 April 2024 at Kebele-01).

Restrictions often accompany treatments like taking medicine before meals and avoiding water. Herbalists often recommend patients to take herbal remedies with limited types of foods and drinks like Tela (local beer) and beer. Besides, sugary and fatty foods, egg, meat, milk, potato, bread, honey, juices and other types of foods which are rich in carbohydrates and protein should be avoided up until a negative test confirms symptoms are not attributable to ye'wof beshyita. This prohibition, according to traditional herbalists, would hinder the growth and spread of the disease.

Treatments may also involve binding agents, whipping with 'medicinal' twig, anointing body parts, smoking, or applying hot iron. The specific herbal remedies vary among practitioners and are mostly taken from parts of plants like leaves, bark, and roots, with their exact compositions known only to the healers. Some practitioners even use bat meat with herbarium. Many herbalists believe that these traditional treatments lead to improvement in the patient's health conditions.

Discussion

Ye'wof beshita/*wofie* is a complex illness label, cross cutting multiple biomedical disease categories chiefly related to liver, among others, jaundice and viral and non-viral hepatitis diseases. Understanding how it is conceptualized is vital for designing and implementing

effective strategy to eliminate the problem. Individual and community perception of an illness or disease has a public health implication, as it affects decision as to when and where to seek healthcare services.

The finding of this study shows that there is shared belief on etiological, symptomology and treatment of the illness. Etiological belief of the community attributes the problem to have multiple causations. The study community attributes *ye'wof beshita* to different factors like poor hygiene, and exposure to polluted water and air, which contaminate the blood near the lungs and heart, and liver failure depending on the type of hepatitis. Other causation beliefs include consumption of sweet foods, cold stew, hunger, alcohol consumption, and bat urine flow at night or in the morning. The most common belief shared by the study community, patients and traditional herbalists is related to bat. This finding is corroborated with the finding of Hodes & Teferedegne (1996) that states that bat is a major cause of the ailment. A study in Vietnam also has similar finding, stating almost 40% of study participants to have non-medical explanation for the neonatal jaundice (Le et al., 2014).

Symptoms are the subjective experiences or observable signs of an illness that indicate the presence of a health problem. Symptoms may also include physical, psychological or emotional experiences (Attia et al., 2022). Understanding symptomatology is critical for healthcare seeking behaviors and cultural context comprehension. In this study, the traditional healers and other community members described different symptoms related to *wofie*. These include: nausea, yellow colored urine, eyes and fingernails, fever, fatigue, headache, muscle cramps, stool bleeding, extreme tiredness, increased thirst, excessive water consumption, and loss of appetite. The finding of this study is also reinforced by Hodes & Teferedegne (1996) in that symptoms of *ye'wof beshyita* are yellow or green skin, along with yellow eyes and dark urine. Most of the symptoms of *ye'wof beshita* also are similar with biomedically known symptoms of jaundice and liver inflammations (Macpherson, 2005).

Most informants used traditional medical treatments for *ye'wof beshyita* with the belief that traditional medical treatments are effective and safe. They perceived biomedicine as ineffective and preferred traditional medical treatment for the ailment. Other studies also found out that traditional medicine is a preferred therapy for Jaundice (Aschale et al., 2023; Beykaso et al., 2023; Gazi et al., 2024; Le et al., 2014).

As the finding of this study confirms, use of traditional medical treatment for *ye'wof beshyita* is influenced by the belief that biomedicine could not cure the illness. It is described that patients avoided modern healthcare facilities and often visit traditional practitioners when biomedicine was believed to be incapable of healing *ye'wof beshyita*. The finding of this study coincides with the finding of other studies (Baykaso et al., 2023; Gazi et al., 2024) in that in southern Ethiopia, for instance, about 85% of the study participants confirmed that if they knew they have hepatitis, they would go to herbalists instead of visiting hospitals (Baykaso et al., 2021; Gazi et al., 2024). In this

study, personal testimonies and previous experience of the patient, cost of treatment and delayed diagnosis are also important factors for the preference of traditional healers over modern healthcare facilities. This is also substantiated by Baykaso et al. (2021) and Gazi et al. (2024).

Conclusion

Jaundice or *wofie/ye'wof beshyita* (lit. bird illness) is a condition in which a person's skin, eyes and fingernails are discolored. For biomedicine, it is a symptom for different diseases, but the study community considers it as a serious illness that can only be successfully cured by traditional medicine. The finding shows that the symptomatological concept of jaundice coincides with biomedicine, but the local etiological model postulates causal factor different from viral and other biomedically known factors. Commonly perceived causes are believed to be natural and environmental, as well as personal factors such as changes in weather conditions, poor hygiene, excessive alcohol consumption, consumption of sweet foods, and exposure to pollution. The most widely shared etiological belief is exposure to urine of bat, after which the Amharic name of the illness comes. The study highlights a strong reliance on traditional medicine for treating *ye'wof beshyita*, which stems from lack of trust in biomedical treatments, and the expenses and delays of the diagnosis and treatment.

The finding of this study has multiple implications for the health care delivery system as well as the health policy. There is a need to improve access to contemporary healthcare services, especially in government healthcare facilities. Accessibility is partly determined by cost of treatment, and there is a need for having low cost diagnosis and treatment services at health facilities.

In general, this study identified that the traditional method of treatment using medicinal herbs is quite effective, affordable and easily accessible in the study area. Further studies need to be done to explore the semantics of the morbid condition of jaundice and hepatitis. Jaundice is a symptom for many diseases biomedically known to be caused by different factors; hence, this will help to know how healers identify and classify each of these conditions and how they treat the various liver or bile duct disorders.

Traditional medical treatments for *ye'wof beshyita* include a wide range of practices and remedies aimed at promoting health, preventing illness, and treating symptoms. Although these treatments are not incorporated in modern medicine, they play a vital role in the cultural and spiritual health practices of the local community. Therefore, there is a need to train health workers understand local belief and practices of the community to foster cultural competency and sensitivity. Integrating traditional and modern medical practices offers a promising pathway to address these challenges. It can improve mutual understanding and cooperation between the two medical systems, leading to a more cohesive and holistic treatment approach. Strengthening this integration could reduce delays in treatment, improve access to healthcare, and ensure that illnesses like

ye'wof beshyita are treated with both cultural sensitivity and medical efficacy. Future research should focus on the efficacy of traditional treatments and explore strategies for collaboration between traditional healers and formal healthcare providers.

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Conflict of Interest

The authors declare no conflict of interest.

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