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Posted Date: 23 April 2024

doi: 10.20944/preprints202404.1486.v1

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Parental Experiences and Perceptions of Using Traditional Medicine and Biomedical Services for Their Children's Health: A Qualitative Study in Indonesia

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Abstract: Traditional Medicine (TM) is a culturally-rooted healthcare practice, and its use, including for treating illnesses among children, has been reported in many countries. Despite the cultural significance of TM in managing children's illnesses, evidence suggests that child mortality remains high in many settings. This indicates that the sole use of TM within families and communities might act as a barrier to using biomedical services, contributing to avoidable deaths. Globally, Indonesia is in the top 10 countries with the highest child mortality rates. In addition, Belu is a district in East Nusa Tenggara province, Indonesia that exhibits a high number of child deaths within the last three years. However, the use of TM for the treatment of illnesses among children in Indonesia has received minimal academic attention. This study aimed to understand parental beliefs, knowledge, views, and perceptions of TM and the impact on the use of TM and biomedical services in the treatment of illnesses among their children in Belu district, Indonesia. The participants (n=25) were parents with the real-life experiences of using TM for treating their children's illnesses. They were recruited using the snowballing sampling technique. Data were collected using in-depth qualitative interviews. A thematic data analysis was performed and guided by a qualitative data analysis framework. The findings were grouped into four main themes: (i) parental beliefs, knowledge, views, and perceptions of TM, (ii) the influence of these factors on parental use of TM and biomedical services for the treatment of children's illnesses, (iii) social and cultural influences on the use of TM and biomedical services among their children, and (iv) the impact of the sole use of TM or late medical diagnosis on the health condition and the death of children. The findings show that the use of TM is a common practice within families and communities in Belu, however evidence suggests that child mortality remains high in the setting, indicating less effectiveness of the sole use of TM. Thus, there is a need for the development of collaborative models of healthcare programs and service delivery fostering mutual respect and understanding between traditional healers and healthcare professionals, which could significantly contribute to improving parental use of biomedical services for the treatment of their children's illnesses.

Keywords: traditional treatment; beliefs; knowledge; views; and perceptions of traditional medicine; social influence; parents; children; biomedical services; Indonesia

 doi:10.20944/preprints202404.1486.v1

1. Introduction

Traditional Medicine (TM), sometimes used interchangeably with complementary or alternative medicine (CAM) in some countries, is an ancient and culturally rooted healthcare practice predating the advent of modern scientific approaches [1,2]. According to the World Health Organisation (WHO), it encompasses a range of health practices, beliefs, and knowledge that integrate herbal remedies, mineral-based medicines, spiritual therapies, manual methods or techniques, and exercises and is utilised individually or in combination for the prevention, diagnosis, treatment, or maintenance of well-being [2,3]. As outlined in the 2019 WHO Global Report on Traditional and Complementary Medicine, diverse traditional medical systems are employed worldwide, reflecting the distinct sociocultural backgrounds of nations, including the 170 WHO Member States that have reported the utilisation of TM by their populations, including adults and children [4].

The use of TM among children by their parents to prevent, diagnose or treat illnesses has been reported in many countries, both developed and developing countries. Although in developed countries like the US, European countries, New Zealand, and Australia, the term CAM is commonly used, the practice also encompasses what is described above as TM, including the use of home remedies, herbal therapies, minerals, and spiritual practices [5–8]. In the US, for instance, parents utilise herbal remedies, body-based therapies, spiritual healing, prayer, and blessings for their children's health needs or treatment [5,9–11]. Similarly, in European countries, minerals, herbal therapies, and acupuncture are commonly used for the treatment of health issues among children [6,12,13]. In New Zealand, Indigenous communities, such as the Maori, employ spiritual practices like prayer and meditation, along with minerals, herbs, and massage, for the prevention and treatment of illness in their children [7]. Likewise, in Australia, Aboriginal and Torres Strait Islander parents incorporate home remedies, herbal medicines, bush treatments, healing chants, minerals, and traditional healers alongside biomedical healthcare to prevent, diagnose, and treat children's health issues [8,14,15]. Parental use of TM for their children is even widespread in developing countries, especially in Africa and Asia. In sub-Saharan Africa, parents use religious or prayer therapies, traditional healers, massage, herbal remedies, and bone-settlers for their children's illness prevention or treatment [16–19]. Similarly, in Asian countries, traditional healing practices like herbal remedies, massage, acupuncture, and spiritual healing are employed for children's health issues [20–23].

Various factors contribute to the utilisation of TM to prevent or treat children's health problems. Common supporting reasons in both developed and developing nations include parental or familial experience with TM, parental knowledge and awareness of TM, and the availability and accessibility of TM resources [7,8,10,20,21,24,25]. Additionally, parental views on the effectiveness and safety of TM for children, its compatibility to be used alongside conventional medicine, and dissatisfaction with conventional treatments also encourage its use [8,20,22,24,26,27]. Parents' cultural and religious beliefs play a significant role, with some parents relying on spiritual practices, herbal remedies, and prayer therapies for their children's health issues [8,17,18]. Similarly, parental beliefs in supernatural causes of diseases, such as evil spirits or witchcraft, further support the use of TM among their children [17,26]. Economic factors like cost-effectiveness, low income, lack of health insurance, rural residency, and limited access to healthcare facilities are also influential, particularly in developing countries [16,18,19,24,25,28].

In Indonesia, although report on the use of TM among children is is still limited, some evidence shows its application for the prevention and treatment of various illnesses among children in some parts of the country [29]. For example, some tribes in Kalimantan, Sulawesi, and Moluccas rely on traditional healing methods involving engagement with metaphysical forces, spiritual practices like prayer, traditional healers, and a variety of herbal plants, including leaves, stems, roots, and fruits for their children's health [30–34]. Similarly, in West Java, parents utilise TM, such as herbal remedies, honey, onion, lime, and traditional oils, to prevent and treat illnesses among children [35,36]. Factors supporting parental use of TM for children include parental knowledge of TM and the availability and accessibility of TM resources within the local environment [30,37–39]. Additionally, parents perceive TM to be more effective and with fewer side effects than modern medicines, often compounded by challenges in reaching healthcare facilities due to distance and lack of transportation,

 doi:10.20944/preprints202404.1486.v1

all of which contribute to its application among children [30,35]. Other supporting factors include cultural beliefs, which also play a significant role, with TM being seen as part of the cultural system, a means of respecting elders and connecting with nature or metaphysical forces [30].

Despite the studies highlighting the cultural significance of TM in managing childhood illnesses, evidence suggests that child mortality remains high in many settings, including Indonesia [40,41]. This indicates that the sole use of TM might act as a barrier, amongst other barriers, to using biomedical services [42], contributing to avoidable deaths, as noted in the World Health Organisation's (WHO) report that a significant portion of child deaths globally are due to conditions that can be prevented through medical treatment [43]. Globally, Indonesia is in the top 10 countries (ranks 7) with the highest number of under-five child deaths, with 110/1000 live births, which is three times higher than the global average rate of 37/1000 live births [44]. Belu is one of 22 districts in East Nusa Tenggara (NTT) province, Indonesia, where the number of under-five child deaths is still high, with data reporting 64/1000 live births, nearly double the global average [45,46]. Belu is one of the districts in NTT province where people are still steeped in social, cultural, and traditional beliefs and practices [47,48]. Similarly, the use of TM for illness treatment among children and the general population, is prevalent within families and communities in Belu, which might act as a barrier to biomedical service use. However, there is a paucity of evidence on TM usage, both among children as well as the general population, in this area and NTT province in general. In addition, there is still limited in-depth qualitative evidence globally and in Indonesia on parental views and use of TM and the influence on their views and use of biomedical services for their children. This study aimed to bridge this knowledge gap by exploring parental beliefs, knowledge, views, and perceptions about TM and the impact on the use of TM and biomedical services in treating illnesses in their children in Belu. They were parents with real-life experiences of using TM for treating their children's illnesses in the past, and how it influenced their views or use of biomedical services. Thus, gaining profound insights from them is crucial for informing health policies and healthcare systems to incorporate or consider the potential role of TM practices in health designs, programs, and service delivery.

2. Methods

2.1. Study Design and Participant Recruitment

A qualitative research design was used to explore parents' beliefs (knowledge, feelings, views, and perceptions) in TM and the impacts on their views and use of TM and biomedical services in treating their children's illnesses. Applying qualitative methodology enabled the researchers to delve deeply into participants' views, understandings, stories, and experiences regarding the use of TM and biomedical services for their children's health needs or issues [49,50].

This study took place in Belu district, Indonesia [51]. Data collection was undertaken in June and July 2023, involving 25 parents (fathers and mothers). The recruitment started with the field researcher (ALS) approaching several Village Chiefs to secure permission to distribute the study information sheets through their office information boards. The information sheets contained the contact details of the field researcher and encouraged potential participants to voluntarily reach out via text or call if they were interested in participating in the study. Most participants reached out to the field researcher via text, and the field researcher gave each of them a call to have an initial conversation about the study and provide a brief verbal explanation about their role in this study if they decided to participate. Those who expressed interest and confirmed their willingness to participate were recruited and interviewed. Interviews took place at a mutually agreed-upon time and place. The recruitment of participants adhered to specific criteria, including being: (i) a parent who used TM (either alone or in combination with allopathic medicine) for the treatment of illnesses in their child, (ii) a parent who had experienced the loss of a child due to any health issues within the last year or so, (iii) aged 18 years or above, and (iv) willing to participate voluntarily in the interviews. These parents were recruited for their knowledge, views, perceptions, and real-life stories and experiences using TM for treating children's illnesses, and the impact on their views and use of biomedical services, which might have been a contributor to avoidable deaths of their children.

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2.2. Data Collection

Data were collected using face-to-face interviews with participants in a designated room in their homes or a private room in the village office as agreed upon during the recruitment. The interviews were exclusively attended by the interviewer and each participant. Interviews were conducted in Bahasa, the national language spoken fluently by the field researcher (ALS) and participants, and digitally audio recorded. Interviews focused on several key areas, including the participants' views and use of TM for the treatment of illnesses in their children; their views about factors that supported the use of TM for treating their sick children; their views and experience regarding the roles/influences of family members, neighbours, and friends on the use of TM; their views and use of biomedical services for the treatment of their ailing children; what factors influenced/hampered their views and use of biomedical services (see Sppl 1: Interview Guide). Fieldnotes were taken during interviews with each participant if the interviewer felt necessary. The fieldnotes (e.g., the circumstances of the interviews, how the interview with each participant went, whether or not a participant seemed comfortable, gestures, etc.) were then integrated into the transcript of the audio recording of the same participant. Interviews lasted approximately 35 to 50 minutes. Recruitment and interviews concluded once data saturation was indicated by the absence of new emerging themes and consistent responses from the last few participants [52]. Repeated interviews were conducted with three participants to seek clarification regarding the information provided in their previous interviews.

2.3. Data Analysis

The comprehensive analysis began with the verbatim transcription of the audio recordings (by ALS). To maintain the accuracy and validity of the data or transcripts, consultations with some participants were conducted by the field researcher (ALS) during the transcription process to seek clarification, particularly in cases where recorded voices were unclear or spoken at deficient volume. Fieldnotes undertaken during the interviews were also integrated into each transcript during the transcription process. The transcripts were again checked and rechecked throughout the analysis process by both the first and second authors. The subsequent steps involved iterative readings of each transcript, with comments, notes, and labels assigned to data extracts. A thematic framework was then established based on key concepts and issues emerging from the participants' information. This framework, an iterative product, underwent refining and modifications during the data analysis process. Open coding was applied to data extracts, followed by collating and grouping similar or redundant codes into the same themes or sub-themes (close coding). Finally, data were compared and interpreted holistically within each individual transcript and across transcripts [53,54]. These structured analytical steps enhanced the rigour, transparency, and validity of the analysis [54]. The entire analysis process was initially conducted in Bahasa, with selected quotes for this publication subsequently translated into English. This approach ensured the preservation of sociocultural meanings conveyed by the participants [55]. Throughout the writing process, checks and rechecks of translations against the original transcripts were performed by the authors to maintain the accuracy and credibility of the findings [56]. Although data analysis was primarily performed by the first and second authors, team discussion and comments for improvement were carried out and provided throughout the data analysis and writing process. The final themes and interpretations presented in the manuscript were agreed upon by all authors.

2.4. Ethical Consideration

Ethics approvals for this study were obtained from the Medical and Health Research Ethics Committee, Krida Wacana Christian University (No. SLKE: 1405/SLKE-IM/UKKW/FKIK/KE/V/2023). Prior to the interviews, participants were informed about the objective of the study and the future use of the data or information they provided. They were assured that the interviews were meant to understand their views and use of TM and would not influence their access to biomedical services in any healthcare facility in the future. They were also informed about the

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confidentiality and anonymity of information they provided in the interviews and that all identifying information (e.g., names, addresses, etc.) would be removed from the transcripts to ensure the anonymity of the data and prevent the possibility of their comments being linked back to them in the future. They were also informed that their participation was voluntary and they could withdraw their participation at any time without consequences. Given the nature of the project, it was anticipated that some participants could experience emotional discomfort. Therefore, before commencing the interviews, they were again verbally advised that if any emotional discomfort was experienced, they could contact a counsellor at the Public Health Centre in the study setting for support or counselling that may be accessed free of charge by all of them. Each signed and returned a written informed consent on the interview day.

3. Results

3.1. Sociodemographic Characteristics of the Participants

A total of 25 parents participated in this study, including 11 mothers and 14 fathers. They were aged between 25 and 51 years (see Table 1). Most of them had low levels of education, with the majority graduating from senior and junior high school (n = 18), while some graduated from primary school or could not finish primary school, and a few finished their diploma or undergraduate studies. Most mothers were housewives, and most fathers were fishermen and construction workers.

The main findings are grouped into four main themes including: (i) Parental beliefs, knowledge, views, perceptions TM; (ii) The influence of these factors on the use of TM and biomedical services for the treatment of illnesses in their children; (iii) Social and cultural influences on the use of TM and biomedical services; and (iv) The impact of the sole use of TM and the late medical diagnosis and treatment on health conditions and the death of children. A detailed elaboration of each theme is presented below.

Table 1. Sociodemographic profile of the participants.

3.2. Parental Beliefs, Knowledge, Views, and Perceptions of Traditional Medicine

Traditional medicine is deeply ingrained in the cultural heritage of many participants, representing a legacy passed down through generations within their families and communities. This fostered strong beliefs among the participants in traditional medicine, especially in the treatment of various health issues. The participants' beliefs in traditional medicine seemed to be formed by their knowledge of various traditional medicinal practices in their familial or communal settings, primarily acquired through firsthand experiences within these social contexts. Participants recounted witnessing traditional healing rituals conducted by their parents, grandparents, or even great-grandparents, which served as foundational sources of their understanding of traditional medicine. As one female participant expressed, *"I have seen my grandparents and parents use traditional medicine for my entire life*." Additionally, exposure to traditional healing practices performed by traditional healers or prayers further contributed to participants' knowledge of traditional medicinal remedies. These firsthand encounters with traditional healing practices passed down through familial and communal practices have fostered a deep-seated familiarity with and reliance on traditional medicine among participants:

"When I was little, usually when I was sick, my mother or grandmother boiled some leaves and roots of plants and then gave me to drink. My grandmother used to go with me to collect the leaves, or roots, or bark of certain plants to make traditional medicines. So, from that experience, I know several types of traditional medicines" (A female participant).

Similarly, a male participant reflected on his upbringing in a rural village where traditional medicine was the primary form of treatment, noting:

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"I have known several traditional medicines since I was little because, in the past, we only used traditional medicines for treatment when we were sick. My grandfather was a traditional healer. I saw the treatment he performed and heard his story about the traditional ingredients he used. Also, there are many traditional healers and prayers who often provide traditional treatment for sick people here. So, I often see and hear about the ingredients they use…"

The firsthand exposure to traditional medicine practices over their lifetimes appeared to cultivate feelings of familiarity and closeness to various traditional medicine ingredients and treatment methods among participants. This familiarity was intertwined with their upbringing, as they were born and raised in environments where traditional medicines were embraced and utilised within their families and communities. This led to the views of traditional medicines as part of their lives as one male participant articulated, "*I am familiar with various traditional medicines which have become an important part of my family life*." Consequently, most participants viewed traditional medicine and treatment as their primary recourse in instances of illness affecting a child or family member. Thus, the integration of traditional medicine into familial practices underscored its perceived importance as an initial line of defense against illness within participants' households. Reflecting on this sentiment, a female participant remarked:

"Because our family has been using traditional medicines for a long time, I am very familiar with those medicines and their ingredients... traditional medicines have become part of our family's lives and are our first choice for treatment if our child or anyone in the family feels unwell."

Moreover, parental knowledge, familiarity, and experience with traditional medicine and its ingredients appeared to shape their positive perceptions of traditional medicines. Traditional remedies were regarded as safe, effective, and devoid of adverse effects, including for children:

"In my opinion, there is minimal risk associated with the use of traditional medicine. It poses no harm or side effects, rendering it safe for treating illnesses, even among children. Certain ingredients are routinely incorporated into our daily cook" (A female participant).

The participants' views and perceptions about traditional medicine appeared to be intertwined with their beliefs in the etiology of diseases or supernatural causes (e.g., black magic) of diseases: *"I really believe that black magic exists because this is not something that just appeared yesterday. The practice of black magic has been around for a long time"* (A male participant). It was evident that participants had strong beliefs in the existence of black magic practices, which led to the perceptions of non-medical treatment or traditional medicine from traditional healers and prayer services as much more effective solutions. These were further supported by the belief that sickness resulting from the practice of black magic could not be cured through biomedical treatment. Traditional healers and prayers were believed to have the capability to identify the cause of an illness attributed to black magic, the source of the black magic, and offer traditional remedies for it:

"I am sure that our child was sick because of black magic. It was not a biological illness because there were no symptoms at all. Suddenly, she felt short of breath and was talking about random things, so I went to the prayer to identify the cause, and it was true that the prayer said that my child was sick because of magic [black magic]. …. I knew medical treatment would not effectively treat the sickness caused by black magic" (A female participant).

"I knew that my son was sick due to black magic, and it was not a disease that you could treat with medicines from doctors. Traditional healers have the capability to handle black magic, not doctors. I have seen people who were sick for months or even years, consulted different doctors, and went through medical treatment, but they didn't get better. Once they went to the right traditional healers, they got better very quickly" (A male participant).

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3.3. The Influence of Parental Beliefs, Knowledge, Views, and Perceptions of TM the Use of TM and Biomedical Services for the Treatment of Illnesses in Their Children

Parental beliefs in traditional medicine, including the capability of traditional healers and prayers to identify supernatural causes of illnesses and offer remedies, shaped the use of traditional medicine and biomedical services for their ailing children. Their narratives portrayed the prioritisation of traditional medicine, reflected in their initial decision and course of action for their sick children, which was to seek assistance from prayers or traditional healers who provided spiritual services and traditional remedies for treating illnesses:

"When our child was sick, my wife and I went to the prayer, and we were told that someone was using black magic and making our child sick. That's why we didn't bring our child to the hospital for medical treatment. He [the prayer] prayed for our child, explained the source of black magic, and gave antidote for it" (A male participant).

"We [the woman and her husband] did not take our child to the hospital. We used services from prayers and traditional healers. We received traditional medicines from them for treating our child…. After a while, we brought him to the hospital for treatment, but it wasn't helpful" (A female participant).

The participants' beliefs in the effectiveness of traditional medicine in addressing illnesses significantly shaped their healthcare-seeking behaviour, particularly in their decision to opt for traditional medicine for their children's treatment. These beliefs were supported by positive experiences of recovery among family members and neighbours following treatment with traditional medicine. Moreover, participants had perceptions regarding the inefficacy of conventional medical treatments in addressing ailments, likely influenced by instances of adverse outcomes such as the demise of family members, friends, or community members post-conventional medical treatment. Notably, participants exhibited a primary preference for traditional healing modalities administered by traditional healers or prayers for the treatment of illnesses in their children:

"I still remember at that time my child experienced swelling in his throat and around his neck. Previously, I had seen our neighbour who had similar swelling in his neck, and he recovered after being treated with traditional medicine. So, I thought that what my child experienced was the same illness. Therefore, I looked for the same traditional medicine and used it to treat my child. We (the participant and his family) didn't immediately take him to the hospital to be examined by medical personnel" (A male participant).

"One of the reasons why I first treated my child using traditional medicine was because I had experienced the efficacy of traditional medicine many times. For example, when I have a fever or stomach ache, or other health issues. I treated them using traditional medicine and got better" (A female participant).

The participants' accounts above suggested that biomedical services were considered a secondary option, pursued only if traditional medicine failed to yield positive outcomes or improve their child's health condition.

3.4. Social and Cultural Influences on the Use of TM and Biomedical Services

Social influence from family members, friends, and traditional healers, as unveiled in the interviews, also significantly contributed to the participants' choices to prioritise traditional treatments for their ailing children. This influence was reflected in the endeavours of their relatives and friends to locate and connect them with renowned traditional healers from Belu and neighbouring districts. It was also manifested in the constraints imposed by traditional healers on seeking biomedical services for their unwell children. Thus, it was evident that social influence from others shaped parental use of traditional medicine and biomedical services for the treatment of illnesses in their children. The subsequent account narrates the experience of a mother whose son died from an undiagnosed illness four years ago:

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"Initially, my husband and I talked to our [extended] families about the treatment, and they suggested we bring our child to XX [name of the traditional healer], but finally, one of my relatives communicated with the traditional healer and brought him to our house to treat our child. I remember she [the traditional healer] asked us to wait and see the progress and not take our child to the hospital for medical examination. …. Finally, we brought our child to the hospital, but it wasn't helpful, and she passed away".

Cultural practices also had an influence of parental use of traditional medicine for their children. Cultural practices appeared to underpin social influence from extended families and friends, thereby shaping the participants' preferences for traditional medicine in treating their children's health conditions. Notably, engaging in traditional rituals within ancestral homes to invoke assistance from deceased ancestors and fulfilling their wishes based on visions and guidance from prayers reinforced others' (families and friends) and the participants' inclination towards traditional medicine as their primary choice. The narratives of several participants also showed that the use of biomedical services was carried out after they underwent various traditional treatments.

"When our child fell sick, we conducted traditional rituals multiple times in response to indications from prayer, suggesting what our child had as a signal from our ancestors. So, our [extended] families and some friends encouraged us to keep using traditional medicine. However, our child's health deteriorated over several months. We brought her to the hospital for medical treatment...." (A male participant).

"I remember performing traditional rituals at my ancestral home to seek aid from ancestors. Subsequently, a communal peace traditional ceremony was conducted with tribal members, accompanied by grave restoration rituals. Traditional elders presiding over the ceremony used the blood of the sacrificed animals to bless our child. …. Following these rituals, we continued traditional medicinal treatments as encouraged by the elders and families…. We later sought medical consultation and treatment from a general practitioner twice..." (A female participant).

In addition, it was noticed that some participants' choice to heed the advice of relatives and friends, opting for prayer services and traditional treatment, was also influenced by their family's financial hardships. The financial challenges manifested in the lack of income or money when their children fell sick, exacerbating difficulties in meeting their family's and children's needs. This predicament compelled some participants to opt for cost-effective or no-cost treatments, such as prayer services and traditional remedies provided by traditional healers or their family members. The subsequent narratives from these individuals shed light on how such circumstances influenced their decisions in treating their unwell children:

"When my son became ill, we were completely penniless. My husband, who earned a living through fishing, couldn't catch any fish. So, when our relatives and neighbours suggested taking him for prayer, we complied. Medical treatment wasn't even considered because we were facing financial difficulties at that time, struggling to meet our family and children's needs" (A female participant).

3.5. The Impact of the Sole Use of TM or Late Medical Diagnosis on Health Conditions and the Death of Children

Parental use of traditional medicine is strongly intertwined with their social and cultural beliefs, experiences, and practices within the families and communities where they were raised and lived. However, it seemed that the sole use of traditional medicine was less effective, contributing to children's deteriorated health conditions and avoidable deaths. The deterioration of children's health conditions was evident in the ongoing decline in their weight and physical vitality, as well as prolonged periods of ill-health. The deteriorating physical well-being of the children served as a clear sign of the ineffectiveness of the sole non-medical treatment for their health issues, as illustrated in the subsequent quotes:

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"At that time, my child was treated using traditional medicine. At first, he experienced pain in his stomach, so we thought it was normal. We asked our neighbours to treat him with traditional herbs and not think about taking him to the hospital. There was a talk [with neighbours] that there was a dark force that made him sick. Finally, his condition got worse and could not be helped medically when we took him to the hospital" (A male participant).

"I immediately asked a grandma who usually treats sick people to treat my child. After being given traditional medicine, it seemed that my child's condition had improved somewhat, but after a few weeks, he became ill again and he lost weight. His physical condition seemed to be getting weaker….." (A female participant, single mother).

Another very fatal consequence of the sole use of traditional treatment and the very late medical diagnosis and treatment for children's health conditions was the loss of children's lives. Several participants acknowledged the potential for saving their children had they sought medical treatment at an early stage, as depicted in the following narrative:

"I thought there was a chance my child would survive if I also took my child to the doctor for medical examination and treatment. A week before he passed away, we went to the hospital and were diagnosed with lymph node infection but couldn't be helped" (A male participant).

The participant's account above demonstrates a recognition of the inefficacy of using traditional medicine or treatment solely to address their child's health issues. It also signifies the participant's comprehension of the significance of medical examination and treatment, which has the potential to yield favourable health outcomes.

4. Discussion

Although the global initiatives aimed at reducing child mortality rates show positive outcomes, evidenced by a 60% decrease from 93 deaths per 1000 live births in 1990 to 37 in 2020, high mortality rates persist in various contexts, including Indonesia, where the even exceed double or triple the global average, contributing to 5 million deaths worldwide [44,57,58]. According to a report by the WHO, a significant proportion of child deaths result from conditions that are preventable through medical intervention [43]. The use of TM for the treatment of children's illnesses is culturally significant and widespread in many countries, but it may also pose a barrier to parental use of biomedical services or treatment for their children, contributing to avoidable deaths. This study explored parental beliefs, knowledge, views, perceptions of TM, sociocultural aspects related to TM, and the influences of these factors on the use of TM and biomedical services in the treatment of illnesses in their children in Belu district, Indonesia. The findings highlight valuable insights into the complex interplay between parental beliefs, knowledge, views, perceptions, TM, and parental use of TM or biomedical services and the consequences on the health conditions of children within families and communities in Belu district, Indonesia. Consistent with previous findings [1,2], this study suggests that TM is a deeply ingrained aspect of the participants' cultural heritage, passed down by their ancestors through generations and seen as an important resource for addressing health issues among their children and families. In addition to findings from a previous study in Indonesia reporting TM as part of the cultural system and a means of respecting elders [30], the current findings enrich the existing knowledge, suggesting that TM is not merely a treatment modality for the participants' children and families but also serves as part of their cultural identity. This is manifested in cultural practices of rituals within ancestral homes to invoke assistance from late ancestors, which ultimately reinforced their beliefs and use of TM for treating children's illnesses. It is also reflected in the participants' strong beliefs in its efficacy, which are shaped and strengthened by their knowledge, firsthand experiences, and positive feelings, views, and perceptions of TM. These aspects also led to the participants' sole use of TM or primary choice for TM over biomedical services for treating illnesses in their children. However, the available data suggest that child mortality rate in Belu is high within the last three years (2021-2023), with 62, 52, and 64 deaths, respectively, per 1000 live births,

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almost double the global average of 37 per 1000 live births [44,45]. This seems to be an indication that the sole use of TM is less effective and might act as a barrier to timely medical diagnosis and treatment, contributing to the high number of child deaths in the setting. Thus, the current findings underscore the importance of recognising TM practices and the development of collaborative models of healthcare programs and service delivery, fostering mutual respect and understanding between traditional healers and healthcare professionals, which could significantly contribute to timely use of biomedical services and improving overall healthcare outcomes in Belu [59–61].

The present study highlights that even though parents lost a child they believed in the effectiveness of TM, which was supported by their knowledge of the healing capabilities of traditional healers and prayers, leading to TM use and late medical diagnosis or use for their children's health treatment. The beliefs, coupled with the perceived ineffectiveness of biomedical treatments witnessed through adverse outcomes such as the demise of family members, friends, or community members post-treatment, served as contributors to participants' reliance on traditional healers and prayer services and as factors that delayed medical diagnosis and biomedical service use. Such perception seems to indicate a lack of trust among the parents in the healthcare system and professionals [62,63], which corroborated their primary choice for TM in treating their children's health issues. The findings enrich scant information reporting in a couple of previous studies suggesting that parental beliefs in supernatural causes of diseases, such as evil spirits or witchcraft, further support the use of TM among their children [17,26]. Our analysis also shows a strong indication of the possible influences of parental low education attainment as reflected in their sociodemographic profile, health illiteracy, and limited understanding of health issues on their healthcare-seeking behaviours for their ailing children, as have been previously reported [28]. The current findings indicate the need for family-focused health education programs to enhance health knowledge, and promote a more rational approach to understanding health issues facing their children [64–66]. This approach can facilitate parental informed decision-making regarding healthcare access and reduce delays in medical diagnosis for their children facing health issues.

Some identified barriers in this study, such as financial issues and difficulties in meeting family needs, align with those reported in previous studies, which suggest economic-related factors, including low income, lack of health insurance, and rural residency, which increase medical access-related costs as influencing factors for parental use of TM for their children's health treatment, particularly in developing countries [16,18,19,24,25,28]. Additionally, the current study introduces novel insights into the significant role of social and cultural influences from family members, peers, and neighbours in shaping the participants' beliefs in and preference for the sole use or the primary choice of TM over biomedical services for their children's health issues. These social and cultural influences are expected to be potent in a society with communal characteristics and strong family and community ties like Belu and Indonesia as a whole [67,68]. Thus, recognising and harnessing these social dynamics for positive health outcomes are crucial in health policies and interventions. These could be done through community-based health programs involving all community components, such as families, traditional healers, and community leaders, which could effectively enhance knowledge and acceptance of biomedical services and promote timely access to the services for their children [69,70]. Addressing the challenges the parents face through the recommended health policies and interventions can ultimately prevent severe and fatal or avoidable health consequences for their children.

Study Limitations and Strengths

There are several limitations to be cautious of when interpreting the findings. The study involved a small number of parents which may have introduced bias, providing narrow views and experiences related to TM and the impact on views and use of biomedical services for their children's health treatment. Thus, as is the case for many qualitative studies, our findings are not meant to be generalised to all parents or caregivers in other parts of Indonesia or globally. The study's specific focus on parents may also limit the representation of views from other family members who may possess distinct stories and experiences concerning the use of TM for treating children's illnesses.

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Despite these limitations, it is noteworthy that evidence on parental views and experiences regarding TM and the influence on their views and use of biomedical services or treatment for their children in Indonesia is still very limited. As such, the findings hold significance in informing health policies about the importance of TM practices, which need to be taken into account in the development of health programs and the delivery of health services to communities in Belu and other settings in Indonesia and beyond.

5. Conclusions

The study highlights parental beliefs, knowledge, views, perceptions of TM and the impact on the use of TM and biomedical services for their children's illness treatment. It shows that parents had strong beliefs in TM, shaped by their knowledge and firsthand experiences of TM and positive feelings, views, and perceptions about TM. These beliefs further supported the sole use of TM or primary choice for TM over biomedical services for the treatment of illnesses in their children. Social and cultural influences from extended families, friends, and neighbours favouring TM also encouraged parental primary preference for TM over biomedical services. However, the findings suggest that although TM is culturally important, evidence of its effectiveness is lacking, and its use may act as a barrier to the use of biomedical services, contributing to avoidable adverse health conditions and deaths among children. Future large-scale studies involving parents and other family members become imperative to delve into the intricate factors shaping parental beliefs, knowledge, views, and perceptions of TM and the influence on their healthcare-seeking behaviours. Similarly, future studies that involve traditional healers and prayers to understand their perspectives on TM and their influence on people's views and use of TM and biomedical services are recommended. The findings of such studies can contribute to a more comprehensive understanding of TM-related issues and can be used to inform the development of effective health policies and programs to support parental use of biomedical services for treating their children's illnessess.

Author Contributions: N.K.F. A.L.S. were involved in conceptualisation, project administration, investigation, and developing the methodology, conducting formal analysis, writing the original draft of the paper, and reviewing and editing the paper critically for important intellectual content. P.R.W. was involved in conceptualisation, methodology, development of the original draft and reviewing and editing the paper critically for important intellectual content. G.A.A., C.Y.K., H.A., M.R., E., were involved in reviewing and editing the paper critically for important intellectual content. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki and was approved by the Medical and Health Research Ethics Committee, Krida Wacana Christian University (No. SLKE: 1405/SLKE-IM/UKKW/FKIK/KE/V/2023).

Informed Consent Statement: Informed consent was obtained from all participants involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to restrictions set by the human research ethics committee.

Acknowledgments: We would like to thank the participants who voluntarily spent their time to take part in the interview and provided us with valuable information.

Conflicts of Interest: The authors declared no conflicts of interest.

References

1. WHO. WHO traditional medicine strategy: 2014-2023. Switzerland: World Health Organization. Available at: https://iris.who.int/bitstream/handle/10665/92455/9789241506090_eng.pdf?sequence=1; 2013.
2. WHO. Traditional, Complementary and Integrative Medicine. Switzerland: World Health Organization. Available at: https://www.who.int/health-topics/traditional-complementary-and-integrative-medicine#tab=tab_1; 2023.

 doi:10.20944/preprints202404.1486.v1

3. WHO. World Health Organization. Regional strategy for traditional medicine in the Western Pacific. Switzerland: World Health Organization. Available at: https://iris.who.int/bitstream/handle/10665/207508/9789290615590_eng.pdf?sequence=1; 2012.
4. WHO. WHO global report on traditional and complementary medicine 2019. Switzerland: World Health Organization. Available at: https://iris.who.int/bitstream/handle/10665/312342/9789241515436-eng.pdf?sequence=1; 2019.
5. Sanders H, Davis MF, Duncan B, Meaney FJ, Haynes J, Barton LL. Use of complementary and alternative medical therapies among children with special health care needs in southern Arizona. Pediatrics. 2003;111(3):584-7.
6. Crawford NW, Cincotta DR, Lim A, Powell CV. A cross-sectional survey of complementary and alternative medicine use by children and adolescents attending the University Hospital of Wales. BMC Complement Altern Med. 2006;6:16.
7. Vernon-Roberts A, Denny A, Day AS. Point Prevalence of Complementary or Alternative Medicine Use among Children Attending a Tertiary Care Hospital. Children (Basel, Switzerland). 2023;10(1).
8. Lucas S, Kumar DS, Leach DMJ, Phillips DAC. Complementary and alternative medicine use in Australian children with acute respiratory tract infection - A cross-sectional survey of parents. Complementary Therapies in Clinical Practice. 2020;39:101171.
9. Groenewald CB, Beals-Erickson SE, Ralston-Wilson J, Rabbitts JA, Palermo TM. Complementary and Alternative Medicine Use by Children With Pain in the United States. Academic pediatrics. 2017;17(7):785-93.
10. Post-White J, Fitzgerald M, Hageness S, Sencer SF. Complementary and alternative medicine use in children with cancer and general and specialty pediatrics. Journal of pediatric oncology nursing: official journal of the Association of Pediatric Oncology Nurses. 2009;26(1):7-15.
11. Barnes PM, Bloom B, Nahin RL. Complementary and alternative medicine use among adults and children: United States, 2007. National Center for Health, Statistics. 2008;12.
12. Italia S, Brand H, Heinrich J, Berdel D, von Berg A, Wolfenstetter SB. Utilization of complementary and alternative medicine (CAM) among children from a German birth cohort (GINIplus): patterns, costs, and trends of use. BMC Complement Altern Med. 2015;15:49.
13. Längler A, Zuzak TJ. Complementary and alternative medicine in paediatrics in daily practice—A European perspective. Complementary Therapies in Medicine. 2013;21:S26-S33.
14. Frawley JE, Anheyer D, Davidson S, Jackson D. Prevalence and characteristics of complementary and alternative medicine use by Australian children. Journal of paediatrics and child health. 2017;53(8):782-7.
15. Oliver SJ. The role of traditional medicine practice in primary health care within Aboriginal Australia: a review of the literature. Journal of ethnobiology and ethnomedicine. 2013;9:46.
16. Eshete N, Zema Z, Daka K, Daka D. Parental traditional medicine use for under-five children and association factors in Wolaita Sodo, Ethiopia: A cross-sectional study. Journal of Herbal Medicine. 2023;41:100695.
17. Gona JK, Newton CR, Rimba K, Mapenzi R, Kihara M, Van de Vijver FJR, et al. Parents' and Professionals' Perceptions on Causes and Treatment Options for Autism Spectrum Disorders (ASD) in a Multicultural Context on the Kenyan Coast. PloS one. 2015;10(8):e0132729.
18. Hailu F, Cherie A, Gebreyohannis T, Hailu R. Determinants of traditional medicine utilization for children: a parental level study in Tole District, Oromia, Ethiopia. BMC complementary medicine and therapies. 2020;20(1):125.
19. James PB, Gyasi RM, Kasilo OMJ, Wardle J, Bah AJ, Yendewa GA, et al. The use of traditional medicine practitioner services for childhood illnesses among childbearing women: a multilevel analysis of demographic and health surveys in 32 sub-Saharan African countries. BMC complementary medicine and therapies. 2023;23(1):137.
20. Loh CH. Use of traditional Chinese medicine in Singapore children: perceptions of parents and paediatricians. Singapore medical journal. 2009;50(12):1162-8.
21. Kim J, Park J-K, Park J-Y, Lee E-J, Sung S-H. The Use of Traditional Korean Medicine (TKM) by Children: A Correlational Study between Parent's Perception and Their Children's Use Reported by Parents. Healthcare [Internet]. 2021; 9(4). Available from: https://mdpi-res.com/d_attachment/healthcare/healthcare-09-00385/article_deploy/healthcare-09-00385.pdf?version=1617938934.
22. Alqahtani YA, Shati AA, Alalyani RT, Alolah TA, Alshahrani MA, Asiri GB, et al. Awareness and Attitude of Parents and Caregivers Regarding Harmful Traditional Medical Practices Towards Children in Aseer Region of Saudi Arabia. International journal of general medicine. 2023;16:4515-24.
23. Chen C, Chong YJ, Hie SL, Sultana R, Lee SHD, Chan WSD, et al. Complementary and alternative medicines use among pediatric patients with epilepsy in a multiethnic community. Epilepsy & Behavior. 2016;60:68-74.

 doi:10.20944/preprints202404.1486.v1

24. Alfaifi JA, Alqarni SAM, Alqarni A, Alqahtani MM, Alshomrani RA. Parents' Knowledge, Attitude, and Practice Regarding Traditional Medicine on Their Children: A Community-Based Cross-Sectional Study in Bisha City, Saudi Arabia. Cureus. 2023;15(8):e43136.
25. Asrat D, Alle A, Kebede B, Dessie B. Factors associated with parental traditional medicine use for children in Fagita Lekoma Woreda Northwest Ethiopia: A cross-sectional study. SAGE open medicine. 2020;8:2050312120978008.
26. Ngere SH, Akelo V, Ondeng'e K, Ridzon R, Otieno P, Nyanjom M, et al. Traditional Medicine Beliefs and Practices among Caregivers of Children under Five Years—The Child Health and Mortality Prevention Surveillance (CHAMPS), Western Kenya: A qualitative study. PloS one. 2022;17(11):e0276735.
27. Ong JJ. Parental satisfaction and perception of Progress in influencing the Practice of complementary health approaches in children with autism: a cross sectional survey from Negeri Sembilan, Malaysia. BMC Complementary and Alternative Medicine. 2019;19(1):250.
28. Tizazu D, Workineh Y, Ayalew Y. Parental Traditional Medicine Use for Children and Associated Factors in North Mecha District, North West Ethiopia. Pediatric Health Med Ther. 2020;11:505-12.
29. Pengpid S, Peltzer K. Use of traditional medicines and traditional practitioners by children in Indonesia: findings from a national population survey in 2014-2015. Journal of multidisciplinary healthcare. 2019;12:291-8.
30. Anggerainy SW, Wanda D, Hayati H. Combining Natural Ingredients and Beliefs: The Dayak Tribe's Experience Caring for Sick Children with Traditional Medicine. Compr Child Adolesc Nurs. 2017;40(sup1):29-36.
31. Musiana, Rahman H, Tuharea R, Saing Z. Disclosure of Herbal Medicines Use on Mother and Children Health Care in Ternate Island Indonesia. Universal Journal of Public Health. 2022;9:492-8.
32. Nurbaya N, Chandra W, Hapsari P. Traditional Medicine for Children among Kaluppini Indigenous People in South Sulawesi. ETNOSIA: Jurnal Etnografi Indonesia. 2020;5:319-31.
33. Syamsuriah, Suriah, Hidayanty H. Traditional Medical Systems In Handling Children Diseases Among Tolotang Community In Sidrap Regency South Sulawesi. Hasanuddin International Journal Of Health Research. 2019;1(1):1-11.
34. Taib Z, Sibarani R, Zuska F, Delvian. Use of traditional medication on the health of women and children of the Togutil tribe in North Moluccas Province. Gac Sanit. 2021;35 Suppl 2:S540-s2.
35. d'Arqom A, Nasution M. Herbal medicine perception and practice among childbearing mothers with medical education background in Bandung: A preliminary study. Traditional Medicine Journal. 2014;19.
36. Maulida TF, Wanda D. The Utilization of Traditional Medicine to Treat Fever in Children in Western Javanese Culture. Comprehensive Child and Adolescent Nursing. 2017;40(sup1):161-8.
37. Sari NM, Devansyah S, Modjaningrat I, Suryawan N, Susanah S, Rakhmillah L, et al. Type of cancer and complementary and alternative medicine are determinant factors for the patient delay experienced by children with cancer: A study in West Java, Indonesia. Pediatric Blood & Cancer. 2023;70(4):e30192.
38. Siahaan OG, Sibarani R, Lubis S, Purwoko A. Herbal medicines for women and children's health in Tipang Village, District Humbang Hasundutan, North Sumatera. Gaceta Sanitaria. 2021;35:S564-S6.
39. Suryawati S, Hijra Novia S. The Use of Herbal Medicine in Children. 5th Syiah Kuala University Annual International Conference 2015; 2015/10//; Indonesia2015.
40. Paulson KR, Kamath AM, Alam T, Bienhoff K, Abady GG, Abbas J, et al. Global, regional, and national progress towards Sustainable Development Goal 3.2 for neonatal and child health: all-cause and cause-specific mortality findings from the Global Burden of Disease Study 2019. The Lancet. 2021;398(10303):870-905.
41. Badan Pusat Statistik. Angka Kematian Balita (Under Five Mortality Rate/U5MR) Hasil Long Form SP2020 Menurut Provinsi/Kabupaten/Kota, 2020. Jakarta, Indonesia: Badan Pusat Statistik. Available at: https://www.bps.go.id/id/statistics-table/1/MjIyMiMx/angka-kematian-balita--under-five-mortality-rate-u5mr--hasil-long-form-sp2020-menurut-provinsi-kabupaten-kota--2020.html; 2023.
42. Haakenstad A, Yearwood JA, Fullman N, Bintz C, Bienhoff K, Weaver MR, et al. Assessing performance of the Healthcare Access and Quality Index, overall and by select age groups, for 204 countries and territories, 1990–2019: a systematic analysis from the Global Burden of Disease Study 2019. The Lancet Global Health. 2022;10(12):e1715-e43.
43. WHO. Child Health. Switzerland: World Health Organization. Available at: https://www.who.int/health-topics/child-health#tab=tab_1. Accessed on 17/01/2024; 2023.
44. WHO. Child mortality (under 5 years). Switzerland: World Health Organization. Available at: https://www.who.int/news-room/fact-sheets/detail/levels-and-trends-in-child-under-5-mortality-in-2020; 2021.
45. Badan Pusat Statistik Propinsi NTT. Jumlah Kematian Bayi dan Balita (Jiwa), 2021-2023. Kupang: Badan Pusat Statistik Propinsi Nusa Tenggara Timur. Available at: https://ntt.bps.go.id/indicator/30/582/1/jumlah-kematian-bayi-dan-balita.html; 2024.

 doi:10.20944/preprints202404.1486.v1

46. Mboi N, Syailendrawati R, Ostroff SM, Elyazar IRF, Glenn SD, Rachmawati T, et al. The state of health in Indonesia's provinces, 1990-2019: a systematic analysis for the Global Burden of Disease Study 2019. The Lancet Global Health. 2022;10(11):e1632-e45.
47. Windiyarti D. Tradisi, agama, dais [dan] modertosasi dalam ferkembangain kebudayaan Timor. Sahda. 2006;1(1):36-43.
48. Neonbasu G. Kebudayaan: sebuah agenda: dalam bingkai Pulau Timor dan sekitarnya. Indonesia: PT Gramedia Pustaka Utama; 2013. 336 p.
49. Ezzy D, Rice PL. Theory in Qualitative Research: Traditions and Innovations in Qualitative Research. Qualitative Research Method: A Health Focus. Melbourne: Oxford University Press; 2005.
50. Fauk NK, Merry MS, Sigilipoe MA, Putra S, Mwanri L. Culture, social networks and HIV vulnerability among men who have sex with men in Indonesia. PLoS ONE. 2017;12(6):1-14.
51. BPS Kabupaten Belu. Sosial dan Kependudukan. Atambua: Badan Pusat Statistik Kabupaten Belu; 2021.
52. Dworkin SL. Sample Size Policy for Qualitative Studies Using In-Depth Interviews. Arch Sex Behav. 2012;41:1319–20.
53. Fauk NK, Mwakinyali SE, Putra S, Mwanri L. The socio-economic impacts of AIDS on families caring for AIDS-orphaned children in Mbeya rural district, Tanzania. Int J Hum Rights Healthc. 2017;10(2):132-45.
54. Ritchie J, Spencer L. Qualitative Data Analysis for Applied Policy Research. In: Bryman A, Burgess RG, editors. London: Routledge; 1994. p. 173-94.
55. Temple B, Young A. Qualitative research and translation dilemmas. Qualitative Research. 2004;4:161-78.
56. Regmi K, Naidoo J, Pilkington P. Understanding the Processes of Translation and Transliteration in Qualitative Research. International Journal of Qualitative Methods. 2010;9(1):15-26.
57. Naghavi M, Ong KL, Aali A, Ababneh HS, Abate YH, Abbafati C, et al. Global burden of 288 causes of death and life expectancy decomposition in 204 countries and territories and 811 subnational locations, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. The Lancet.
58. Schumacher AE, Kyu HH, Aali A, Abbafati C, Abbas J, Abbasgholizadeh R, et al. Global age-sex-specific mortality, life expectancy, and population estimates in 204 countries and territories and 811 subnational locations, 1950–2021, and the impact of the COVID-19 pandemic: a comprehensive demographic analysis for the Global Burden of Disease Study 2021. The Lancet.
59. Steinhorst J, Tianyi F-L, Habib AG, Oluoch GO, Lalloo DG, Stienstra Y. Uniting behind a common goal: Collaboration between traditional healers and allopathic health care workers to improve rural snakebite care. Toxicon: X. 2022;16:100140.
60. Campbell-Hall V, Petersen I, Bhana A, Mjadu S, Hosegood V, Flisher AJ. Collaboration between traditional practitioners and primary health care staff in South Africa: developing a workable partnership for community mental health services. Transcultural psychiatry. 2010;47(4):610-28.
61. Solera-Deuchar L, Mussa MI, Ali SA, Haji HJ, McGovern P. Establishing views of traditional healers and biomedical practitioners on collaboration in mental health care in Zanzibar: a qualitative pilot study. International journal of mental health systems. 2020;14:1.
62. Meyer S, Ward P, Coveney J, Rogers W. Trust in the health system: An analysis and extension of the social theories of Giddens and Luhmann. Health Sociology Review. 2008;17(2):177-86.
63. Paul W, Samantha M. Trust, Social Quality and Wellbeing: A Sociological Exegesis. Development and Society. 2009;38(2):339-63.
64. Fauk NK, Ziersch A, Gesesew H, Ward PR, Mwanri L. Strategies to improve access to mental health services: Perspectives of African migrants and service providers in South Australia. SSM - Mental Health. 2022;2:100058.
65. Sullivan C, Vaughan C, Wright J. Migrant and Refugee Women's Mental Health in Australia: A Literature Review. Melbourne, Australia: School of Population and Global Health, University of Melbourne; 2020.
66. Udah H, Singh P, Hiruy K, Mwanri L. African Immigrants to Australia: Barriers and Challenges to Labor Market Success. Journal of Asian and African Studies. 2019;54(8):1159-74.
67. Geertz H. Indonesian Cultures and Communities. In: McVey RT, editor. Indonesian. USA: HRAF Press; 1963. p. 78-84.
68. Van Der Kroef JM. Collectivism in Indonesian Society. Social Research. 1953;20(2):193-209.
69. Carrandi A, Hu Y, Wayland S, Maple M. Effectiveness of Community-Based Outreach Interventions for Individuals Living with Mental Ill-Health in Australia: A Systematic Review. Health & Social Care in the Community. 2023;2023:5961793.
70. Nickel S, von dem Knesebeck O. Effectiveness of Community-Based Health Promotion Interventions in Urban Areas: A Systematic Review. Journal of community health. 2020;45(2):419-34.