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# Preference and perception of traditional Somali health practice, 'Guboow', among Somali mothers for children's health

Derya Suluhan<sup>1</sup>, Rahma Yusuf Haji Mohamud<sup>2\*</sup>, Fardowsa Hassan Ahmed<sup>3</sup>, Dilek Yildiz<sup>1</sup> and Mehmet Tunc<sup>4</sup>

## Abstract

**Purpose** The aim of this study was to determine Somalia mothers' preferences and perceptions regarding the traditional healing practice "Guboow" for the children's health in Somalia. The study was conceptually informed by the Theory of Planned Behaviour (TPB), which explains how attitudes, subjective norms, and perceived behavioural control influence health-related behaviours.

**Methods** This was a cross-sectional survey. The data were collected using a structured questionnaire which consists of questions about sociodemographic data, current use of Guboow in children, the reasons for its use in children and perception of Guboow, as well as how mothers' beliefs and social influences affect their practices and perceptions related to Guboow.

**Results** A total of 168 Somalia mothers were included in the study in the pediatric outpatient clinic of a hospital in Mogadishu, East Africa, between December 2022 and January 2023 of which 117 (69.6%) admitted to using Guboow for their own children's health. The most preferred condition for Guboow was pain in children ( $n = 70$ , 42%). The reasons for Guboow reported by the mothers were easy to access ( $n = 148$ , 88%), affordability ( $n = 129$ , 77%), perceived effectiveness ( $n = 92$ , 55%), lack of hospital nearby ( $n = 86$ , 51%) and social constraints ( $n = 81$ , 48%). Mothers who used Guboow for their own children believed that "Guboow was better than modern medical treatment" ( $p = 0.001$ ), "Guboow had no adverse events" ( $p = 0.001$ ), and "Guboow was not harmful" ( $p = 0.009$ ). Mothers who believed Guboow was harmful (68.3%) did not recommend it for the others ( $p = 0.004$ ).

**Conclusion** In this study, positive perceptions of Guboow were significantly higher among Somalia mothers who reported using the practice for their children's health compared with mothers who did not prefer it. Understanding these ethno-social and cultural determinants may help health policymakers develop culturally sensitive child health interventions and community education strategies.

**Keywords** Traditional practice, Healer, Children, Mother, Preference, Culture, Burn

\*Correspondence:

Rahma Yusuf Haji Mohamud  
samiihayusuf@gmail.com

<sup>1</sup>Department of Pediatric Nursing, Universtiy of Health Sciences Turkey, Ankara, Turkey

<sup>2</sup>Health Services Manager, Yardimeli Specialist Hospital, Mogadishu, Somalia

<sup>3</sup>Department of Pediatrics, Mogadishu Somali-Turkiye Recep Tayyip Erdogan Training and Research Hospital, Mogadishu, Somalia

<sup>4</sup>Department of Neurology, Gülhane Research and Training Hospital, Ankara, Turkey



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## Introduction

The World Health Organisation (WHO) definition of traditional medicines is the sum total of the knowledge, skill, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness [1]. Today, many patients still depend on traditional medicine for their primary care, especially in Somalia [2]. According to the World Health Organization, up to 80% of the population in some African countries rely on traditional medicine for primary health care [3]. Traditional healing methods hold an important place in many African cultures and communities [2].

Health-related behaviours are often shaped not only by access to health services but also by cultural beliefs and social norms [4]. The Theory of Planned Behaviour (TPB) developed by Ajzen proposes that an individual's behaviour is influenced by behavioural intentions, which are determined by attitudes toward the behaviour, subjective norms, and perceived behavioural control [5]. This theoretical framework has been widely used to understand health-seeking behaviours and the adoption of traditional or alternative medical practices [6]. In the context of traditional healing practices such as Guboow, mothers' beliefs about effectiveness, social pressure from family or community members, and perceived accessibility of healthcare services may influence their decision to seek traditional treatment for their children. Therefore, the TPB provides a useful framework for interpreting maternal preferences and perceptions regarding Guboow [5, 6].

The traditional healing practices, "Guboow," is one of the widely used is a practice of branding for treatment in Somalia culture [7, 8]. Branding is an ancient practice of healing that involves applying 'therapeutic' burns to the skin using heated metal rods or objects to address various health issues, despite lacking scientific evidence [9, 10]. In the Somalia language, the term "Guboow" means "scar," "burn," or the scar resulting from a healing process. A heated object (either metal or wood) is pressed onto areas of the body associated with illness by family members or healers for practice. This practice is typically carried out in conjunction with prayers [7–11].

As a part of cultural rituals, Guboow, is preferred to restore the balance of bodily fluids, to protect and improve the health [7, 8, 11, 12]. The fundamental principles of Guboow assert that diseases are caused by evil spirits, and that these negative influences must be eradicated through fire, expelling the illness from the body [8]. Despite being a painful method, Guboow is frequently used, particularly for pain management [13]. Additionally, Guboow is applied in the treatment of various conditions such as malnutrition, respiratory infections, chronic

abdominal pain, hydrocephalus, hepatitis, paraplegia, arthritis, external carotid artery aneurysm, pilomatrixoma cysts, necrotizing fasciitis, rickets, and jaundice [11].

Skin branding causes numerous physical issues such as pain and burn in children [11, 14]. However, there are no specific references why and when parents prefer "Guboow" as a treatment for their children. This study aimed to assess Somalia mothers' perceptions, preferences, and use of the traditional healing practice "Guboow" for children's health in Somalia. Due to first study for Somalia and the literature, health care providers could be aware of relief and views of mothers on "Guboow" and they can understand how they can approach to mothers who believe that "Guboow" is useful for their children' health.

## Material and methods

### Study design and setting

A cross-sectional study design was used. This study was conducted in the pediatric outpatient clinic of Somalia Turkey Recep Tayyip Erdoğan Training and Research Hospital in Mogadishu, East Africa, between December 15, 2022 and January 15, 2023.

### Participants

The study population included 2,425 mothers who visited the pediatric outpatient clinic of Somalia Turkey Recep Tayyip Erdoğan Training and Research Hospital in Mogadishu, Somalia, with their children presenting with acute health conditions between December 15, 2022 and January 15, 2023. Of these, 168 (7%) mothers agreed to participate in this study. Inclusion criteria were being a mother aged 18 years or older, providing informed consent, and attending the pediatric outpatient clinic with their children during the study period.

### Data collection

The data were collected using a structured questionnaire which consists of 10 questions about sociodemographic data (age, child order, education level, family type, religious affiliation, residence), status of preferring Guboow for their own child's health, disease/conditions for which healers use Guboow in Somalia children, the reasons for its use in Somalia children and perceptions of mothers related to Guboow. The form was developed based on the literature [7, 8, 10, 11, 13] and was filled out in 10–15 min via face-to-face interviews with the mothers by the same researcher (RYH).

### Ethical considerations

The study was approved by the Non-Interventional Clinical Research Ethics Committee of the Mogadishu Somalia Turkey Recep Tayyip Erdoğan Training and Research

**Table 1** Characteristics of the mothers (n:168)

Characteristics	n (%)
Age, year, mean ± SD (min–max)	25.08 ± 5.28 (19–44)
Birth order of child, mean ± SD (min–max)	8 ± 4.7 (4–13)
Education level	
Illiterate	148 (88.1)
Elementary school	20 (11.9)
Family type	
Nuclear family	110 (65.5)
Expanded family	40 (23.8)
Single parent family	18 (10.7)
Religious affiliation	
Muslim Sunni	168 (100)
Residence	
Urban	23 (13.7)
Rural	145 (86.3)
Use of Guboow for own child’s health	
Yes, I did	117 (69.6)
No, I did not	51 (30.4)

Abbreviations: SD Standard deviation, min Minimum, max Maximum

Hospital, and written permission was obtained from the hospital where the study was conducted (approval number: MSTH/12363–737, Date: December 14, 2022). Written and verbal consent was obtained from all the participants. The study followed the ethical principles in accordance with the Declaration of Helsinki. All participants who provided written informed consent before the survey were enrolled.

**Data analysis**

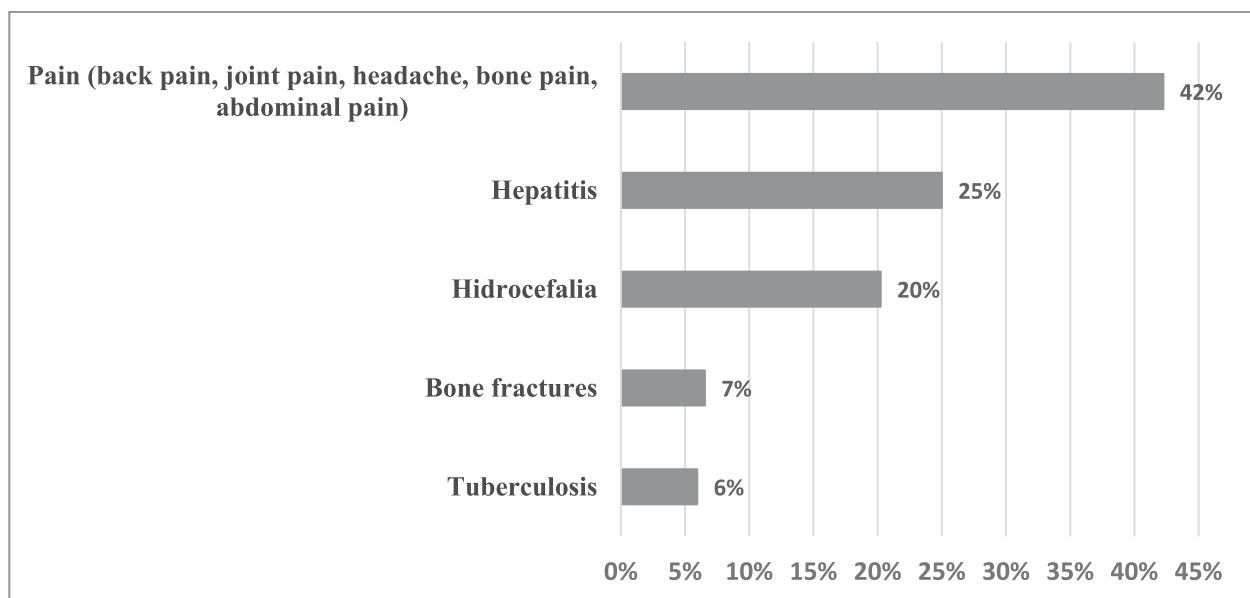
Epi info 7.2 software was employed to analyze the data in this study. Descriptive data were expressed with numbers

(n), percentages (%), mean, standard deviation (SD), minimum (min), and maximum (max) values. The Fisher exact test or chi-square test was used to compare two categorical variables. Statistical significance was accepted as  $p < 0.05$  values. In addition, associations between selected independent variables (such as education level, residence, and family type) and maternal perceptions toward Guboow were explored to better understand factors influencing the preference for traditional healing practices.

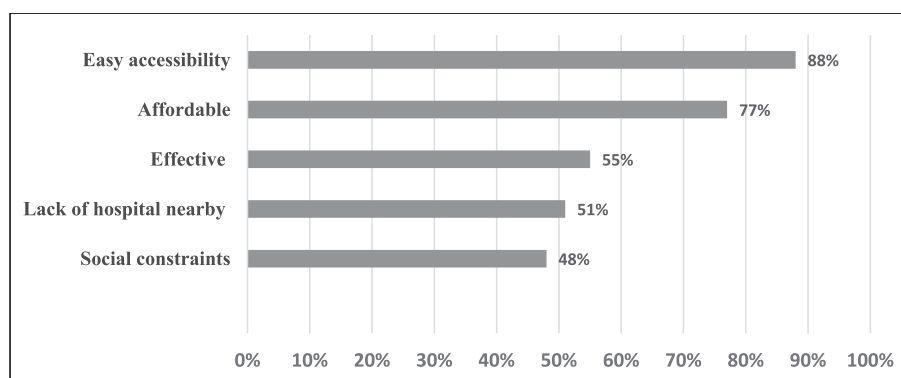
**Results**

This section includes sociodemographic characteristics of mothers, the reasons why Guboow is preferred in Somalia children, in which disease/condition it is preferred, Comparison of characteristics of mothers and their perception towards to Guboow. The characteristics of the participants are shown in Table 1. A total of 168 mothers were included. The mean age of the mothers was 25.08 years (SD = 5.28). The mean birth order of child was 8 (SD = 4.7). Of the mothers, 88.1% were illiterate, and 11.9% completed primary education. The family structure of 65.5% was nuclear, and all of them had a religious affiliation of Sunni Muslim. Of the participants, 13.7% live in urban areas, while 86.3% live in rural areas. The proportion of mothers who admitted to using Guboow for their own children was 69.6%, while 30.4% of them did not admit (Table 1).

The most preferred condition for Guboow was the pain in children (n = 70, 42%). The other preferred condition/disease for it were hepatitis (n = 42, 25%), hydrocephalus (n = 33, 20%), tuberculosis (n = 12, 7%), and bone fractures (n = 10, 6%) (Fig. 1).



**Fig. 1** Disease/conditions for which healers use Guboow in Somalia children reported by the mothers (n = 168)



**Fig. 2** The reason for Guboow in Somalia children reported by the mothers ( $n = 168$ )

**Table 2** Comparison of characteristics of mothers and their perception towards to Guboow ( $n = 168$ )

Characteristics	It is better than modern medical treatment		Test p	Guboow has not adverse events		Test p	I believe it is harmful		Test
	Yes, I believe	No, I do not believe		Yes, I believe	No, I do not believe		Yes, I believe	No, I do not believe	
	n (%) <sup>*</sup>	n (%) <sup>*</sup>	n (%) <sup>*</sup>	n (%) <sup>*</sup>	n (%)	n (%)			
Educational level									
Illiterate	108 (86.4)	40 (93)	1.338 <sup>a</sup>	38 (86.4)	110 (88.7)	0.170 <sup>b</sup>	93 (86.9)	55 (90.2)	0.391 <sup>b</sup>
Elementary school	17 (13.6)	3 (7)	0.290	6 (13.6)	14 (11.3)	0.680	14 (13.1)	6 (9.8)	0.532
Family type									
Nuclear	84 (67.2)	26(60.5)	2.669 <sup>a</sup>	87 (70.2)	23 (52.3)	6.818 <sup>a</sup>	43 (70.5)	67 (62.6)	1.843 <sup>a</sup>
Expanded	26 (20.8)	14 (32.6)	0.263	23 (18.5)	17 (38.6)	0.031	14 (23)	26 (24.3)	0.408
Single parent	15 (12)	3 (7)		14 (11.3)	4 (9.1)		4 (6.6)	14 (13.1)	
Residence									
Urban	19 (15.2)	4 (9.3)	0.942 <sup>a</sup>	16 (12.9)	7 (15.9)	0.248 <sup>b</sup>	6 (9.8)	17 (15.9)	1.204 <sup>b</sup>
Rural	106 (84.8)	39 (90.7)	0.444	108 (87.1)	37 (84.1)	0.616	55 (90.2)	90 (84.1)	0.353
Using Guboow for your own child									
Yes, I did	100 (80)	17 (39.5)	24.78 <sup>b</sup>	103 (83.1)	14 (31.8)	40.342 <sup>b</sup>	35 (57.4)	82 (76.6)	6.816 <sup>b</sup>
No, I did not	25 (20)	26 (60.5)	0.001	30 (68.2)	21 (16.9)	0.001	26 (42.6)	25 (23.4)	0.009
Recommend for Guboow to others									
Yes, I do	23 (53.5)	-	NA	23 (52.3)	-	NA	8 (7.5)	15 (24.6)	9.630 <sup>b</sup>
No, I do not	20 (46.5)	125 (100)		21 (47.7)	124 (100)		99 (68.3)	46 (75.4)	0.004

Abbreviation: NA Not Available

<sup>a</sup>Fisher exact test

<sup>b</sup>Chi-square analysis

<sup>\*</sup>Column percentages are calculated

The reasons for Guboow reported by the mothers were easy to access ( $n = 148$ , 88%), affordability ( $n = 129$ , 77%), effective ( $n = 92$ , 55%), lack of hospital nearby ( $n = 86$ , 51%) and social constraints ( $n = 81$ , 48%) (Fig. 2).

The comparison of mothers' characteristics and their perceptions of Guboow is presented in Table 2. According to educational level of mothers, the belief that "Guboow is better than modern medical treatment" was similar between illiterate and elementary school-educated mothers ( $p = 0.290$ ). There were no statistically significant difference between illiterate mothers and those with elementary school education regarding the beliefs

that "Guboow has no adverse events" ( $p = 0.680$ ) and "Guboow is harmful" ( $p = 0.532$ ).

In the comparison of mothers' attitudes towards the use of Guboow and the characteristics of mothers, positive perception for Guboow was higher in mothers who used Guboow for their children than in mothers did not used (Table 2). Mothers who admitted to using Guboow for their own children health believed that "Guboow was better than modern medical treatment" ( $p = 0.001$ ), "Guboow has not had adverse events" ( $p = 0.001$ ) and "Guboow was not harmful" ( $p = 0.009$ ). Mothers who believed Guboow was harmful (68.3%) did not recommend it for the others ( $p = 0.004$ ) (Table 2).

## Discussion

The guboow is an alternative medical treatment practiced by the traditional healers usually practiced in rural and primitive regions of Somalia, Sudan, Ethiopia, and Eritrea [7, 8]. Although similar skin-branding healing practices exist in some regions of East Africa, the term “Guboow” specifically refers to the Somalia cultural practice of therapeutic skin branding. This distinction is important when interpreting the cultural context of the findings. In rural African communities, traditional healers play a crucial role in rural African communities [15]. The healers are trusted with the wellbeing of many individuals who would otherwise have no option but to endure their suffering or travel great distances to consult medical doctors [16, 17]. In this study, more than three-quarters of mothers live in rural areas and the majority of them used it for their children. In addition, the World Health Organization estimates that 80% of the populations of Africa, Asia, and Latin America use traditional medicine to meet their primary health care needs and for many people in these countries, particularly those living in rural areas, this is the only available, accessible and affordable source of health care [3]. A study conducted by Pillay showed that women favored traditional healers, citing two main reasons for this preference: the limited acculturation of rural women compared to those in urban areas and the scarcity of modern healthcare resources [18]. The Indian impoverished tribal women seek branding therapy for their children because it is convenient and inexpensive [19, 20]. Similarly, the mothers in this study indicated that reasons for preferring Guboow were affordability, easy accessibility and lack of hospital nearby. This finding indicate that Somalia mothers living in rural areas, where hospitals or health centers are distant, turn to alternative methods that are both physically and economically more accessible to cope with their children's health issues.

In this study, our findings indicated that Guboow is used by Somalia mothers in the treatment of various diseases or condition in children. The key drivers of branding therapy “Guboow” are easy accessibility, its affordability, effective, lack of hospital nearby and social constraints. Guboow could be performed for some conditions or disease [10]. In this study, the mothers indicated that Guboow was used for the children due to pain, hepatitis, hydrocephalus, arthritis, tuberculosis, and bone fractures. As there is a scarcity of studies in the literature regarding the reasons for the use of Guboow [8, 11, 14], this study makes a significant contribution to the literature as it is the first to report the diseases/symptoms for which the healers use commonly Guboow in children, as reported by Somalian mothers.

The traditional healers are consulted as primary healthcare providers in Africa [21]. The healers are frequently held in higher esteem than those advocating for

unfamiliar healthcare methods. In a study conducted by Jena et al., the tribal women believed that medical doctors frequently failed to treat the illness in children and instead of arguing to outlaw branding, they mentioned that it might be permitted in India [22]. According to our findings, the mothers who used Guboow for their own children have believed that “Guboow is better than modern medical treatment” and “Guboow has no adverse events”. This result presents important insights into the trust placed in traditional healing practices and the perception of modern medicine among the local population. It should be noted that such beliefs may influence communication between healthcare providers and patients, as well as treatment choices.

The influence of society was recognized as another key reason why patients seek traditional healthcare in this study [15]. According to Ajzen's Theory of Planned Behaviour, social norms influence an individual's intention to engage in a particular behavior [5]. Parents are more likely to form a stronger intention to perform a given behavior when they perceive that it is endorsed by society or salient reference groups. This intention, in turn, serves as a mediator of the parent's enactment of the behavior. A meta-analysis indicates that societal norms influence parental behavior through mechanisms of perceived social pressure and social expectations [23]. In this study, mothers who believed that Guboow was effective and safe were more likely to use this traditional practice for their children, indicating the role of positive attitudes and social influence in sustaining traditional healing practices. A study conducted by Pillay has indicated that Indian tribal mothers preferred consulting traditional healers for illnesses of the children and their families and community would frequently force them to seek treatment from local healers [18]. In the present study, mothers also reported that one of the main reasons for preferring the traditional Somalia healing practice “Guboow” was social pressure. This finding suggests that traditional healing practices are shaped not only by individual beliefs but also by family and societal influence. Somalia mothers may therefore be guided not only by personal beliefs but also by strong social expectations within their communities. This highlights how traditional health practices are maintained within a broader social and cultural context.

Another striking finding, the mothers who had positive perception towards the use of Guboow preferred Guboow more in their own children than those who had negative perception. In East African countries, parents traditionally prefer Guboow, a skin branding method, to protect and improve the health of their children. The practice is also considered part of cultural rituals [7, 8, 11]. Otherwise, the mothers who believed Guboow was harmful did not recommend it for the others. These

results show that the attitude is an individual's evaluation of a behavior as positive or negative [5].

In addition to the immediate clinical effects observed after Guboow, it can also leave permanent burn scars on patients [24]. These therapeutic burns can lead to serious injuries such as sepsis, extensive skin defects or keloids, and even death. Guboow can be considered a harmful practice for children [21]. Lange-Herr and colleagues in Switzerland encountered Guboow scars on the abdomen of a child who had migrated from Somalia and initially thought it to be child abuse [14]. According to the definition of child abuse of WHO as "all forms of behaviour, whether intentional or unintentional, by an adult, society, or state that adversely affects a child's health, physical, and psychosocial development", Guboow could be considered physical child abuse [16]. However, as the parents' primary intention in using Guboow is to heal their child, it is not fully consistent with the concept of child abuse [10, 14, 25–28].

The limitation of this study is that the results reflect the preferences and perceptions of mothers towards Guboow. There is a need for community-based studies that explore the perceptions of medical doctors and traditional healers regarding the use of the traditional healing practice "Guboow" for child health in Somalia.

## Conclusion

This study found that positive perceptions of Guboow were significantly higher among Somali mothers who reported using the practice for their children's health compared with mothers who did not prefer it. Understanding these ethno-social and cultural dynamics is important for healthcare professionals and policymakers when designing culturally sensitive child health interventions and community education strategies in Somalia. In this context, community awareness campaigns that reinforce salient social norms within intervention programs are likely to represent an effective strategy for shaping parental behavior in the domain of child health.

## Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12889-026-27620-w>.

Supplementary Material 1.

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## Authors' contributions

DS, RYHM, FSA contributed to the conceptualization and design of the study. Data acquisition was performed by RYHM and DS. Statistical analysis and interpretation were carried out by RYHM, DS, FSA, DY and MT. The original manuscript draft was prepared by DS, RYHM, and FSA, while DY, and MT critically reviewed and revised the manuscript. All authors read and approved

the final version of the manuscript and agree to be accountable for all aspects of the work.

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## Data availability

The dataset analyzed during the current study are available from the corresponding author on reasonable request.

## Declarations

### Ethics approval and consent to participate

This study was approved by the Non-Interventional Clinical Research Ethics Committee of the Mogadishu Somalia Turkey Recep Tayyip Erdoğan Training and Research Hospital. Written institutional permission was obtained from the hospital where the study was conducted (Approval number: MSTH/12363–737; Date: December 14, 2022). Written and verbal informed consent was obtained from all participants prior to data collection. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki.

### Consent for publication

Written informed consent for publication of potentially identifiable information was obtained from all participants.

### Competing interests

The authors declare no competing interests.

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