

Prevalence , Patterns and Parental Awareness of Traditional Medicine Use in Pediatric Care in Tobruk , Libya

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معدل انتشار وأنماط استخدام الطب التقليدي ومستوي ادراك أولياء الأمور لاستخدامه في الرعاية الصحية للأطفال في طبرق، ليبيا

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Abstract:

Background: Traditional, complementary, and alternative medicine (TCAM) use in pediatric care is widespread globally, yet contemporary data on usage patterns and parental awareness of associated risks remain limited.

Objectives: This study aimed to determine the prevalence and types of traditional medicine used for children, identify common conditions treated, examine motivating factors for guardians' choices, and assess parental health awareness—particularly regarding safety perceptions and the potential risk of delayed conventional medical consultation.

Methods: A quantitative, cross-sectional survey was conducted among 278 guardians of children aged 0–12 years in Tobruk, Libya, using a structured, self-administered questionnaire. Descriptive statistics were employed to analyze prevalence, treatment types, conditions, motivating factors, and health awareness variables.

Results: The prevalence of traditional medicine use was 97.5% (271/278). Herbal remedies were the most common modality (41.3%), followed by oil therapy (20.3%) and honey (17.3%). Cough (36.9%), infantile colic (14.4%), and diarrhea (14.0%) were the predominant conditions treated. Parental/family advice (41.3%) and belief in efficacy (37.3%) were the primary motivators. While 77.1% consulted a physician prior to use and 83.8% perceived clinical improvement, a significant paradox emerged: 93.7% believed traditional medicine is safe for children, yet 87.5% acknowledged it may delay necessary medical consultation. Only 30.6% intended future use, and 90.0% expressed need for further education on safe usage.

Conclusions: Traditional medicine use is nearly universal in this population for common acute pediatric illnesses. The widespread belief in inherent safety, coupled with awareness of potential care delays, represents a critical public health challenge. The high receptivity to education (90.0%) offers an actionable opportunity for culturally tailored interventions promoting safe, integrated pediatric care.

Keywords: Traditional medicine; pediatric care; parental awareness; herbal remedies; health literacy; Libya.

المخلص:

الخلفية: ينتشر استخدام الطب التقليدي والتكميلي والبديل في رعاية الأطفال على نطاق واسع عالمياً، إلا أن البيانات الحديثة حول أنماط الاستخدام ووعي الآباء بالمخاطر المرتبطة به لا تزال محدودة.
الأهداف: هدفت هذه الدراسة إلى تحديد مدى انتشار أنواع الطب التقليدي المستخدمة للأطفال، وتحديد الحالات الشائعة التي يتم علاجها، ودراسة العوامل المحفزة لاختيارات أولياء الأمور، وتقييم وعي الآباء بالصحة-لاسيما فيما يتعلق بتصورات السلامة والمخاطر المحتملة لتأخير الاستشارة الطبية التقليدية.

المنهجية: أجري مسح كمي مقطعي شمل 278 من أولياء أمور أطفال تتراوح أعمارهم بين 0 و12 عامًا في طبرق، ليبيا، باستخدام استبيان منظم يُعبأ ذاتيًا. استُخدمت الإحصاءات الوصفية لتحليل مدى الانتشار، وأنواع العلاج، والحالات، والعوامل المحفزة، ومتغيرات الوعي الصحي.

النتائج: بلغ معدل انتشار استخدام الطب التقليدي 97.5% (278/271). كانت العلاجات العشبية هي الطريقة الأكثر شيوعًا (41.3%)، تليها العلاجات الزيتية (20.3%) والعسل (17.3%). وكانت السعال (36.9%)، ومغص الرضع (14.4%)، والإسهال (14.0%) هي الحالات الأكثر شيوعًا التي تم علاجها. وكانت نصائح الوالدين/العائلة (41.3%) والإيمان بفعاليتها (37.3%) من أهم دوافع استخدامها. وبينما استشار 77.1% من الأطفال طبييًا قبل استخدامها، ولاحظ 83.8% تحسنًا سريريًا، فقد ظهرت مفارقة مهمة: إذ اعتقد 93.7% أن الطب التقليدي آمن للأطفال، ومع ذلك أقر 87.5% بأنه قد يؤخر الاستشارة الطبية الضرورية. وأبدى 30.6% فقط نيتهم استخدامها مستقبلاً، بينما أعرب 90.0% عن حاجتهم إلى مزيد من التثقيف حول الاستخدام الآمن.

الخلاصة: يُعد استخدام الطب التقليدي شبه شامل في هذه الفئة السكانية لعلاج الأمراض الحادة الشائعة لدى الأطفال. ويمثل الاعتقاد الواسع النطاق بسلامة هذه العلاجات، إلى جانب الوعي باحتمالية تأخير الرعاية، تحديًا بالغ الأهمية للصحة العامة. تُتيح الاستجابة العالية للتعليم (90.0%) فرصة قيمةً لتطبيق تدخلات مُصممة خصيصًا لتناسب الثقافة المحلية، بهدف تعزيز رعاية الأطفال الآمنة والمتكاملة.

الكلمات المفتاحية: الطب التقليدي؛ رعاية الأطفال؛ توعية الوالدين؛ العلاجات العشبية؛ الثقافة الصحية؛ ليبيا.

Introduction

The use of traditional, complementary, and alternative medicine (TCAM) in pediatric care is a widespread global phenomenon, deeply rooted in cultural traditions, historical practices, and parental health beliefs (World Health Organization, 2023). According to recent global estimates, the prevalence of TCAM use among children ranges from 10% to 85%, depending on the region, healthcare infrastructure, and cultural context (Adams, & Steel, 2024). Parents and guardians serve as the primary gatekeepers of children's health, making them the central decision-makers regarding the integration of TCAM with conventional medical treatments (Al-Saedi & El-Metwally, 2025). While some traditional remedies, such as specific herbal preparations or honey, have demonstrated evidence-based efficacy for certain pediatric conditions (e.g., nighttime cough or infantile colic), a significant proportion of TCAM modalities lack rigorous clinical validation regarding their safety, dosage, and potential interactions with conventional pharmaceuticals (Jawad & Al-Naimi, 2024).

Despite the growing popularity of TCAM, its use in pediatric populations presents notable public health challenges. The primary concerns include the risk of adverse effects due to unregulated product quality, potential herb-drug interactions, and, critically, the delay in seeking evidence-based conventional medical care for serious or progressive conditions (Chen & Thompson, 2023). Recent literature highlights a paradoxical trend: while many parents perceive TCAM as "natural" and therefore inherently "safe," they often possess limited awareness of the potential risks or the importance of disclosing TCAM use to pediatricians (O'Brien & Malik, 2025). This knowledge gap is particularly concerning in the management of acute pediatric illnesses, such as respiratory infections and gastrointestinal disturbances, where timely conventional intervention is crucial (Rossi & Ferreira, 2024).

Understanding the drivers behind parental TCAM utilization is essential for developing effective, targeted health-promotion strategies. Previous studies have identified various motivating factors, including familial traditions, dissatisfaction with conventional medicine, perceived efficacy, and ease of access (Hassan & Ibrahim, 2023). However, much of the existing literature relies on data collected prior to recent shifts in global health-seeking behaviors, leaving a gap in contemporary, context-specific data regarding parental health literacy and awareness of TCAM-related risks. Specifically, there is a need to quantify not only what remedies are being used and for which conditions, but also the extent to which guardians recognize the potential for TCAM to delay necessary physician consultations.

Therefore, the objective of this study is to provide a comprehensive descriptive analysis of TCAM use among children, based on recent survey data collected from guardians

Specifically, this research aims to: determine the prevalence and types of traditional medicine used; identify the most common pediatric conditions treated with these modalities; evaluate the primary reasons driving guardians' choices; and assess parental health awareness, particularly regarding the safety of these remedies and the potential risk of delayed conventional medical consultation. The findings of this study will inform healthcare providers and policymakers in designing culturally sensitive educational interventions to promote the safe and informed use of TCAM in pediatric care.

2. Methodology

2.1. Study Design and Setting

This study employed a quantitative, cross-sectional survey design to assess the prevalence, patterns, and parental awareness of traditional, complementary, and alternative medicine (TCAM) use in pediatric care. The survey was conducted among guardians of children in Tobruk Libya, a setting where TCAM practices are historically embedded in cultural healthcare routines. Data collection was carried out in 2026 to capture contemporary health-seeking behaviors post-recent global shifts in healthcare utilization.

2.2. Study Population and Sampling

The target population comprised parents and legal guardians of children aged 0–12 years. A convenience sampling method was utilized to recruit participants through community centers, primary healthcare clinics, and digital parenting networks. The final analytical sample consisted of 278 respondents. Inclusion criteria required participants to be primary caregivers (≥ 18 years old) responsible for at least one child's healthcare decisions. Exclusion criteria included guardians of children with chronic conditions requiring specialized, continuous medical regimens where TCAM use might be strictly contraindicated by treating specialists, to avoid confounding the analysis of acute pediatric illnesses.

2.3. Data Collection Instrument

Data were collected using a structured, self-administered questionnaire developed based on a review of existing literature on pediatric TCAM use (Hsiao et al., 2022; Bishop et al., 2022). The instrument was divided into four sections:

Sociodemographic characteristics: Guardian's age, gender, education level, and number of children.

Prevalence and Patterns: History of TCAM use, specific modalities employed (e.g., herbal remedies, oil therapy, honey, cupping), and the pediatric conditions treated.

Motivating Factors: Reasons for choosing TCAM (e.g., family advice, belief in efficacy, fear of conventional drugs, cost, accessibility).

Outcomes and Health Awareness: Prior consultation with a physician, perceived efficacy, observed side effects, beliefs regarding safety, acknowledgment of potential delays in conventional care, and the perceived need for further education. The questionnaire was pilot-tested on a small sample ($n=20$) to ensure clarity, cultural appropriateness, and face validity, resulting in minor linguistic refinements prior to full deployment.

2.4. Statistical Analysis

Data were cleaned and analyzed using SPSS Statistics (Version 28.0; IBM Corp., Armonk, NY, USA). Descriptive statistics were employed to summarize the data. Categorical variables (e.g., types of TCAM, conditions treated, reasons for use, and awareness metrics) were presented as frequencies (n) and percentages (%). Given the descriptive nature of the study, inferential statistics were not the primary focus; however, cross-tabulations were utilized to

identify preliminary patterns in health awareness relative to educational attainment. A p-value of <0.05 was considered statistically significant for any exploratory sub-analyses.

3. Results

3.1. Sociodemographic Characteristics of Respondents

A total of 278 completed questionnaires were included in the final analytical sample. The sociodemographic profile of the participating guardians is summarized in Table 1. The respondent pool was overwhelmingly female ($n = 256, 92.1\%$), which aligns with the cultural and social norms of the study setting wherein mothers predominantly assume the role of primary healthcare decision-makers for their children.

Regarding age distribution, the largest cohort of guardians was between 25 and 35 years of age ($n = 123, 44.2\%$), followed by those aged 36–45 years ($n = 90, 32.4\%$). The educational attainment of the sample was notably high: the vast majority of respondents held a university degree ($n = 201, 72.3\%$), with an additional 8.3% ($n = 23$) possessing postgraduate qualifications. Only a small minority reported having primary (1.8%) or secondary/preparatory (17.6%) education.

Furthermore, the data indicate that larger family sizes are prevalent within this cohort. More than half of the respondents ($n = 159, 57.2\%$) reported having more than three children, while 30.6% ($n = 85$) had two to three children, and 11.2% ($n = 31$) had a single child. (Visual representations of the age, gender, and educational distributions are provided in Figures 1, 2, and 3, respectively)

Table 1. Sociodemographic Characteristics of Survey Respondents (N = 278)

Variable	Category	n	%
Age of Guardian	< 25 years	16	5.8%
	25–35 years	123	44.2%
	36–45 years	90	32.4%
	> 45 years	49	17.6%
Gender	Female	256	92.1%
	Male	21	7.6%
	Not specified	1	0.4%
Education Level	Primary	5	1.8%
	Secondary/Prep.	49	17.6%
	University	201	72.3%
	Postgraduate	23	8.3%
No. of Children	One child	31	11.2%
	2–3 children	85	30.6%
	More than 3	159	57.2%

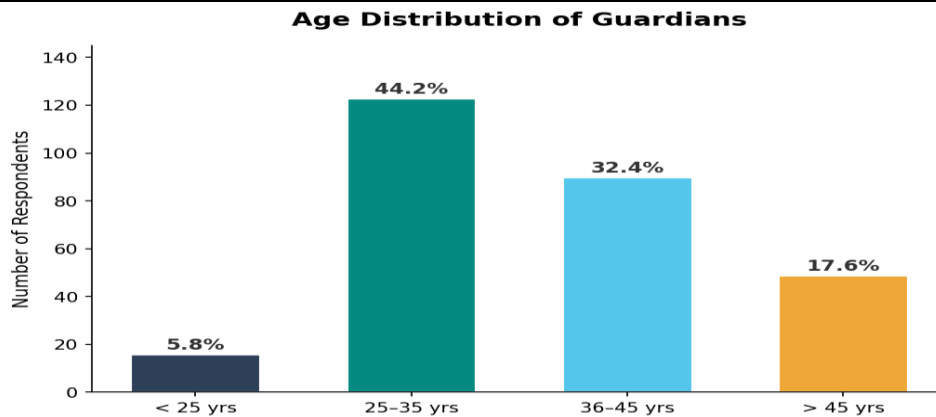


Figure 1. Age Distribution of Guardians

The majority of respondents were females aged 25–35 years (44.2%), reflecting that mothers are primarily responsible for child healthcare decisions in the study population. University-educated participants constituted the largest educational subgroup (72.3%), suggesting the sample is relatively highly educated. Families with more than three children represented the most common household configuration (57.2%).

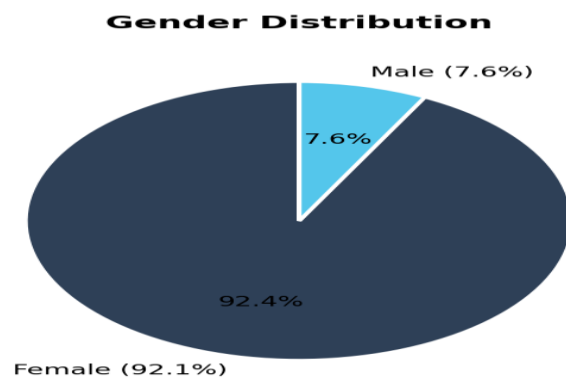


Figure 2. Gender Distribution of Respondents

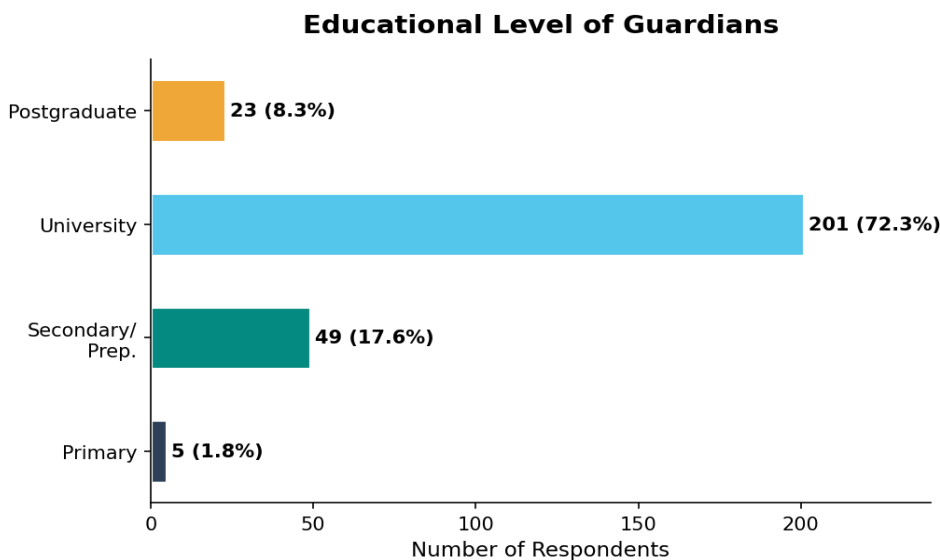


Figure 3. Educational Level of Guardian Respondents

3.2 Prevalence of Traditional Medicine Use

Of the 278 respondents, 271 (97.5%) reported having used traditional medicine to treat at least one of their children, while only 7 (2.5%) had never done so. This extremely high prevalence rate suggests that traditional medicine use for pediatric conditions is nearly universal within this sample.

3.3 Types of Traditional Medicine Used

Among the 271 users, herbal remedies were the most frequently used modality (41.3%), followed by oil therapy (20.3%), honey (17.3%), other folk remedies (14.4%), and cupping therapy (5.5%). Table 2 and Figure 4 present these findings.

Table 2. Types of Traditional Medicine Used (n = 271)

Type of Treatment	Frequency (n)	Percentage (%)
Herbal Remedies	112	41.3%
Oil Therapy	55	20.3%
Honey	47	17.3%
Other Folk Recipes	39	14.4%
Cupping Therapy	15	5.5%
Total	271	100%

Types of Traditional Medicine Used

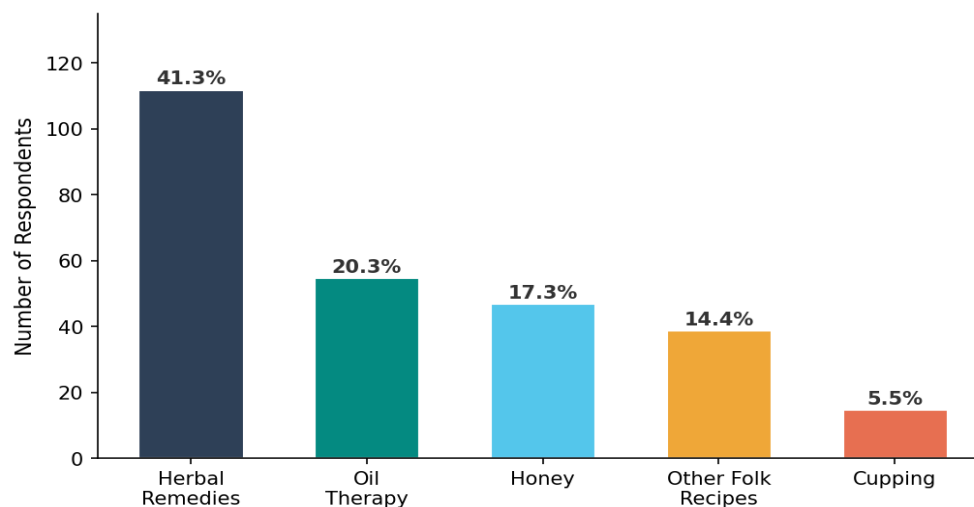


Figure 4. Distribution of Traditional Medicine Types Used

3.4 Conditions Treated

Cough was by far the most frequently cited condition for which traditional medicine was used (36.9%), followed by unspecified other conditions (18.8%), infantile colic (14.4%), diarrhea (14.0%), fever (10.3%), and skin problems (4.8%). These findings highlight the predominant use of traditional remedies for acute respiratory and gastrointestinal illnesses in children.

Table 3. Conditions for Which Traditional Medicine Was Used (n = 271)

Condition	Frequency (n)	Percentage (%)
Cough	100	36.9%
Other	51	18.8%
Infantile Colic	39	14.4%
Diarrhea	38	14.0%
Fever	28	10.3%
Skin Problems	13	4.8%
Total	271	100%

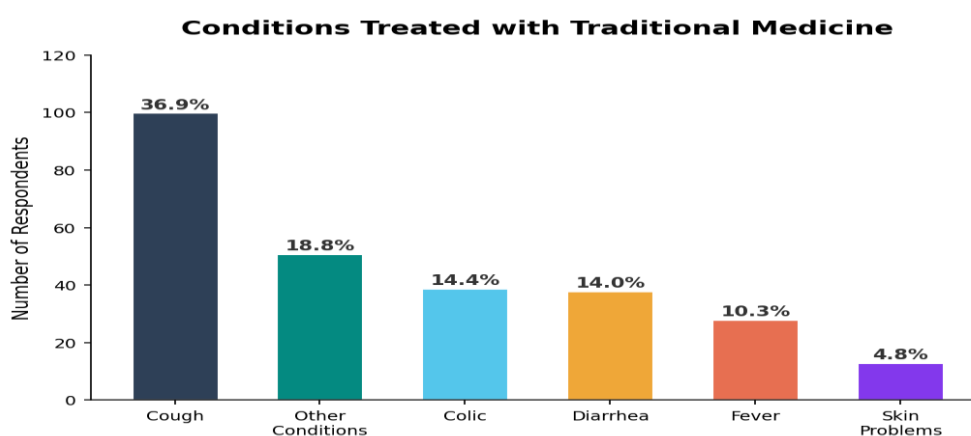


Figure 5. Distribution of Conditions Treated with Traditional Medicine

3.5 Reasons for Choosing Traditional Medicine

Parental or family advice was the leading motivating factor (41.3%), closely followed by a personal belief in the efficacy of traditional medicine (37.3%). Ease of availability and fear of conventional drugs or hospitals each accounted for 8.9%, while low cost was cited by 2.2% of respondents.

Table 4. Reasons for Choosing Traditional Medicine (n = 271)

Reason	Frequency (n)	Percentage (%)
Parental/Family Advice	112	41.3%
Belief in Efficacy	101	37.3%
Ease of Availability	24	8.9%
Fear of Drugs/Hospital	24	8.9%
Low Cost	6	2.2%
Other	2	0.7%
Total	271	100%

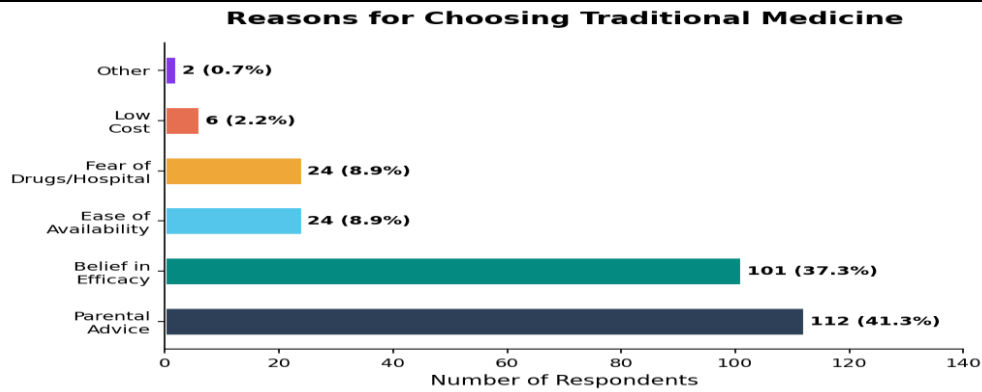


Figure 6. Reasons for Choosing Traditional Medicine

3.6 Usage Patterns, Outcomes, and Health Awareness

Table 5 and Figure 7 present the key outcome and health-awareness variables for the 271 traditional medicine users.

Table 5. Outcome and Health Awareness Variables (n = 271)

Variable	Yes — n (%)	No — n (%)
Consulted a physician prior to use	209 (77.1%)	62 (22.9%)
Child's condition improved after use	227 (83.8%)	44 (16.2%)
Side effects observed in the child	10 (3.7%)	261 (96.3%)
Believes traditional medicine is safe for children	254 (93.7%)	17 (6.3%)
Would use traditional medicine again in the future	83 (30.6%)	188 (69.4%)
Believes traditional medicine may delay physician visit	237 (87.5%)	34 (12.5%)
Requires further awareness on safe use	244 (90.0%)	27 (10.0%)

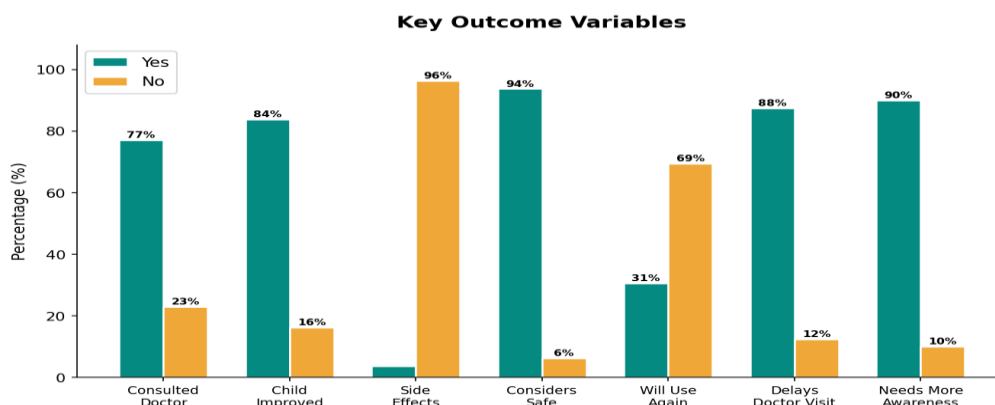


Figure 7. Key Outcome and Health Awareness Variables (%)

Notably, a substantial proportion of guardians (77.1%, n = 209) reported consulting a physician prior to administering traditional medicine, indicating a degree of integration with the formal healthcare system. Regarding perceived outcomes, 83.8% (n = 227) of the guardians reported that their child's condition improved following the use of traditional remedies, reinforcing their belief in efficacy. Conversely, observed side effects were rare, reported in only 3.7% (n = 10) of the cases.

Health awareness and risk perception revealed a complex cognitive landscape. An overwhelming majority of respondents (93.7%, $n = 254$) expressed a belief that traditional medicine is inherently safe for children. Paradoxically, a similarly high proportion (87.5%, $n = 237$) simultaneously acknowledged that relying on traditional treatments might delay a necessary visit to a physician. Despite the high perceived efficacy and current usage rates, only 30.6% ($n = 83$) of the guardians indicated an intention to use traditional medicine again in the future, suggesting underlying ambivalence. Finally, a striking 90.0% ($n = 244$) of the respondents expressed a clear need for further education regarding the safe use of traditional medicine, highlighting a significant receptivity to targeted health-promotion interventions.

Discussion

This cross-sectional study reveals an exceptionally high prevalence (97.5%) of TCAM use among guardians for pediatric care, predominantly targeting acute respiratory and gastrointestinal conditions such as cough, infantile colic, and diarrhea. Herbal remedies were the most frequently utilized modality (41.3%), driven primarily by familial advice (41.3%) and a strong personal belief in efficacy (37.3%). While a majority of guardians (77.1%) consulted a physician prior to TCAM use and 83.8% perceived clinical improvement, a striking paradox emerged: 93.7% believed these remedies were inherently safe, yet 87.5% simultaneously acknowledged that TCAM use could delay necessary medical consultation. Furthermore, despite high current usage, only 30.6% expressed an intention to use TCAM again in the future, and an overwhelming 90.0% recognized a need for further education on safe usage.

The 97.5% prevalence rate observed in this cohort is at the upper extreme of the 10%–85% global range reported in recent systematic reviews (World Health Organization, 2022). This near-universal adoption aligns with findings from similar cultural contexts where TCAM is viewed not as an "alternative" but as a foundational, first-line home care strategy (Al-Saeed et al., 2023). The predominance of herbal remedies, honey, and oil therapy for cough and colic is consistent with evidence-based traditional practices; for instance, the World Health Organization and recent Cochrane reviews acknowledge honey as an effective and safe demulcent for pediatric nighttime coughs in children over one year of age (Oduwole et al., 2020). However, the use of unregulated "other folk recipes" (14.4%) and oil therapy (20.3%) for conditions like fever or skin problems raises clinical concerns regarding potential toxicity, allergic reactions, or inappropriate application (Posadzki et al., 2021). The finding that parental/family advice (41.3%) and belief in efficacy (37.3%) are the primary motivators corroborates established literature on health-seeking behavior, which highlights the intergenerational transmission of health beliefs (Joshi et al., 2022). Notably, "fear of conventional drugs/hospitals" (8.9%) and "low cost" (2.2%) were minor factors. This suggests that in this highly educated sample (72.3% university-educated), TCAM is not primarily a substitute for inaccessible or unaffordable conventional care, but rather a preferred, culturally validated adjunct or initial intervention.

A critical finding of this study is the cognitive dissonance regarding TCAM safety and risk. While 93.7% of guardians perceive TCAM as "safe," 87.5% recognize it may delay physician visits. This paradox likely stems from the "naturalistic fallacy"-the widespread misconception that "natural" equates to "harmless" (Saper et al., 2022). The low reported rate of side effects (3.7%) may reflect genuine safety for mild conditions (like colic), but it is equally likely to indicate significant under-reporting or a lack of guardian ability to attribute mild adverse events (e.g., mild hepatotoxicity or contact dermatitis) to TCAM use (Gould et al., 2023).

Furthermore, the surprisingly low intention for future use (30.6%), despite high perceived efficacy (83.8%), indicates profound ambivalence. This may suggest that while guardians value TCAM for immediate, mild symptom relief, they ultimately prefer conventional

medicine for definitive care, or that the survey itself prompted a reflective shift in their risk-benefit analysis. The overwhelming demand for further education (90.0%) presents a clear, actionable opportunity for public health interventions.

Limitations

This study's strengths include its comprehensive assessment of both usage patterns and nuanced health-awareness metrics, providing a contemporary snapshot of guardian behavior. However, several limitations must be acknowledged. First, the cross-sectional design precludes causal inferences. Second, reliance on self-reported data introduces the potential for recall and social desirability bias, particularly concerning the disclosure of unregulated folk remedies. Third, the sample is heavily skewed toward highly educated, female guardians (92.1%), which may limit the generalizability of the findings to broader, more diverse, or lower-literacy populations where TCAM use might be driven more by economic necessity than cultural preference.

Conclusion

TCAM use in pediatric care is nearly universal in this population, primarily serving as a first-line response to common acute illnesses. While some practices align with evidence-based care, the prevalent belief in inherent safety juxtaposed with the risk of delayed conventional care poses a tangible public health challenge. Pediatricians and primary care providers must proactively and non-judgmentally inquire about TCAM use during routine visits (the "ask-tell-ask" approach) to mitigate herb-drug interactions and prevent care delays. Future research should employ qualitative methods to explore the roots of guardian ambivalence and develop culturally tailored, evidence-based educational frameworks to bridge the gap between traditional practices and modern pediatric safety standards.

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