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Original Research Article

Traditional Healing Practices and Folk Medicines in Thailand: A Case Study of Huai Yot District, Trang Province

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ABSTRACT

The entirety of knowledge, abilities, and practices derived from indigenous theories, beliefs, and experiences across various cultures is in part comprised of traditional and folk remedies. The study aims to document previously unreported folk knowledge of healers in the Huai Yot district of Trang province in Southern Thailand. The region is home to ten folk healers who on average are 71.6 years of age, living in four sub-districts, Na Wong, Huai Yot, Khao Pun, and Bang Di. These healers are adept in various techniques, combining herbal medicine with specialized physical therapies like bone setting and massage. They are exceptionally skilled in treating musculoskeletal disorders and conditions such as leucorrhea, bone fractures, typhoid fever, cancer, blood tonics, and myofascial pain, showcasing a wide range of indigenous medical knowledge. The study documented 37 medicinal plants used by these healers, with herbs and shrubs being the most common and stems being the preferred part of the plant for treatments. Notably, 27 of these plants are employed as blood tonics, highlighting a cultural emphasis on blood health. They are also recognized for their anti-inflammatory, antioxidant, and diuretic effects. These traditional healers of Huai Yot are pivotal to their community's health, biodiversity preservation, and continuity of cultural heritage. Their practices provide valuable insights into natural remedies and the potential for novel medical breakthroughs, thus underscoring their significance to local and international health landscapes. This study underscores the critical need to preserve traditional medicine as a vital supplement to scientific progress in healthcare.

Keywords: Folk medicines; Thailand; Trang Province, Traditional healing

Introduction

A traditional medical practitioner, also known as a traditional healer or folk healer, is acknowledged by their community for their skill in delivering health care using various procedures.[1,2] These methods include using plant, animal, and mineral materials. Their expertise is deeply rooted in the social, cultural, and religious contexts of the community, as well as in the prevalent understandings and attitudes toward health, mental well-being, and the origins of diseases and disabilities.[1-3] The World Health Organization (WHO) and other international organizations recognize the importance of traditional medicine and advocate for its integration into national healthcare systems.[2,4-6] This recognition underscores its role in achieving global health goals, especially in areas lacking access to conventional medicine. It serves as a primary healthcare resource for millions, offering treatments that are accessible, affordable, and culturally familiar.[6-9] Beyond physical ailments, traditional medicine often addresses mental and spiritual well-being, reflecting a holistic approach to health.[3,7,8] Its impact extends to the pharmacological field, where many modern medicines originated in traditional remedies.[10-12] Integrating traditional and modern medicine can enrich healthcare systems, providing diverse treatment options and promoting patient autonomy.

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However, this integration also presents challenges, including the need for regulation and standardization to ensure safety and efficacy.[4-8] Overall, traditional medicine's contribution to global health is significant, emphasizing the importance of preserving and integrating these traditional practices into conventional healthcare frameworks.

Traditional Thai medicine, an integral part of Thailand's cultural heritage, is a holistic approach to health care deeply rooted in ancient beliefs and practices. It is characterized by a holistic approach to health and wellness, integrating physical, mental, and spiritual aspects.[13] Similar to other traditional medical systems,[4,9,13] this system combines utilization of herbal medicines, physical therapies, and spiritual methods, informed by knowledge handed down across generations. Traditional medicine in Southern Thailand is a distinctive blend of indigenous practices enriched by the region's diverse cultural influences, notably Malay and Islamic traditions. This localized medical system heavily emphasizes the use of native herbs and marine resources, reflecting the coastal geography of the area. Spiritual elements, including Islamic practices and local folk beliefs, are crucial, intertwining with physical treatments such as unique regional massage techniques.[14-16] In Southern Thailand provinces, such as Nakhon Si Thammarat, Krabi, Narathiwat, and Songkhla, details of medicinal plants used in treating gastrointestinal diseases, skin disorders, menstrual disorders, and hypertension have been recorded.[17-23] Even though there is an approach for promoting the implementation of Thai traditional medicine in primary health care hospitals in Trang province,[24] records on herbal medicines and healing practices used by folk healers in Trang have yet to be discovered.

Therefore, this research aimed to document the folk knowledge of healers residing in the Huai Yot district, Trang province, in Southern Thailand. The purpose was to understand the treatment of various diseases and to identify the medicinal plants used, which is crucial for the conservation and development of herbal medicine based on local knowledge.

Materials and Methods

Study Area

Trang Province, located in Southern Thailand, is approximately 828 km from Bangkok)13°45′09″ N latitude and 100°29′39″ E longitude(, the capital. The Andaman Sea borders the province with an extensive coastline. Its area is approximately 4,917 km^2. The population is around 643,072, of which around 80% are Buddhists and 18% are Muslim.[25] Trang province is characterized by a diverse topography, a mix of coastal, island, lowland, and mountainous terrains, offering a variety of natural landscapes and ecosystems. This province has extensive lowland areas, particularly in the coastal regions. These areas are often used for agricultural purposes, with rubber and palm oil plantations. This diverse geography makes Trang a unique place in terms of natural environment and supports a wide range of flora and fauna, contributing to its ecological significance.

Throughout the year, the average temperatures in Trang range from about 23 °C to 34 °C (73 °F to 93 °F). The weather conditions in Trang can be broadly categorized into rainy and dry seasons. The rainy season typically extends from May to December. During this period, the province experiences the southwest monsoon, which brings heavy rainfall and high humidity. The dry season is from January to April. During these months, Trang sees less rainfall, and the weather is generally sunny and warm.[26]

Huai Yot district in Trang province was selected for the study. This district is in the northern part of Trang province. It is one of the landlocked districts, surrounded by various other districts of Trang and neighboring provinces. Huai Yot shares in the cultural diversity of the region, which includes influences from Thai, Chinese, and Malay cultures. The district, while not a primary tourist destination like the coastal areas, offers a glimpse into the rural and agricultural lifestyle. Its area is approximately 747.25 km^2, with a population of 93,996.[25]

Methods of study

The data were collected in Huai Yot district from January 2020 to March 2022. It is positioned at 7° 34' 18" N latitude and 99° 20' 42" E longitude. Huai Yot district is divided into eight subdistricts (Tambons) including Huai Yot, Khuan Pring, Na Khao Sia, Lam Phura, Nam Phut, Na Yong Tai, Na Wong, and Na Ta Luang. Each subdistrict in Huai Yot comprises several villages and serves as a basic administrative unit for local governance. They play a significant role in community life, providing essential services, educational facilities, and local governance. The area predominantly consists of rural communities engaged in farming, and many people in this area use traditional healers. Recruitment of study participants in this research involved a two-step approach. Initially, a purposive sampling technique was employed, followed by snowball sampling. This method is especially effective in qualitative research for identifying and accessing hidden populations, which are often difficult for researchers to reach. Due to a general reluctance among traditional healers to divulge specifics of their treatment methodologies, a careful approach was necessary. Ten folk healers, known for their experience treating various diseases with traditional medicines and practices, were selected from the local healer community.

Semi-structured interviews were conducted with these local healers to gather data. Key areas of focus during these interviews included the name of the individual plants, their source, the parts of the plant used in treatments, methods of preparation, routes of administration, and the properties of the remedies. Additionally, samples of the plants mentioned were collected and subsequently identified by their scientific names. To ensure accurate reference and documentation, voucher specimens of these plants were prepared and are now kept in the herbarium at the Department of Traditional Thai Medicine, Faculty of Science and Technology, Rajamangala University of Technology Srivijaya.

Ethical considerations

Before collecting data for the study, all participants were thoroughly informed about the objectives and methods involved. To ensure ethical research practices, written or vocal informed consent was obtained from each participant prior to their interviews. This consent process emphasized the voluntary nature of their participation, assuring them that they could withdraw from the study at any time with no consequences.

The transparency regarding the intent to publish findings related to their healing practices contributed to a sense of value among the participants. This awareness fostered an environment where individuals felt comfortable and willing to share their information freely and spontaneously with the interviewer.

The Human Research Ethics Committee at Walailak University, Thasala District Nakhonsrithammarat, Thailand, reviewed this study, and it has been approved and certified as WU-EC-EX-0-311-65. This endorsement ensured that the study adhered to the academic institution's required ethical guidelines and standards.

Results and Discussion

As described in Table 1, ten folk healers were identified residing in four sub-districts of Huai Yot district, including Na Wong (n=4), Huai Yot (n=4), Khao Pun (n=1), and Bang Di (n=1). The mean age of these traditional healers is 71.6 years (SD ±9.4), with a range of 61 years to 89 years. About one-third (3/10) of these healers are female, with their ages ranging from 73 to 82 years. Most of them work as agriculturists, and only three of the ten are full-time healers. Half of the folk healers have no formal education, two of the ten (2/10) completed secondary school, and approximately one-third (3/10) have attained a primary school education.

The folk healers who participated in this study had an average of 42.6 years (SD ±11.1) of treatment experience (Table 2), ranging from 30 years to 67 years. Only one-fifth (2/10) of them acquired their traditional medical knowledge through monastic medicine, while 80% received their healing knowledge from previous generations. Half (5/10) of the healers treated patients using herbal medicine, while the other half specialized in bone setting or massage. Among them, five out of ten healers were experts in musculoskeletal disorders, and there were also experts in treating other diseases such as leucorrhea, bone fractures, typhoid fever, cancers, blood disorders, and myofascial pain syndrome.

The fundamental principle of Thai traditional medicine is centered on the equilibrium of the body's four elements, *i.e.*, earth, water, wind, and fire. This concept, deeply aligned with Buddhist teachings, forms the basis of its practices and approaches to health and healing. [13-14,16] It is similar to two major traditional medical systems, Ayurvedic medicine and Chinese Medicine. [13,27] Herbal remedies, often made from indigenous plants, play a pivotal role and are used for preventative and curative purposes. [15,18,19,23,28] Physical therapies, like Thai massage and acupuncture, are also prominent and are aimed at harmonizing the body's energy flow. [29-31] Spiritual practices, including meditation and prayer, are also integral, reflecting the belief in the interconnectedness of the mind, body, and spirit in achieving wellness and healing. [32] This rich tradition continues to be widely practiced across Thailand, coexisting with modern medical practices. [33-34]

Intensive scientific evidence has previously established the efficacy of certain medicinal plants used as blood tonics and for improving blood circulation, including *Pandanus amaryllifolius*, *Clinacanthus nutans*, *Mimosa pudica* L., and *Imperata cylindrica*. Emphasis on these herbs aims to bolster and expand the potential integration of traditional and folk knowledge within the primary healthcare system.

Based on the information gathered from the folk healers (Figure 1), there are 37 medicinal plants used in this district. Of these plants, 35% are herbs and 24% are shrubs. Trees and climbers each constitute 18% of the medicinal plants, while tubers account for 3%. Various parts of these plants are used to treat diseases, with stems being the most used part (35%), followed by vines and leaves (19%), fruits (8%), rhizomes and seeds (8%), and flowers (3%).

As described in Table 3, 27 of the 37 medicinal plants can be used as blood tonics, and five and three herbs were used for treating malnutrition and fever, respectively. The following medicinal plants: *Ananas comosus* L. *Cyanthillium cinereum* (L.) H.Rob., *Tribulus terrestris* L., *Imperata cylindrica* (L.) P. Beauv., *Pandanus odorifer* (Forssk.) Kuntze, *Gomphrena globose* L., *Smilax corbularia* Kunth, *Smilax glabra* Roxb., *Panicum repens* L., *Pandanus amaryllifolius* Roxb., *Clinacanthus nutans* (Burm. f.) Lindau., *Ipomoea batatas* (L.)

Lam., *Poikilospermum suaveolens* (Blume) Merr., *Acacia concinna* (Willd.) DC., *Argyreia splendens* (Hornem.) Sweet., *Alstonia macrophylla* Wall. ex G. Don, *Musa acuminata* Colla, *Asclepias curassavica* Linn., *Desmos chinensis* Lour., *Plectranthus scutellarioides* (L.) R. Br., *Clinacanthus nutans* (Burm. f.) Lindau, *Schefflera leucantha* R. Vig., *Gymnanthemum extensum* (Wall. ex DC.) Steetz, *Saccharum officinarum* L., *Blumea balsamifera* (L) DC., *Orthosiphon aristatus* (Blume) Miq., and *Mimosa pudica* L. are considered effective herbs for blood tonics by the folk healers of Huai Yot district. This work additionally discovered that the folk healers in this area used *Curcuma longa* L., *Piper nigrum* L, *Allium sativum* L., *Solanum virginianum* L., and *Cocos nucifera* L. for treating malnutrition and *Cryptolepis buchanani* Roem. & Schult., *Melastoma malabathricum* L., and *Bambusa blumeana* Schult. f. for fever. These plants possess anti-inflammatory, antioxidant, and diuretic effects. The leaves of *Pandanus amaryllifolius*, renowned for their refreshing, fragrant flavor in Southeast Asian cuisine, contain the compound 2-acetyl-1-pyrroline (2AP). It exhibits antioxidant, anti-inflammatory, and anti-diabetic properties. [35-36] Neuroprotective effects as well as anti-cancer properties of this plant have been reported. [37-38] According to a recent review, [36] this plant has been used as a diuretic, cardio-tonic, anti-cancer agent, and anxiety reliever. The leaves of *Pandanus amaryllifolius* contain various bioactive compounds such as catechin, naringin, kaempferol, rutin, epicatechin, myricetin, luteolin, quercetin, and phenolic acids.

Table 1: Biographical information of traditional healers found in Huai Yot district, Trang Province, Thailand

Informant Name	Gender	Hometown (Sub-district)	Age (years)	Occupation		Level of education
Anan Thongpradap	Male	Na Wong	67	Agriculturist		Primary school
Awnh Aoncheinjit	Male	Na Wong	67	Agriculturist		Primary school
Chai Bunthad	Male	Khao Pun	78	Full-time healer	No	formal education
Khum Inkong	Male	Na Wong	89	Full-time healer	No	formal education
Kloy Chusang	Female	Huai Yot	82	Full-time healer	No	formal education
Nohm Maneesingh	Female	Huai Yot	73	Agriculturist		Primary school
Peom DeChoksorn	Female	Na Wong	75	Agriculturist		No formal education
Plak Kueamake	Male	Bang Di	64	Agriculturist		Secondary school
Supachai Phromin	Male	Huai Yot	61	Agriculturist		Secondary school
Wichein Tongbun	Male	Huai Yot	65	Agriculturist		No formal education

Table 2: Types of traditional healers found in Huai Yot district, Trang Province, Thailand

Name of the informants	Years of practice	Source of traditional medical knowledge	Type of traditional medical practices
Anan Thongpradap	40	Forefather	Herbal medicine for leucorrhea
Awnh Aoncheinjit	41	Evolving from monastic medicine	Bone setter for bone fracture and dislocation of joints
Chai Bunthad	39	Forefather	Herbal medicines for Typhoid fever
Khum Inkong	67	Forefather	Herbal medicine for malnutrition
Kloy Chusang	50	Forefather	Thai massage for office syndrome
Nohm Maneesingh	50	Forefather	Thai massage for low back pain
Peom DeChoksorn	35	Forefather	Thai massage for frozen shoulder/adhesive capsulitis
Plak Kueamake	44	Evolving from monastic medicine/ Mentoring by another healer	Thai massage for stroke or partial paralysis
Supachai Phromin	30	Forefather	Herbal medicines for early-stage cancers and blood tonics
Wichein Tongbun	30	Forefather	Herbal medicines for myofascial pain syndrome

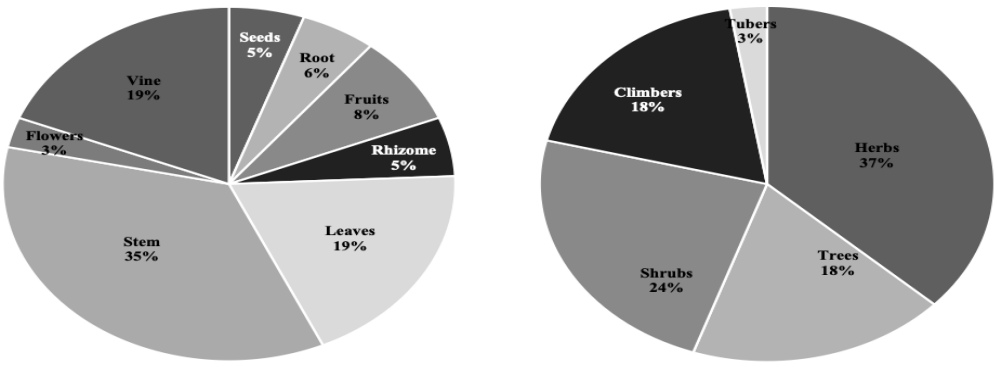

Figure 1: Plant parts used (left panel) and types (right panel) of medicinal plants obtained from traditional healers.

The leaves of *Clinacanthus nutans*, a traditionally used medicinal plant known as Belalai gajah in Malay and Phaya-yo in Thai, are used for treating skin rashes, snake bites, herpes simplex virus lesions, diabetic myelitis, fever, and as a diuretic. It was previously reported that in acute toxicity testing of the ethyl acetate extract of *Clinacanthus nutans* leaves, its LD_{50} value was 6.15 g/kg BW, showing the extract is not toxic at this oral dose in mice. [39] This medicinal plant contains various phytochemical constituents, including lupeol, β-sitosterol, stigmasterol, botulin, myricyl alcohol, and a range of C-glycosyl flavones such as vitexin, isovitexin, shaftoside, isomollupentin, orientin, and isoorientin. [40-41] Pharmacologically, the leaves of *Clinacanthus nutans* have shown a wide range of activities, including cholinergic modulation, cytotoxicity, anti-Papillomavirus infectivity, anti-inflammatory properties, virucidal activity against varicella-zoster virus and dengue virus type 2, and antioxidant protective effects against oxidative-induced hemolysis.[41-42] Clinically, preparations of *Clinacanthus nutans*, as creams, have been successfully used in treating genital herpes and varicella-zoster lesions. [43]

Mimosa pudica L. is an herbaceous plant used in ethnomedicine to treat a variety of illnesses, including diarrhea, dysentery, diabetes, alopecia, cancer, and urinary tract infections. Due to the different bioactive compounds present within the plant, *Mimosa pudica* has a wide array of pharmacological activities. [44-45] These include antioxidant, antimicrobial, wound healing, anxiolytic, anthelmintic, hepatoprotective, antimalarial, anti-inflammatory, antidiabetic, and anticancer properties. Even though *Mimosa pudica* and its compounds are active against many diseases, including life-threatening diseases such as cancer [46] and diabetes [47], no clinical trials or quality control studies are available in the literature to confirm this plant's safe and effective doses for disease prevention and treatment.

Imperata cylindrica is native to southwestern Asia and tropical/subtropical zones. It contains several chemical constituents, including saponins, flavonoids, phenols, and glycosides. [48] It is traditionally used in Chinese, Japanese, and Korean medicine to treat fever, jaundice, and edema. *Imperata cylindrica* has been studied for its various bioactivities, including diuretic effects, hemostasis, anti-inflammatory, antioxidant, antitumor, antibacterial, and immunomodulatory functions. [48-49] It has shown effectiveness in reducing inflammation [50], inhibiting bacterial growth [51], suppressing tumor cells [52], and modulating the immune system. It is notable that while the pharmacological studies are promising, there are still unclarified issues, such as the underlying mechanisms of its diuretic and hemostasis actions, the reproducibility of studies, and the need for a unified international identification to control the quality of this herbal medicine.

Table 3: Medicinal plants used by folk healers of Huai Yot district, Trang Province, Thailand

Scientific name	Local name	Parts used	Biological activities
Alstonia macrophylla Wall. ex G. Don	Thung-Fha	Stem	Anti-inflammatory activity
Acacia concinna (Willd.) DC.	Som-Poi	Leaves	Anti-inflammatory activity
Allium sativum L.	Kra-Teum	Bulb	Anti-inflammatory activity
Ananas comosus (L.) Merr.	Sup-Pa-Rot	Rhizome	Antioxidant activity
Argyreia splendens (Hornem.)Sweet.	Krau-Khao- Lhong	Vine	Antioxidant activity
Asclepias curassavica Linn.	Fai-Dean-Ha	Stem	Antioxidant activity
Bambusa blumeana Schult. f.	Pai-See-Suk	Leaves	Anti-inflammatory activity
Blumea balsamifera (L) DC.	Kham-Phong	Leaves	Antioxidant activity
Clinacanthus nutans (Burm.f.) Lindau	Pha-Ya-Yo	Leaves	Anti-inflammatory activity
Cocos nucifera L.	Ma-Prao	Fruit	Antioxidant activity
Cryptolepis buchanani Roem. & Schult.	Thao-En-On	Vine	Anti-inflammatory activity
Curcuma longa L.	Kha-Min	Rhizome	Antioxidant activity
Cyanthillium cinereum (L.) H.Rob.	Mo-Noi	Stem	Anti-inflammatory activity
Derris scandens (Roxb.) Benth.	Thao-Wan- Priang	Vine	Anti-inflammatory activity
Desmos chinensis Lour.	Sai-Yud	Stem	Antioxidant activity
Gomphrena globosa L.	Baan-Mai-Ruu-Roi	Whole plant	Anti-inflammatory activity
Gymnanthemum extensum (Wall. ex DC.) Steetz	Rang-Dang	Leaves	Anti-inflammatory activity
Imperata cylindrica (L.) P.Beauv.	Yaa-Khaa	Root	Antioxidant activity
Ipomoea batatas (L.) Lam.	Man-Thet	Stem	Antioxidant activity
Melastoma malabathricum L.	Klong-Klang	Stem	Anti-inflammatory activity
Mimosa pudica L.	Mi-Ya-Rarp	Stem	Diuretic effects
Molineria latifolia (Dryand. ex W. T. Aiton) Herb.	Van-Sak-Lek	Root	Anti-inflammatory activity
Musa acuminata ex Kurz (1865)	Colla-Kluai	Leaves	Antioxidant activity
Orthosiphon aristatus (Blume) Miq.	Ya-Nuat-Maeo	Stem	Anti-inflammatory activity
Pandanus amaryllifolius Roxb.	Toey-Hom	Leaves	Antioxidant activity/ Diuretic effects

Table 3: Medicinal plants used by folk healers of Huai Yot district, Trang Province, Thailand)continued(

Scientific name	Local name	Parts used	Biological activities
Pandanus odorifer (Forssk.) Kuntze	Toey	Root	Antioxidant activity
Panicum repens L.	Cha-Na-Kard	Whole plant	Anti-inflammatory activity
Piper nigrum L	Prik-Thai	Seed	Anti-inflammatory activity
Plectranthus scutellarioides (L.) R.Br.	Rui-Si-Pha-Som	Leaves	Anti-inflammatory activity
Poikilospermum suaveolens (Blume) Merr.	Krau-Kha-Mun	Stem	Anti-inflammatory activity
Poikilospermum suaveolens (Blume) Merr.	Krau-Kha-Mun	Stem	Anti-inflammatory activity
Saccharum officinarum L.	Aoy-Dang	Stem	Antioxidant activity
Schefflera leucantha R. Vig.	Ha-Nu-Man- Pra-San-Kai	Leaves	Anti-inflammatory activity
Smilax corbularia Kunth	Hua-Khao- Yen-Neua	Stem	Anti-inflammatory activity
Smilax glabra Roxb.	Hua-Khao- Yen-Tai	Stem	Anti-inflammatory activity
Solanum virginianum L.	Ma-Khua-Proa	Flower	Antioxidant activity
Tribulus terrestris L.	Naam-Kra-Sun	Whole plant	Antioxidant activity

Unsurprisingly, the traditional healers in the Huai Yot district play a pivotal role in maintaining the community's well-being, safeguarding biodiversity, and sustaining cultural legacy. Their methodologies offer a significant understanding of natural healing options and the possibility for groundbreaking medical discoveries, highlighting their importance to local and global health. The research emphasizes the imperative to conserve traditional medicinal practices as an essential adjunct to advancements in medical science.

Conclusion

The Huai Yot district's healers exhibit proficiency in various healing techniques, such as herbal medicine, bone setting, and massage, treating numerous health conditions within their communities. They utilize medicinal plants to treat ailments including leucorrhea, bone fractures, typhoid fever, and cancer, as well as creating blood tonics and alleviate myofascial pain syndrome. The prevalent use of plants for blood tonics underscores the local cultural value placed on maintaining blood health. This initial documentation establishes the traditional healers of Huai Yot as integral to the health of their community, safeguarding of biodiversity, and maintenance of cultural traditions. The research highlights the essential role of preserving traditional medicine, advocating for its integration as a complementary facet to the advancements of modern healthcare.

Conflict of Interest

The authors declare no conflict of interest.

Authors' Declaration

The authors hereby declare that the work presented in this article is original and that any liability for claims relating to the content of this article will be borne by them.

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