

PERCEIVED BARRIERS TO THE USE OF TRADITIONAL CHINESE MEDICINE (TCM): A SYSTEMATIC LITERATURE REVIEW

Rou Fen Lock^{1*}
I-Chi Chen²
K Gengeswari³
Kian Keong Te⁴

¹ Faculty of Business and Finance, Universiti Tunku Abdul Rahman (UTAR), Malaysia
(E-mail: CharmaineLock0626@utar.my)

² Faculty of Business and Finance, Universiti Tunku Abdul Rahman (UTAR), Malaysia
(E-mail: chenich@utar.edu.my)

³ Faculty of Business and Finance, Universiti Tunku Abdul Rahman (UTAR), Malaysia
(E-mail: gengeswarik@utar.edu.my)

⁴ M. Kandiah Faculty of Medicine and Health Sciences, Universiti Tunku Abdul Rahman (UTAR), Malaysia,
(Email: tekk@utar.edu.my)

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Abstract: *Barriers towards the utilization of Traditional Chinese Medicine (TCM) have significant impacts such as increased difficulty in integrating into mainstream healthcare and restricting the choice for the public to choose alternative option for overall well-being. Understanding the barriers can help the policymakers and healthcare professionals carry out implementation to increase treatment utilization. Hence, this paper aims to identify the perceived barriers regarding TCM utilization. Six databases, including Scopus, PubMed, Emerald Insights, Semantic Scholar, ScienceDirect, and Google Scholar, were used in the review, producing one hundred and sixty-eight studies. Also, there are thirteen studies identified through backward citation searching. Fourteen studies were selected based on the PRISMA guideline. The selected studies were reviewed based on the type of literature. Through the review, the common barriers identified include cost, knowledge, side-effects of the treatment, and healthcare professionals. In addition, the review also discovered that there are several demographic profiles that influence barriers, including age, employment, education, race, income, geographical location, marital status, and ethnicities.*

Keywords: *Perceived Barriers, Systematic Literature Review, Traditional Chinese Medicine*

Introduction

In the contemporary era, there has been a significant increase in public concern regarding health, particularly after the Coronavirus Disease 2019 (COVID-19) pandemic (Broom, 2022), which made people more health conscious and led to the change in their daily lifestyles to maintain their wellness. “79% Malaysians” (2023) has reported that 79% of Malaysians have focused on health concerns in the post-pandemic era, particularly in attaining holistic well-being. Individuals typically opt for conventional treatment as their primary course of action when facing health issues. However, some people also seek alternative treatment modalities, including Complementary and Alternative Medicine (CAM) to enhance the overall treatment outcome.

TCM can be known as oriental medicine (Wang, 2020), eastern medicine, or east Asian medicine (Wang, 2020; Cleveland Clinic, 2022). TCM is considered widely practiced and the most comprehensive medicine system in the world (Hempen & Hummelsberger, 2020). Originating from China thousands of years ago, TCM focuses on entire health rather than treating diseases (Ratini, 2021). TCM encompasses many practices, including acupressure, acupuncture, moxibustion, herbal medicine, burning herbs near the skin, Chinese massage (Tui Na), exercises (Qi Gong and Tai Chi), and nutrition. (Ehrlich, 2016). Although traditional and CAM elicit various responses, from strong support to uniformed skepticism, CAM and TCM continue to grow, with widespread utilization in developed and developing countries (Kumar, Rajiah, Veettil, & Ng, 2015). Despite the popularity of CAM (including TCM practices), there is an urgent need to deal with the barriers of utilization (Chatterjee, 2023). Perceived barriers, such as financial constraints, time constraints, not recommended by healthcare professionals (Hung et al., 2023), and lack of knowledge (Ong, Tan, Ooi, Athirah Daud, & Mohammed, 2024) as well as challenges for safe use, such as misperceptions spread among TCM users and unreliable sources of over-the-counter (OTC) TCM information (Kim et al., 2016), have limited TCM utilization among certain target groups. This is supported by Rahmawati, Demartoto, and Prasetya (2023) that a strong perceived barrier will reduce the use of TCM practices.

Understanding the barriers to the use of TCM is crucial for increasing TCM and other complementary treatments utilization (Bao et al., 2018). Barriers inhibit the integration of TCM into the mainstream healthcare system, limiting healthcare options, and causing disproportionate benefits to certain groups based on accessibility of information and income. (Chatterjee, 2023). In this context, the Association of Southeast Asian Nations (ASEAN) Community Vision 2025 has also emphasized the importance of enhancing strategies to provide quality traditional and complementary medicine (T&CM) to the public, ensuring holistic care and the attainment of Universal Healthcare Coverage (UHC) (ASEAN, n.d.). Thus, addressing the barriers can promote integration and improve patients’ health outcomes. In addition, by identifying and resolving the barriers, healthcare practitioners and policymakers can foster better understanding and TCM utilization, thus promoting more holistic and comprehensive healthcare options for patients to treat their diseases. However, based on the researcher’s knowledge, there was a lack of studies addressing the perceived barriers to TCM utilization. Hence, the review aims to identify the perceived barriers to the use of TCM.

Materials and Methods

Systematic Literature Review Methodology

Under the registration number CRD42024572003, the protocol has been registered in the International Prospective Register of Systematic Reviews (PROSPERO). This review was based on the principles of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (see Figure 1), including databases used and review process. Then, data were extracted and analysed.

PRISMA Guidelines

PRISMA is designed to guide researchers reporting systematic literature reviews transparently, including why they conducted the review, what method was employed, and what the findings found (PRISMA, 2024). First, the research objective was formed. The relevant studies were searched in the databases using the keywords. The searching strategy was explained. Then, the selected studies were screened by using a quality appraisal tool to ensure the quality of the selected studies. Finally, the extraction of the data, analysis from the selected studies, and discussion were conducted.

Systematic Searching Strategy

Identification

Databases (Scopus, PubMed, Emerald Insights, Semantic Scholar, ScienceDirect, and Google Scholar) were used to obtain relevant studies. The keywords used were 'perceived barrier', 'perceived obstacle', 'perceived impediment', 'traditional Chinese medicine', and 'Chinese medicine', and these keywords were combined with Boolean Operator 'OR' and 'AND' when conducting searches. One hundred and sixty-eight studies were identified through databases. After excluding any duplication studies, it remained one hundred and fifty-four studies. In addition, thirteen studies were identified through backward citation searching.

Screening and Eligibility Screening

After screening the title and abstracts and removing unrelated studies, eight studies remained. Then, one study was removed as it could not be retrieved for full-text accessibility. The remaining seven studies were screened for eligibility, based on the inclusion criteria (journal articles) and exclusion criteria (unpublished or non-primary studies). Four unpublished studies were removed, and the remaining three were evaluated using quality appraisal tools. On the other hand, for the identification of studies through backward citation searching, thirteen studies were identified and retrieved for full-text accessibility. One study was removed as it could not be retrieved for full-text accessibility, and the remaining twelve were screened for eligibility. One non-primary study was removed and the remaining eleven were evaluated using quality appraisal tools. In total, fourteen studies were sent to two reviewers for quality assessment. The Mixed Methods Appraisal Tool (MMAT) was employed in the review as it can evaluate various kinds of studies including qualitative, quantitative, and mixed methods study (Hong, Gonzalez-Reyes, & Pluye, 2018). Mohamed Shaffril, Samah, and Kamarudin (2021) have emphasized that the study must be agreed upon by both reviewers and rated at least three out of five. As a result, fourteen studies were included, as they were rated at least three out of five by both reviewers.

Record Included

Studies that met the review objective were chosen. Fourteen studies were chosen to be used in the review manuscript. The findings of the studies were screened to obtain the relevant information for the review.

Data Extraction and Analysis

Researchers have reviewed the selected studies thoroughly. Then, data were extracted based on the research objective. The findings were recorded in Table 1. The researcher conducted thematic analysis based on these findings (Braun & Clarke, 2006). Finally, the developed themes were sent and reviewed by two invited panels of experts in the related fields, and the themes were being reviewed separately (Mohamed Shaffril, Ahmad, Samsuddin, Samah, & Hamdan, 2020).

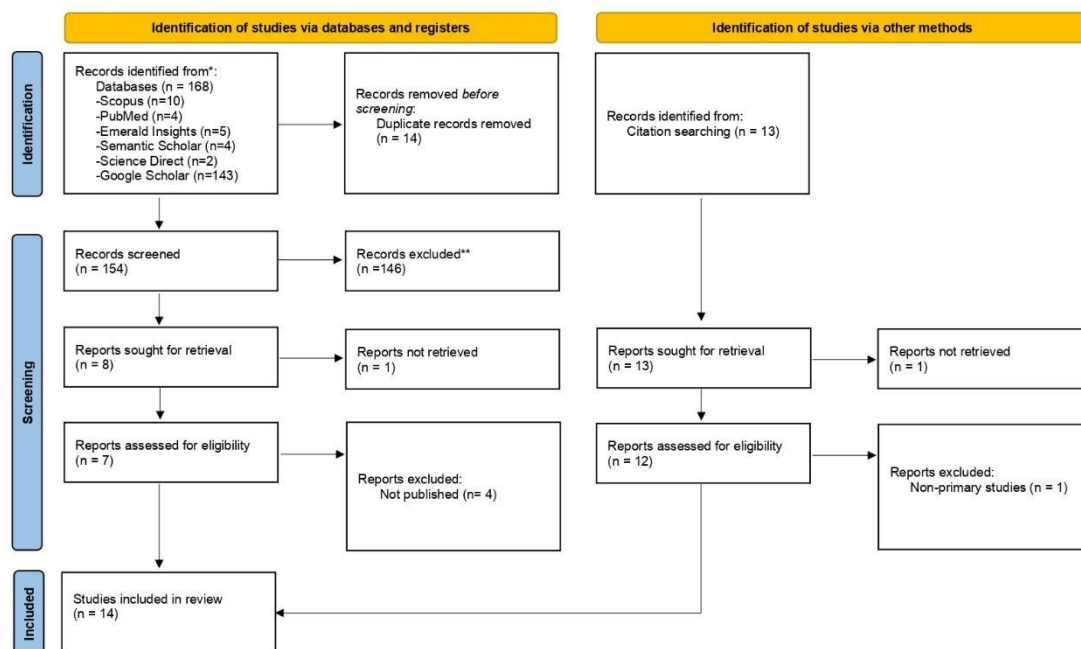


Figure 1: PRISMA Flow Diagram

Source: Adapted From PRISMA New Flow Diagram (PRISMA, 2020)

Table 1: The Themes (N=14)

Studies	Years	Region	Barriers															
			Co	Ac/Av	Ti	Know	HP	Nee	Eff	Qua	Inter	Trans	SS	Tru	Evi	HR	DJ	OB
Boon et al.	1999	Canada	✓		✓	✓				✓				✓				
Zhang & Verhoef	2002	Canada	✓				✓											
Braun et al.	2005	United States						✓										✓
Humpel & Jones	2006	Australia				✓			✓	✓	✓		✓		✓			✓
Patterson et al.	2008	Canada	✓	✓								✓						
Bishop et al.	2010	England	✓						✓				✓					✓
Lee et al.	2010	Canada	✓															
Bishop et al.	2011	United Kingdom	✓			✓												
Zhang et al.	2012	United States	✓			✓	✓	✓	✓				✓		✓			✓
Mao et al.	2014	United States										✓				✓	✓	✓
Burke et al.	2015	United States	✓			✓	✓	✓	✓					✓	✓			✓
Choi et al.	2017	South Korea	✓				✓					✓	✓	✓				✓
Bao et al.	2018	United States	✓		✓	✓	✓				✓	✓			✓			✓
Ong et al.	2022	Malaysia	✓			✓	✓				✓		✓					
Co-Cost										Inter- Interference with Conventional Treatment								
Ac/Av-Accessibility/Availability										Trans-Transportation								
Ti-Time										SS-Side-effects								
Know-Knowledge										Tru-Trust								
HP- Healthcare Professionals										Evi- Evidence								
Nee- Needs										HR- Home Responsibility								
Eff- Efficacy/Effectiveness										DJ- Demanding Job								
Qua- Quality										OB-Other Barriers								

Results

Methodological Characteristics

Fourteen studies, published between 1999 and 2022 were selected from the database. The studies were carried out in North America (Canada and United States), Asia (Malaysia and South Korea), Europe (United Kingdom and England), and Oceania (Australia). The studies include six qualitative, seven quantitative, and one mixed methods study. Among the qualitative studies, different methods were used, such as focus group discussion, in-depth open-ended interview, semi-structured in-depth interview, semi-structured interview, semi-structured face-to-face interview, and the last study carried out using various styles including unstructured, semi-structured, and informal. In the quantitative studies, there is one study that collected data using a cross-sectional self-administered survey, two studies using survey, one study mentioned using cross-sectional survey, one study using self-administered anonymous survey, one using self-administered questionnaire, and another one mentioned using a self-report survey. The remaining one study is a mixed methods study, which involves a semi-structured interview and quantitative approach.

Content Area Investigated

The content areas focused on perceived barriers to TCM. Among the studies, the most common barrier reported was cost of treatment in the utilization of CAM or TCM and its practices (Boon, Brown, Gavin, Kennard, & Stewart, 1999; Zhang & Verhoef, 2002; Patterson et al., 2008; Bishop, Yardley, & Lewith, 2010; Lee, Rodin, Devins, & Weiss, 2010; Bishop, Barlow, Coghlan, Lee, & Lewith, 2011; Zhang, Lao, Chen, & Ceballos, 2012; Burke, Nahin, & Stussman, 2015; Choi, Han, Na, & Lim, 2017; Bao et al., 2018). People could not use TCM if the cost is high or expensive. The study by Boon et al. (1999) mentioned that some of the target group who used CAM are covered either partially or completely by insurance, and some are willing to pay if the treatment is important to their life. This is similar to the study by Bishop et al. (2011) that although some target groups cannot afford to pay for the treatment, some target groups are willing to pay for their health. Study by Patterson et al. (2008) also found that money was an issue, but some thought that the CAM treatment was not that expensive as compared to

some medical treatment. In addition, study by Zhang et al. (2012) reported the expensiveness of the treatment by the recent acupuncture users, while study by Lee et al. (2010) did mention that the high cost of treatment due to no insurance coverage, can impose a significant financial burden, hence leading to stopping seeing or continuing recommended TCM treatment sessions. Furthermore, the study by Bao et al. (2018) also mentioned the concern about high cost and lack of insurance coverage, which become the barriers to acupuncture utilization. However, a study by Ong et al. (2022) found that cost was not a concern in T&CM utilization by non-users.

Besides that, the second common barrier that reported was lack of knowledge (Boon et al., 1999; Humple & Jones, 2006; Bishop et al., 2011; Zhang et al., 2012; Burke et al., 2015; Bao et al., 2018; Ong et al., 2022). In the study by Boon et al. (1999), the target group reported lack of meaningful information regarding the efficacy and safety of CAM utilization, which made this the barrier to their utilization. Study by Humple and Jones (2006) also mentioned that the target group lacked knowledge regarding the CAM treatment when initially diagnosed with the disease. Study by Bishop et al. (2011) has reported that the target group lacks awareness of available acupuncture services. Zhang et al. (2012) also reported lack of knowledge by choosing the “did not know about acupuncture” (12.6% by non-acupuncture users), while study from Burke et al. (2015) found lack of knowledge by choosing “never heard” of acupuncture (15.4%) in full sample, back pain only sample (16.4%), and no back pain sample (15.2%). A study by Bao et al. (2018) has reported nearly half of the respondents identified lack of knowledge as a barrier to acupuncture utilization. Finally, a study by Ong et al. (2022) has found that the non-T&CM users are uncertain about the benefits of T&CM and lack confidence in their knowledge of T&CM.

Besides, the third common barrier reported was side effects (Boon et al., 1999; Humple & Jones, 2006; Bishop et al., 2010; Zhang et al., 2012; Choi et al., 2017; Bao et al., 2018; Ong et al., 2022). There are three studies (Choi et al., 2017; Bao et al., 2018; Ong et al., 2022) that indicated the target groups are concerned about the side-effects of the treatment, while the study by Bishop et al. (2010) did specifically mention the physical side-effects from Chinese herbal remedies that the participant is concerned about. Nevertheless, the study by Zhang et al. (2012) has found that side effects did not have much impact on acupuncture utilization for both recent and ever-use users (less than 1%). On top of that, two studies (Boon et al., 1999; Humple & Jones, 2006) reported that the target groups having fear of the treatment may cause harm or negative effects.

In addition, the fourth common barrier reported was related to the healthcare professionals (Zhang & Verhoef, 2002; Zhang et al., 2012; Burke et al., 2015; Choi et al., 2017; Bao et al., 2018; Ong et al., 2022). Both the studies by Zhang and Verhoef (2002) and Bao et al. (2018) have found that the barriers to using TCM included lack of excellent Chinese healers or difficulty in finding qualified acupuncturists. Moreover, studies (Zhang et al., 2012; Burke et al., 2015; Choi et al., 2017; Ong et al., 2022) found that negative opinion and disapproval were the barriers to utilization. However, Zhang et al. (2012) has mentioned that negative opinions from healthcare professionals did not have much impact on acupuncture utilization for both recent and ever-use users (less than 1%).

Beyond that, there are also least reported barriers including need, evidence-based, limited accessibility and availability of treatments, time, effectiveness, worried of quality, interference with conventional treatment, transportation, trust, home responsibilities, demanding job, and many other barriers (including familiarity, stop to go for surgery, feeling force to use, no

particular reason for non-use, never thought of utilization, thought of treatment complete or recover, presence of placebo, interest, safety, concern with experimentation, and concern of pain for using acupuncture).

Discussion

Barriers Encountered

Based on the selected studies, the common barriers affecting the utilization of TCM and its related practices were identified. The most common barriers were cost, knowledge, side-effects of the treatment, and healthcare professionals. The cost was identified as the most common barrier, some of the target group in the review were reported as incapable of affording high cost of TCM treatment. Lack of government subsidies (Babar, Syed, Naing, & Hamzah, 2012; Ingle, Mruthyunjaya, Venkataraman, Leng, & Yeoh, 2019) and insurance coverage may be the barriers for non-use. These are aligned with the study by Chatterjee (2023) that the cost of the treatments might be a challenge for those who expressed willingness and desire to use the treatments. The study by Zhou et al. (2020) found that increased medical insurance coverage could increase the likelihood of healthcare utilization; thus, policymakers must consider implementing universal health insurance (Shami, Tabrizi, & Nosratnejad, 2019) or provide subsidies to address this issue.

Next, lack of knowledge on TCM treatment was identified as one of the common barriers. Lack of knowledge may influence TCM utilization due to not having enough meaningful information (safety and efficacy of treatment), not being aware of available treatment services, uncertainty about treatment benefits, lack of confidence, lack of exposure to TCM (never heard and did not know). Having sufficient understanding of TCM is significant, as this would help patients to receive, process, and comprehend health information and services needed to make informed medical decisions (Australian Patients Association, 2023). With sufficient knowledge of TCM, patients will be able to choose and obtain a holistic treatment for their diseases and disclose the TCM treatment they used to their general practitioners.

Besides that, side effects were one of the most common concerns in the utilization of TCM and its related practices. All the studies reported concern of side effects of the treatment. On the contrary, study by Kumar et al. (2015) has found that the target group prefer to use CAM because of fewer side effects as compared to conventional medicine. This is aligned with the study Zhang et al. (2012) that side effects did not impact much in acupuncture utilization. Side effects occurred when the treatment received did more harm than treat the diseases, and they ranged from mild to severe and could be life threatening (Brazier, 2017). Hence, policymakers and healthcare professionals, especially healthcare promoters must provide information regarding the side effects of TCM treatment utilization and promote this treatment to the public for consideration as a treatment option.

Apart from that, healthcare professionals appeared to be one of the common barriers across the studies. Negative opinion or disapproval of healthcare professionals especially general practitioners has become a barrier to stopping patients from using CAM and TCM treatment services. This is supported by the findings in the study by Chatterjee (2023) that medical practitioners discourage their patients from using CAM treatment. According to Noor Aizuddin et al. (2022), healthcare providers have limited knowledge towards CAM is possibly the main reason for negative perspectives and non-supportive attitudes towards CAM treatments, which then emphasized the importance of the implementation of a CAM literacy awareness program

to enhance understanding of CAM and improve trust in utilization. Besides that, lack of excellent of TCM practitioners or difficulty in finding acupuncture practitioners has become one of the barriers in which patients are unable to use TCM. As reported by Zhang and Verhoef (2002), the lack of practitioners may be due to the marginalization of TCM in the location of research, so TCM development was restricted, and practitioners did not have a chance for further improvements. In order to resolve difficulty in locating practitioners, information on the best way to locate the practitioners should be provided (Bao et al., 2018).

Demographic Profiles Influencing Barriers

From the fourteen selected studies, only four studies investigated the influence of demographic profiles on barriers in T&CM (including TCM and its related practices) or TCM practices utilization (Mao et al., 2014; Burke et al., 2015; Bao et al., 2018; Ong et al., 2022). The demographic profiles that are being studied include age, employment, education, race, income, geographical location, marital status, and ethnicities. In terms of age, a study by Mao et al. (2014) reported that older age breast cancer patients were concerned about experimentation and lack of interest in acupuncture, while the younger target group cited demanding job and home responsibilities as barriers to acupuncture treatment utilization. Similarly, study by Burke et al. (2015) found that, as compared to the older target group, the target groups between 18 and 24 years old were more likely to report a lack of knowledge as a reason for not using acupuncture. While in terms of employment, study by Mao et al. (2014) reported that employed women cited demanding job and home responsibilities as barriers to acupuncture treatment utilization. However, Bao et al. (2018) found that both age and employment did not have an impact on the barriers to using acupuncture treatment. All these three studies were carried out in the United States; however, the findings were opposite. This significant gap suggests that age and employment status can have an impact on perceived barriers to acupuncture utilization, and further studies are needed to explore and fully understand these demographic profiles on influencing barriers to utilization.

Besides that, in terms of education, study by Mao et al. (2014) found that less educated participants who were in high school or lower showed a lack of literacy, in which they were concerned about experimentation, the presence of placebo in the study, and lack of interest in acupuncture. Some other barriers were also reported from the study by Bao et al. (2018), where target groups who possessed lower education (high school or lower) perceived a higher barrier and were concerned about treatment not based on science, interference with conventional treatment, and transportation issues. In addition, Burke et al. (2015) found that respondents who are below high school were more likely reported lack of knowledge. These studies have showed that lower education levels might be significant and lead to high perceived barriers, emphasizing the importance for more educational initiatives in promoting TCM to the less-educated people.

Moreover, study by Burke et al. (2015) also reported target groups with high income were more likely to report a lack of need for acupuncture utilization. High-income individuals may not feel the need for acupuncture utilization, possibly due to their financial capability to access greater healthcare options for their diseases. Apart from that, in terms of race, study by Mao et al. (2014) reported that non-whites are concerned about experimentation. In addition, study by Bao et al. (2018) shows that many non-whites perceived high barrier. Out of the non-whites, some of them reported lack of insurance as a barrier to utilization, while a large proportion are concerned about the side effects of acupuncture treatment. This highlights the need to

implement more socioeconomically sensitive and culturally appropriate interventions to overcome these barriers and improve TCM utilization.

In terms of geographical location, study by Mao et al. (2014) found that whites had travel difficulty due to only a few of the target group living within 10 miles from the hospital as compared to non-whites, in which majority of them live within 10 miles. Moreover, Burke et al. (2015) found that those living in the West were less likely to select lack of knowledge as barrier compared to those living in the South. The findings showed the importance of geographical location in accessibility of TCM services, with whites facing more challenges regarding travel, highlighting the vitality of enhanced location-based accessibility. Additionally, a study (Ong et al., 2022) showed that both marital status and ethnicities, specifically widowed, Malay, and other ethnicities T&CM users exhibited low perceived barriers. In contrast, for non-users, all demographic profiles did not score any significant difference in perceived barriers to T&CM utilization. The findings suggested that although both marital status and ethnicity factors cannot be changed, yet it still important in reducing the perceived barriers among T&CM users. In order to completely address this influence on barriers, interventions such as promoting and delivering accurate information regarding TCM can be offered, and health educators or health promoters can provide detailed explanations if needed to solve any of their queries.

Implications

There are several implications identified from the review. First, the most common barriers were identified which may be useful in developing standardized measurement tools for future studies regarding barriers to TCM utilization. Second, the discrepancies identified from the study strengthening the importance of promoting and delivering information regarding TCM treatments to the public to address the barrier they may encounter when choosing the treatment for their diseases. Third, policymakers may consider providing subsidies or implementing insurance, such as ASEAN healthcare treatment subsidies, to cover the cost of TCM treatment and ensure UHC, enabling people to afford TCM treatment without financial hesitation. Fourth, to enhance public's knowledge and awareness of TCM, promotional tools such as brochures, social media, and counselling services should be made available to the public.

Limitations And Future Directions

The studies that involve the perceived barriers of students for integration of TCM into Western medicine curricula are being excluded from the review due to the combination of barriers from students' perspectives and their predictions of barriers that patients will encounter. Hence, future studies could explore this area to identify students' barriers in using TCM either for personal use or in predicting patients' perspectives. Next, the study that included barriers to disclosing their utilization of TCM to healthcare professionals, such as their general practitioners, was also excluded from the study because, although the target group refuses to disclose their use, it does not affect their utilization. Hence, future studies can explore the barriers preventing patients from disclosing their TCM usage to their general practitioners. In addition, this study does not include other factors (such as health behaviors, health status, and health access) that might also influence barriers. These factors were addressed by only one study, while this review focuses exclusively on socio-demographic variables. Future studies on health access are important, especially focusing on under-explored areas such as special population and rural regions, aligning with ASEAN Community Vision 2025 to ensure UHC. Therefore, there is a significant gap that future studies can explore in this area. Furthermore, this review involves all the studies mentioned related to TCM and its related practices. So,

future studies can focus on TCM and its related practices in journal articles to discuss simply on TCM treatment barriers. Moreover, while this review is focused on TCM, the search was limited to the studies in English-language databases; hence, studies in other languages databases, especially in Chinese language (such as CNKI, THCI, and TSSCI), may have been overlooked. Therefore, the future studies can expand the databases used to search for the relevant studies in different language databases. On top of that, the keyword used to search for the studies is limited to English. So, future studies can expand the keywords into other languages to identify any additional studies. While this study focused on identifying perceived barriers to the use of TCM, future studies can evaluate the effectiveness of the efforts in addressing these barriers to increase TCM awareness and access to the public.

Conclusion

In summary, this review conducted a comprehensive overview of the research on perceived barriers to the use of TCM. Across the selected studies, themes including barriers encountered and demographic profiles influencing barriers have emerged. These findings showed the necessity to deliver accurate information and promote TCM to the public to address the barriers they encountered while enhancing their understanding and awareness of TCM treatment utilization. Besides, the findings can also enhance the integration of TCM into ASEAN by addressing the barriers. This aligns with the ASEAN Community Vision 2025 of attaining UHC to ensure that the public has equal opportunities to access quality TCM treatment and improve their overall well-being.

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