ORIGINAL ARTICLE

Complementary and Alternative Medicine (CAM) Use in Insomnia: Current Update on Knowledge, Attitude, and Perception among the Community in Malaysia.

Siti Nur Afza Atirah Zahari[1], Syarifah Syamimi Putri Adiba Syed Putera[1*], Zakiah Noordin[2,3]

[1]Faculty of Pharmacy and Health Sciences, Royal College of Medicine Perak, Universiti Kuala Lumpur,30450 Ipoh, Perak, Malaysia.
[2]Department of Pharmacy Practice, Faculty of Pharmacy, Universiti Teknologi MARA Cawangan Selangor, Malaysia.
[3]Cardiology Therapeutics Research Group, Universiti Teknologi MARA, Bandar Puncak Alam, Malaysia.

Corresponding Author
Syarifah Syamimi Putri Adiba Binti Syed Putera
Faculty of Pharmacy and Health Sciences, Royal College of Medicine Perak, Universiti Kuala Lumpur, No 3, Jalan Greentown, 30450, Ipoh, Malaysia.
Email: syarifah.syamimi@unikl.edu.my

Submitted:25/08/2022. Revised edition: 06/10/2022. Accepted: 12/10/2022. Published online: 01/11/2022

Abstract

Background: Statistics have shown that 10-30% of adults have chronic insomnia, while 9 of 10 Malaysian have insomnia. Complementary and alternative medicine (CAM) is a well-known non-pharmacological intervention for insomnia. This study aims to evaluate the current update on knowledge, attitude, and perception (KAP) toward CAM therapy use in insomnia among the community in Malaysia.
Methods: A self-administered, face-validated online questionnaire was distributed among 396 participants aged 18 years and above, recruited using convenience sampling between January and May 2022. The questionnaire consists of five sections: demographic, pattern usage of CAM therapy, knowledge, attitude, and perception of CAM therapy for insomnia. Sections 1 and 2 consist of multiple-choice questions, while each KAP part comprises 5-6 items of Likert scale questions. The overall score for each KAP section is calculated, and the level is classified by using Bloom's cut-off point. Descriptive statistics were performed using SPSS version 22, and the data was presented in frequency and percentage.
Results: Most of the respondents were single (81.3%), female (68.9%) university students (74%) with bachelor's degrees (63.4%). Most respondents have never experienced insomnia (58.3%) and thus never practiced CAM therapy for insomnia (82.3%). Music-based intervention (n=36) and fixed sleeping patterns (n=55) are some reported CAM therapy practiced by insomniac respondents. Results also showed that participants have a positive perception (53.8%) and good knowledge (61.6%) of CAM therapy and insomnia but a moderate attitude (50.3%) toward CAM therapy for insomnia.
Conclusion: The study findings revealed that the use of CAM therapy was not prevalent. Results also showed that participants had good knowledge of CAM therapy for insomnia. However, the researchers are unable to generalise the results of the survey to the population as a whole. Further research will require a larger sample size.
Keywords: *Insomnia, CAM therapy, knowledge, attitude, perception, Malaysia.*

Introduction

According to the Diagnostic & Statistic Manual of Mental Disorders, Fifth Edition (DSM-5), insomnia is a predominant sleep dissatisfaction in quantity or quality that negatively impacts essential areas of life. [1] Insomnia can be either short-term or long-term, depending on the duration of the person who has insomnia.[2] Many studies and cross-sectional surveys reported that 10-30% of adults have chronic insomnia, with the elderly leading the statistics. In Malaysia, statistics has recognised sleep as an emerging public health issue. The data reported that high prevalence of working adults experienced insufficient sleep. Those statistics are mainly contributed by psychological factors particularly lifestyle.[3]

Age, medical conditions, and psychological complications might be the leading cause of insomnia. The cognitive ability of insomniacs is primarily affected and leads to fatigue, mood fluctuations, and emotional reactivity, which eventually will deteriorate their social behaviour. [4] Insomnia is often treatable, depending on the cause. Severity can be reduced with treatment and lifestyle changes. Both pharmacological and non-pharmacological treatments may be used as the approach. Due to the insomnia medication's side effect profile, non-pharmacological treatment such as behavioural intervention is preferable. Still, some patients may also require medications. [5]

For pharmacological treatment, benzodiazepines are the most common and prescribed insomnia medications. Z-drugs (zolpidem, eszopiclone, zaleplon) give the same therapeutic effect as benzodiazepine and melatonin agonists and act as first-line agents for the elderly insomniac.[6] Although effective pharmacological treatments for insomnia are available, their use is limited due to concerns regarding abuse, dependence and adverse effects.[7]

An example of a non-pharmacological approach to insomnia patients is complementary and alternative medicine (CAM). A Malaysian survey on World Sleep Day stated that most respondents favour non-pharmacological treatments such as CAM to improve their sleep quality or insomnia.[8] This preference may be owing to the benefits of CAM therapy offered.[9] There are various CAM therapy available and some of the common CAM therapies used for insomnia include acupuncture, Ayurveda, melatonin, valerian, yoga, and mind-body practices.

Previous local study reported that the prevalence of CAM use among cancer patients was found to be 61.2 %.[10] CAM therapy is gaining visibility and becoming more mainstream among patients and practitioners. The current trend of CAM use urges explorative studies to assess the community's knowledge, attitude, and perception of CAM therapy for insomnia. The study will help improve understanding of CAM therapy for insomnia among the community in Malaysia.

Materials and methods

This study was a cross-sectional design that applied an online self-administered questionnaire to address the research goals. The target population was the community in Malaysia who are equal to or more than 18 years old. Non-refusal to participate was the exclusion criteria in the study. The data was collected using an online Google Form questionnaire to ease the process due[5]. to the COVID-19 pandemic outbreak. The questionnaire link was distributed to the Malaysian community through social media such as WhatsApp and Instagram. The sample size was determined using the sample size formula with a 95% confidence level and the margin of error is 5% which also consider 10% of non-response respondent. The population's sample size was calculated using the formula below (Charan and Biswa, 2013).

N = (Z^2 p(1-p))/d^2

n = estimated sample size

Z = standard value for confidence level at 95%

P = estimated proportion in population (0.5)

d = precision (0.05)

Non – response respondents = n x 10%

Therefore, the final sample size calculated was 385 respondents.

The questionnaire was adapted and modified from the previous study that related to knowledge, attitudes, and perceptions of CAM therapy.[11] Two panels of experts validated the questionnaire items, and the content validation indices (CVI) were calculated. Based on the results, all CVI indices calculated were above the minimum value (0.80) of acceptable CVI values for two panels of experts, S-CVI/Ave (0.91), S-CVI/UA (0.82), and the average proportion of items as relevance across two experts (0.87). This indicates that the items on the questionnaire reach a satisfactory level of content validation. The questionnaire was also pilot tested, and a reliability test was performed using Cronbach alpha in Statistical Package for Social Sciences (SPSS version 22).
Statistical Package for Social Sciences (SPSS version 22) was used for all statistical analyses. The significance level was set at a P-value of less than 0.05. Descriptive statistics have been used to describe the data; continuous data has been presented as mean ± standard deviation (SD), and categorical data will be expressed as numbers with percentages. The knowledge, attitude, and perceptions level were classified using Bloom's cut-off points (Table 1, 2, 3).
The online questionnaire was made available in both Bahasa Malaysia and English to ensure study participants fully understood all the questions and instructions by choosing their preferred language. The questionnaire comprised of 24 questions: socio-demographic details, usage patterns of CAM therapy, and knowledge, attitude, and perception toward insomnia and CAM therapy. Questions included in knowledge, attitude, and perception were answered with a Likert scale.

Results

A total of 396 respondents participated in answering the questionnaire. The majority of the respondents' age ranged from 21 to 30 (59.3%). Most of the respondents were female (68.9%), highest education level of a bachelor's degree (63.4%) as respondents are the majority among university students (74%) that are single (81.3%) and do not have any chronic illness (94.4%). (Table 4)

CAM therapy for insomnia is not prevalent in the community. Among 396 respondents, only 41.7% have experienced insomnia, and 13.6% have experienced chronic insomnia for more than three months. Music-based intervention (n=36) and fixed sleeping pattern (n=55) are some of the reported CAM therapy practiced by insomnia respondents (17.7%, n=70). (Table 5)

Majority of the respondents (86.7%) understand the definition of insomnia, and 91.9% (n=364) agreed that insomnia might affect daily life. Most respondents (55.1%) were aware of the treatment choice for insomnia (Question 3-6), and they acknowledged that good sleeping habits could help improve brain performance (84.3%, n=334) (Table 6). The overall knowledge of participants in this study was classified as good (n=244, 61.6%) (Table 7)
Most respondents also showed a broadly positive attitude toward CAM therapy for insomnia. Most respondents (55.8%, n=221) approved that CAM therapy is associated with lesser side effects than sleep medication. The respondents also have a clear opinion on the benefit of CAM therapy for insomnia. They believed CAM therapy is superior in improving brain performance (n=254, 64.1%), helping individuals to fall asleep (n=232, 58.6%), and having a deep and peaceful sleep compared (n=252, 63.6%) to sleep medication. Most participants (59.8%) also considered CAM a therapy that makes individuals more active and cheerful than sleep medications (40.4%) (Table 8).
The attitude of most of the respondents in the study towards CAM therapy for insomnia was categorized as moderate (n=199, 50.3%). (Table 9)
Most participants perceived CAM as associated with lesser side effects (n=244, 61.6%) and offers benefits such as acting as a sleeping aid (n=282, 71.3%) (Table 10). Moreover, the majority of the respondents also perceived CAM might provide

deep and peaceful sleep (n=266, 67.2%), improve brain performance (n=271, 68.5%), and make individuals more cheerful and active (n=254, 64.2%). The perception of most of the respondents in the study towards CAM therapy for insomnia was categorized as good (n=213, 53.8%). (Table 11)

Discussion

In the current study, most respondents have never experienced insomnia and thus never practiced CAM therapy for insomnia. Contrarily in another country, the usage of CAM therapy for insomnia in the Canada is more prevalent than in Malaysia. However, this could be biased because the sample size included 3073 adults and it is larger than the current study. [12] Among 396 respondents, only 41.7% have experienced insomnia, and 13.6% have experienced chronic insomnia for more than three months. Music-based intervention and fixed sleeping patterns are some reported CAM therapy practiced by insomniac respondents. The result is aligned with a previous study that revealed music had been recognized as a promising strategy to improve sleep quality when delivered for 3 weeks or longer and having a consistent bedtime routine is part of essential sleep hygiene that should be considered.[13]

The knowledge assessment showed that most respondents have good knowledge of CAM therapy for insomnia. Most of them acknowledged the definition of insomnia, the impact of insomnia on daily life, and the availability of pharmacological and non-pharmacological treatments for insomnia. Results also showed that participants have a good knowledge of CAM therapy for insomnia. The findings get indirect leverage from the evidence presented in a survey conducted among local pharmacy students in 2015, whereby the authors reported that the majority of the participants were knowledgeable about biologically based practices of CAM.[14]

Results also showed that participants have an encouraging attitude toward CAM therapy for insomnia. All the mean scores are above 3.5 for all items on the attitude part, indicating that respondents are leaning toward agreeing with the statements stated in the attitude part. The 2020 study also highlighted a similar finding where most respondents portray a positive attitude toward CAM, and the authors emphasized that prevalent practices of CAM should be trained among healthcare providers to understand societal needs.[15]

Results also showed that participants positively perceived CAM therapy for insomnia. Patients' perceptions toward treatment were heavily grounded by their psychosocial contexts. These findings can be supported by another research that described the agreement on the tendency of insomniac towards non-pharmacological treatment. [16-17]

Conclusion

From the findings of the study, the use of CAM therapy was found to be not prevalent. Results also showed that participants have a good knowledge of CAM therapy for insomnia. However, the researchers are unable to generalize the results of the survey to the population as a whole. Larger sample size is needed in further research.

Conflict of Interest

The authors declare no conflict of interest.

Ethical Approval

This study was conducted after obtaining approval from the institute's ethics committee.

Acknowledgment

The authors want to thank people who have contributed directly or indirectly to this study.

Table 1. Bloom's cut-off for respondent's total score

Total score (%)	Level
80-100	Good
60-79	Moderate
<59	Poor

Table 2. The level of respondent's knowledge according to Bloom's cut-off point

Total score	Total score (%)	Level
24 – 30	80 – 100	Good
18 – 23	60 – 79	Moderate
<17	<59	Poor

Table 3. The level of respondents' attitude and perception according to Bloom's cut off point

Total score	Total score (%)	Level
20-25	80-100	Good
15-19.8	60-79	Moderate
<14.8	<59	Poor

Table 4. Socio-demographic details among respondents (n=396)

Variable		n	%
Age	18-20 years old	87	22.0
	21-30 years old	235	59.3
	31-40 years old	21	5.3
	41-50 years old	37	9.3
	>50 years old	16	4.0
Gender	Male	123	31.1
	Female	273	68.9
Highest Education Level	SPM	0	0
	STPM/Matriculation /Foundation/Diploma	105	26.5
	Bachelor's Degree	251	63.4
	Master	10	2.5
	PhD	4	1.0
	Other	1	0.3
Occupation status	Unemployed	15	3.8
	Retired	3	0.8
	Working	84	21.1
	Student	293	74.0
Marital Status	Single	322	81.3
	Married	69	17.4
	Divorced	5	1.3
Chronic Illness	No	374	94.4
	Cardiovascular Disease	7	1.8
	Diabetes Mellitus	5	1.3
	Cancer	2	5
	Blood disorder	2	0.5
	Other	6	1.5

Table 5. Prevalence of insomnia and usage pattern of CAM therapy for insomnia (n=396*)*

Items		n	%
Have you experienced insomnia?	Yes	165	41.7
	No	231	58.3
Duration of insomnia	Less than 3 months	55	13.9
	More than 3 months	54	13.6
	A few days ago,	33	8.3
	A few weeks ago,	8	2.0
	Not Applicable	246	62.1
Have you practiced any CAM therapy before?	Yes	70	17.7
	No	326	82.3
Type of CAM therapy practiced before	Music-based intervention	36	9.1
	CBT-i	4	1.0
	Withdrawal benzodiazepine	1	0.3
	Fix sleeping pattern	55	13.9
	Not applicable	299	75.5
	Other	1	0.3

Table 6. Knowledge of insomnia and treatment (n=396)

Items		n	%	Minimum	Maximum	Mean	SD
Insomnia is defined as repeated poor quality or quantity of sleep that affects the functions of important areas	Strongly disagree	13	3.3	1.00	5.00	4.1970	0.90096
	Disagree	7	1.8				
	Neutral	30	7.6				
	Agree	185	46.7				
	Strongly agree	161	40.7				
Insomnia may affect our daily life	Strongly disagree	12	3.0	1.00	5.00	4.4419	0.87968
	Disagree	6	1.5				
	Neutral	14	3.5				
	Agree	127	32.1				
	Strongly agree	237	59.8				
Benzodiazepine is the most prescribed medication for insomnia	Strongly disagree	5	1.3	1.00	5.00	3.5732	0.82811
	Disagree	11	2.8				
	Neutral	154	38.9				
	Agree	152	38.4				
	Strongly agree	74	18.7				
CAM therapy is defined as a group of medicinal practices, products not known as the main medicine	Strongly disagree	5	1.3	1.00	5.00	3.7045	0.84559
	Disagree	11	2.8				
	Neutral	154	38.9				
	Agree	152	38.4				
	Strongly agree	74	18.7				
CAM therapy can be used for insomnia	Strongly disagree	7	1.8	1.00	5.00	3.7929	0.83442
	Disagree	6	1.5				
	Neutral	127	32.1				
	Agree	178	44.9				

Table 7. Total score for knowledge toward insomnia and treatment (n=396)

Level of Knowledge		n	%
Good	More than 80% score	244	61.6
Moderate	60-79% score	133	33.6
Poor	Less than 59% score	19	4.8

Table 8. Attitude toward CAM therapy for insomnia (n=396)

Items		n	%	Minimum	Maximum	Mean	SD
CAM therapy for insomnia has lesser side effects than sleep medications	Strongly disagree	7	1.8	1.00	5.00	3.6818	0.87462
	Disagree	12	3.0				
	Neutral	156	39.4				
	Agree	146	36.9				
	Strongly agree	75	18.9				
CAM therapy for insomnia helps individuals to have a deep and peaceful sleep better than sleep medications	Strongly disagree	7	1.8	1.00	5.00	3.7576	0.83397
	Disagree	8	2.3				
	Neutral	128	32.3				
	Agree	181	45.7				
	Strongly agree	71	17.9				
CAM therapy helps to improve the brain performance of an individual better than sleep medications	Strongly disagree	7	1.8	1.00	5.00	3.7778	0.83960
	Disagree	8	2.0				
	Neutral	127	32.1				
	Agree	178	44.9				
	Strongly agree	76	19.2				
CAM therapy helps individuals to fall asleep better than sleep medications	Strongly disagree	7	1.8	1.00	5.00	3.6995	0.8527
	Disagree	11	2.8				
	Neutral	146	36.9				
	Agree	162	40.9				
	Strongly agree	70	17.7				
CAM therapy for insomnia makes individuals more cheerful and active person better than sleep medications	Strongly disagree	6	1.5	1.00	5.00	3.7475	0.83703
	Disagree	6	1.5				
	Neutral	147	37.1				
	Agree	160	40.4				
	Strongly agree	77	19.4				

Note: 5-Strongly agree, 4- Agree, 3-Neutral, 2-Disagree, 1-Strongly disagree

Table 9. Total score for attitude toward CAM therapy for insomnia (n=396)

Level of Attitude		n	%
Good	More than 80% score	180	45.5
Moderate	60-79% score	199	50.3
Poor	Less than 59% score	17	4.3

Table 10. Perception toward CAM therapy for insomnia (n=396)

Items		n	%	Minimum	Maximum	Mean	SD
CAM therapy has lesser side effects	Strongly disagree	8	2.0	1.00	5.00	3.76267	0.8713
	Disagree	8	2.0				
	Neutral	136	34.3				
	Agree	162	40.9				
	Strongly agree	82	20.7				
CAM therapy helps individuals to have a deep and peaceful sleep	Strongly disagree	7	1.8	1.00	5.00	3.8232	0.8169 5
	Disagree	4	1.0				
	Neutral	119	30.1				
	Agree	188	47.5				
	Strongly agree	78	19.7				
CAM therapy helps to improve individual brain performance	Strongly disagree	7	1.8	1.00	5.00	3.8131	0.7862 3
	Disagree	3	0.8				
	Neutral	115	29.0				
	Agree	203	51.3				
	Strongly agree	68	17.2				
CAM therapy helps individuals to fall asleep	Strongly disagree	7	1.8	1.00	5.00	3.8737	0.8014 0
	Disagree	3	0.8				
	Neutral	104	26.3				
	Agree	201	50.8				
	Strongly agree	81	20.5				
CAM therapy for insomnia helps an individual to be a more cheerful and active person	Strongly disagree	7	1.8	1.00	5.00	3.7828	0.8195 8
	Disagree	4	1.0				
	Neutral	131	33.1				
	Agree	180	45.5				
	Strongly agree	74	18.7				

Note: 5-Strongly agree, 4- Agree, 3-Neutral, 2-Disagree, 1-Strongly disagree

Table 11. Total score for perception toward CAM therapy for insomnia (n=396)

Level of Perception		n	%
Good	More than 80% score	213	53.8
Moderate	60-79% score	173	43.7
Poor	Less than 59% score	10	2.5

References

1. American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). https://doi-org.ezproxy.frederick.edu/10.1176/appi.books.9780890425596
2. Pearson NJ, Johnson LL, Nahin RL. Insomnia, trouble sleeping, and complementary and alternative medicine: Analysis of the 2002 national health interview survey data. Arch Intern Med. 2006 Sep 18;166(16):1775-82. doi: 10.1001/archinte.166.16.1775. PMID: 16983058.
3. Chan CMH, Siau CS, Wong JE, Wee LH, Jamil NA, Hoe VCW. Prevalence of Insufficient Sleep and Its Associated Factors Among Working Adults in Malaysia. Nat Sci Sleep. 2021 Jul 13;13:1109-1116. doi: 10.2147/NSS.S295537. PMID: 34285616; PMCID: PMC8286118.
4. Wardle-Pinkston S, Slavish DC, Taylor DJ. Insomnia and cognitive performance: A systematic review and meta-analysis. Sleep Med Rev. 2019 Dec;48:101205. doi: 10.1016/j.smrv.2019.07.008. Epub 2019 Aug 12. PMID: 31522135.
5. Matheson E, Hainer BL. Insomnia: Pharmacologic Therapy. Am Fam Physician. 2017 Jul 1;96(1):29-35. PMID: 28671376.
6. Lie JD, Tu KN, Shen DD, Wong BM. Pharmacological Treatment of Insomnia. P T. 2015 Nov;40(11):759-71. PMID: 26609210; PMCID: PMC4634348.
7. Pagel JF, Pandi-Perumal SR & Monti JM Treating insomnia with medications. Sleep Science Practice 2, 2018: 5. https://doi.org/10.1186/s41606-018-0025-z
8. Shaifullizan NI. The survey shows Malaysians lack sleep. The Star. 2019. Retrieved 1 December 2021, from https://www.thestar.com.my/lifestyle/living/2019/03/26/survey-shows-malaysians-lacking-sleep.
9. Morin CM, Espie C. Insomnia: a clinical guide to Assesment and treatment. New York: Kluwer Academic / Plenum Publishers; 2003. p. 101–19.
10. Hamed Abdalla MEA, Ali AM, Loong L. The use of complementary and alternative medicine (CAM) among cancer patients at a tertiary hospital in Malaysia. Complement Ther Med. 2020 May;50:102343. doi: 10.1016/j.ctim.2020.102343. Epub 2020 Mar 8. PMID: 32444037.
11. Liem, A., Newcombe, P.A. Knowledge, attitudes, and usage of complementary-alternative medicine (CAM): A national survey of clinical psychologists in Indonesia. Curr Psychol 40, 3477–3487 (2021). https://doi.org/10.1007/s12144-019-00290-1
12. Morin CM, Jarrin DC, Ivers H, Mérette C, LeBlanc M, Savard J. Incidence, Persistence, and Remission Rates of Insomnia Over 5 Years. JAMA Netw Open. 2020;3(11):e2018782. doi:10.1001/jamanetworkopen.2020.18782
13. Chaput JP, Dutil C, Sampasa-Kanyinga H. Sleeping hours: what is the ideal number and how does age impact this? Nat Sci Sleep. 2018 Nov 27;10:421-430. doi: 10.2147/NSS.S163071. PMID: 30568521; PMCID: PMC6267703.

14. Jamshed SQ, Khan MU, Ahmad A, Elkalmi RM. Knowledge, perceptions, and attitudes toward complementary and alternative medicines among pharmacy students of a Malaysian Public University. J Pharm Bioall Sci 2016;8:34-8
15. Alazmi AS, Alhamad J. Attitudes and practices of complementary and alternative medicine among patients attending primary care center in Saudi Arabia: A prospective cross-sectional study. J Family Med Prim Care. 2020 Oct 30;9(10):5177-5182. doi: 10.4103/jfmpc.jfmpc_871_20. PMID: 33409184; PMCID: PMC7773103.
16. Cheung JM, Bartlett DJ, Armour CL, et al. Patient Preferences for Managing Insomnia: A Discrete Choice Experiment. Patient 11, 2018:503–514. https://doi.org/10.1007/s40271-018-0303-y
17. Cheung JM, Bartlett DJ, Armour CL, Saini B. Treating Insomnia: A Review of Patient Perceptions Toward Treatment. Behav Sleep Med. 2016;14(3):235-66. doi: 10.1080/15402002.2014.981818. Epub 2015 Aug 4. PMID: 26240937.