



# Literature Review: Effectiveness of Mindfulness Therapy for Elderly Anxiety

Tri Nurhidayati<sup>1,3</sup>(✉), Sugianto<sup>2</sup>, Siti Aisah<sup>1</sup>, Ernawati<sup>1</sup>, and Ah Yusuf<sup>3</sup>

<sup>1</sup> Faculty of Nursing and Health Sciences, Universitas Muhammadiyah Semarang, Semarang, Indonesia

tnh@unimus.ac.id

<sup>2</sup> Hetten Medical Complex, Riyadh, Saudi Arabia

<sup>3</sup> Faculty of Nursing, Universitas Airlangga Surabaya, Surabaya, Indonesia

**Abstract.** The deterioration of the body's cells indicates the beginning of health problems experienced by the elderly, so that the body's function and endurance decrease and risk factors for disease are increased. Various kinds of problems both physically, mentally and socio-economic culturally that occur due to the influence of the aging process. Mindfulness is mindfulness that only focuses on thinking about something related to the current event without considering a particular outcome or purpose. The purpose of this literature review is to find out the effectiveness of mindfulness for elderly anxiety. This research design is literature review using a reputable International journal by using search engines such as ScienceDirect, Springer, and PubMed indexed Scopus with inclusion criteria: year of publication, 2013–2021, full text pdf, nursing journal, with the keywords “Mindfulness Therapy for Elderly” or in an international literature search “Mindfulness Therapy” AND “Anxiety” AND “Elderly”. The results showed 10 articles that Mindfulness is very effective for elderly anxiety. Mindfulness used as an intervention mostly using the Internet 6 journals. Meditation with 2 journals and Breath and Sound Meditation each amounting to 2 journals with a duration of 20 min to 2 h with a frequency of every week and a time span of 8–16 weeks to 28 months either done with the help of an instructor or not and mostly 6-month intervention. Mindfulness is very effective in overcoming anxiety in elderly. Nurses are expected to be able to implement Mindfulness Therapy in overcoming anxiety in the elderly.

**Keywords:** Mindfulness · Anxiety · Elderly

## 1 Introduction

Pharmacological and psychotherapy can reduce a person's anxiety. Alternative techniques that can be used to reduce a person's anxiety such as yoga, aromatherapy, relaxation through massage (*massage*) and *mind therapy* [1]. Until now, some literature states that *mind therapy* is an effective method to overcome and reduce anxiety in the elderly. Mindtherapy is very useful for dealing with anxiety cases [2].

*Mindfulness* can reduce anxiety in the elderly when in a state of *mindful* who will increase the focus of the elderly in enjoying emotions from time to time without manipulation, now and here, a *mindful state* will bring the elderly into emotional stability so that it directly has a positive impact on decline [3].

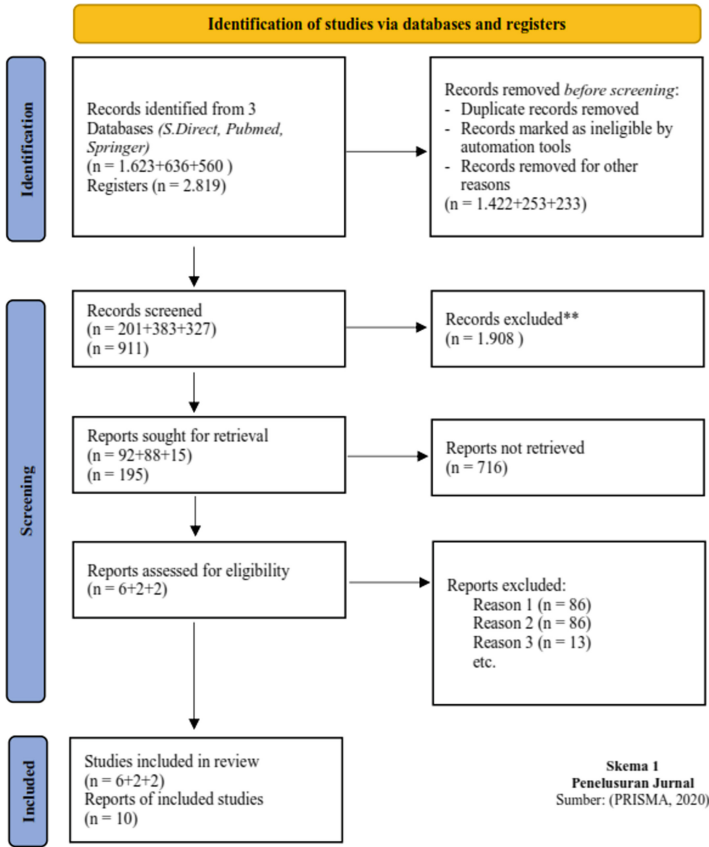
*World Health Organization* (WHO) as the World Health Organization said that the largest number of elderly people in the world is in Japan, which reached 69.785% in 2018. In the 2010–2025 period, Indonesia experienced an increase in the number of elderly people by 41% from 11,275,557 people to 46,680,806 inhabitants. We can clearly analyze how there has been a very significant increase in the number of elderly people, and of course they will face various kinds of problems both physically and psychologically, so they need treatment according to the needs of elderly individuals [4].

The number of elderly people in Indonesia in 2014 reached 18 million and is expected to increase to 41 million in 2035 and more than 80 million in 2050. By 2050, one in four Indonesians will be elderly. And it is easier to find elderly people than infants or toddlers. While the distribution of the elderly population in 2010, the elderly living in urban areas were 12,380,321 (9.58%) and those living in rural areas were 15,612,232 (9.97%). There is a significant comparison between the elderly living in urban areas and the elderly living in rural areas. In 2020, the number of elderly people continues to increase by 28,822,879 (11.34%), with a larger distribution of the elderly living in urban areas, namely 15,714,952 (11.20%) compared to those living in rural areas, which is 13,107,927 (11.51%). The increasing trend of elderly living in urban areas can be caused by: the least comparison between rural and [5].

*The World Health Organization* (WHO) in 2019, revealed that the life expectancy of elderly men aged 70.85 years and women aged 75.87 years. Expected age living in Southeast Asia in 2019 in the male gender in the age range of 69.88 years and in women at the age of 73.1 years. According to the Central Bureau of Statistics, Life Expectancy in Indonesia in elderly men reaches 69.59 years, preferably in women it reaches 73.46 years [6].

Various kinds of problems both physically, mentally and socio-economically cultural that occur due to the influence of the aging process. In general, the physical condition of a person who has entered old age will experience a decline. Various kinds of changes will be experienced due to changes in physical and psychological conditions, namely anxiety, depression, insomnia and dementia [7].

*World Health Organization* (WHO 2016) in statistical data said that anxiety increased by 2.5% every year with a comparison of 2.43% in women and 0.07% in men. It is estimated that the number of elderly people in the world who experience both acute and chronic anxiety reaches 5% of the 898 million people, with a ratio between women and men, which is 2:1. [4]. Mindfulness can provide positive qualities that arise consciously without judgment, without coercion, acceptance, awareness, trust, openness, tenderness, empathy, gratitude, and compassion. Thus it will be in the form of energy, clear thoughts, and happiness so that it will reduce the level of anxiety in the elderly later, so as to improve the health status of the elderly. Not only suppressing anxiety levels, mindfulness therapy can also reduce stress levels to depression in a person and can even improve sleep quality.



**Fig. 1.** Identification of studies

## 2 Methodology

This literature review is guided by PICOC [5] to produce an analysis for the effect of mindfulness in anxiety elderly. The writers also used PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) to guide the literature search in this review.

Four databases were searched December 2021 with Pubmed, EBSCO, Science Dirert and Springer with the following keywords: anxiety, Mindfulness, Elderly and nurses. Inclusion criteria: year of publication, journal from 2013–2021, full text pdf, nursing journal, with the keywords “Mindfulness Therapy for Elderly” or in an international literature search “Mindfulness Therapy” AND “Anxiety” AND “Elderly”. Boolean uses: AND. From the search results for the appropriate literature review, 20 articles were obtained which were then re-screened with a strict process so that 10 articles were obtained that had a standard search for analysis (Fig. 1 and Table 1).

**Table 1.** Summary of included study

No	Author	Country	Settings	Instruments	Long intervention	Measurement of anxiety	The Significance of Mindfulness
1.	Sunny HW Chan1 (2020)	China	Psychiatric Outpatient Clinic in Hong Kong	Depression Anxiety and Stress Scale (DASS), Chinese Perceived Stress Scale (CPSS), Pittsburgh Sleep Quality Index (PSQI), Chinese General Self-efficacy Scale (CGSS)	2 h a week for 8 weeks	Heavy	In comparison to the MBCT, the Q-BCT group saw more symptomatic mood decrease. Q-BCT was more beneficial to physical health, but MBCT was more beneficial to mental health
2.	Natalie Kladmitskia (2020)	Australia	Human Research Ethics Committee of St Vincent's Hospital Sydney, Australia	Generalized anxiety disorder (GAD), social anxiety disorder (SAD), panic disorder (PD), agoraphobia (AG), obsessive compulsive disorder (OCD), and/or major depressive disorder (MDD)	14 months	scored > 9 on the GAD-7 and/or PHQ-9 Heavy	Transdiagnostic iCBT, mindfulness-enhanced iCBT, and online mindfulness training are more successful than standard therapies in treating depression and anxiety disorders, and are the treatments of choice for these issues
3.	Johanna Boettcher (2014)	Germany	Umea University Berlin, Germany	Beck Anxiety Inventory BAI	20 min of explanatory videos for 8 weeks.	Score 10 or less	This study shows promising effects for an Internet-based Mindfulness program in the treatment of anxiety disorders

*(continued)*

Table 1. (continued)

No	Author	Country	Settings	Instruments	Long intervention	Measurement of anxiety	The Significance of Mindfulness
4.	Elizabeth A. Hoge, MD (2013)	America	Massachusetts General Hospital	Trier Social Stress Test (TSST) Hamilton Anxiety Scale	Once a week for 8 weeks	Score 20 or more	MBSR may reduce GAD anxiety symptoms and boost stress reactivity and coping as determined in the stress challenge laboratory
5.	Daphne Sze Ki Cheung (2020)	Hong Kong	Hong Kong Polytechnic University	Center of Epidemiological Studies-Depression Scale (CES-D)	> 16 weeks	Score 0-60 high depression level	Caregivers of disabled families can benefit from the modified MBSR and MBCT. Their immediate impact was an increase in stress coping, depressed symptoms, and subjective loads When compared to typical wellness classes, eight weeks of mindfulness-based classes with little practice resulted in lower anxiety-based mindfulness
6.	Jeanette M. Johnstone, PhD (2020)	USA	National University of Natural Medicine, Portland USA	Depression Anxiety and Stress Scale (DASS)	8 weeks	scores did not differ by gender: $P > 0.16$ for all gender $\times$ group interactions	

(continued)

Table 1. (continued)

No	Author	Country	Settings	Instruments	Long intervention	Measurement of anxiety	The Significance of Mindfulness
7.	Adrian Perez-Aranda (2021)	Spain	Health Research Institute of Santiago de Compostela (IDIS)	Mindful Attention Awareness Scale (MAAS), the Self-Compassion Scale (SCS-12), the Connor-Davidson Resilience Scale (CD-RISC) and the Goldberg Anxiety and Depression Scale (GADS)	November 2012 – March 2015	0–9 where higher scores indicate more severity	The effect of mindfulness plays an important role in self-care in depression, but not in anxiety symptoms
8.	Inka Papenfuss (2021)	Netherlands	University of Groningen	Albany Panic and Phobia questionnaire (APPO)	Answer questions directly and complete questionnaires via computer at one time	0–8 according to how much fear participants anticipate if a meeting occurs during next week	IU may have a role in the link between mindfulness and anxiety symptoms
9.	Mari Roxana Soto-Vasquez (2017)	Peru	a Faculty of Pharmacy and Biochemistry, National University of Trujillo, Trujillo, Peru	State-Trait Anxiety Inventory (STAI).	January- February 2015	pretest scores ( $p > 0.05$ ) posttest scores $p < 0.005$	Aromatherapy based on S. brevicalyx and S. boliviana essential oils as well as <i>Mindfulness meditation</i> , can be alternative treatment options for anxiety
10.	Way KW Lau (2018)	China	Research Ethics Committee of the University of Hong Kong	Depression Anxiety and Stress Scales (DASS) and the Pittsburgh Sleep Quality Index (PSQI)	Complete online forms and questionnaires at one time.	DASS [average stress scores 5.65 (SD = 4.02); average anxiety scores 3.16 (SD = 3.00); average depression scores 3.56 (SD = 3.44)]	Awareness and acceptance can be mindfulness intervention techniques for enhancing sleep quality and lowering psychological stress

### 3 Finding and Discussion

The majority of participants' anxiety levels in all of these journals were in severe or panic levels using various anxiety instruments in the form of *Depression Anxiety and Stress Scale* (DASS), *Chinese Perceived Stress Scale* (CPSS), *Pittsburgh Sleep Quality Index* (PSQI), *Chinese General Self-efficacy Scale* (CGSS), *Trier Social Stress Test* (TSST), *Hamilton Anxiety Rating Scale* (HARS), *Center of Epidemiological Studies-Depression Scale* (CES-D), *Mindful Attention Awareness Scale* (MAAS), *Self-Compassion Scale* (SCS-12), *Connor-Davidson Resilience Scale* (CD-RISC) and *Goldberg Anxiety and Depression Scale* (GADS).

*Mindfulness* interventions carried out varied widely between 20 min to 2 h per session for 8–16 weeks and a maximum of up to 28 months with the results that mindfulness was very effective in overcoming anxiety in the elderly, both from the category of severe anxiety and panic. Hospital and university.

There is a degenerative aging process that will result in changes in humans, not only physical changes, but also cognitive, mental, spiritual as well as psychosocial changes including loneliness, bereavement, depression, anxiety disorders, paraphrenia and diogenes syndrome [8, 9].

Cognitive changes in the elderly include the ability to understand (*comprehension*) [8]. Comparing with research conducted Papenfuss [10] investigate the possible relationship between *Mindfulness* and uncertainty reactions in a *threat-of-shock paradigm* with 53 participants with the result that understanding provides preliminary evidence that reactions to uncertainty may play a role in the *Mindfulness* - anxiety relationship, strengthened by the context of the unpredictable threat between *mindfulness*, anxiety symptoms, and *intolerance of uncertainly* insignificant.

In contrast to a study conducted by Hoge [11] These results suggest that MBSR may have a beneficial effect on GAD anxiety symptoms, and may also increase stress reactivity and coping as measured in the laboratory. Anxiety is a person's reaction to an unpleasant condition and is felt by all living things. Anxiety is an emotional and subjective experience without a specific object so that people feel an anxious feeling (worried) as if something bad will happen and are generally accompanied by autonomic signs that last for some time [12].

Anxiety in the elderly occurs because of a reaction to a condition not fun so feel something anxious (worried) as if something is not good. Anxiety disorders in the elderly can be divided into several groups, namely phobias, panic, generalized anxiety disorder, post-traumatic stress disorder and obsessive compulsive disorder, these disorders are a continuation of young adulthood and are associated with secondary to medical illness, depression, side effects of drugs, or indication of sudden discontinuation of a drug [8].

As for some medicines pharmacology and psychotherapy can reduce a person's anxiety, especially in the elderly. Alternative techniques that can be used to reduce a person's anxiety such as yoga, aromatherapy, relaxation through massage (*massage*) and *mind therapy* [1]. Anxiety can be overcome with Mindfulness therapy. This is evidenced by a study conducted by [13] entitled *A randomized controlled trial on the comparative effectiveness of mindfulness-based cognitive therapy and health qigong-based cognitive therapy among Chinese people with depression and anxiety disorders* conducted on 187 people with mood disorders resulted in MBCT & Q-BCT both yielding greater improvement on all outcome measures compared to waiting list controls. Comparatively,

more mood reduction symptoms were observed in the Q-BCT group compared with MBCT. Q-BCT was more conducive to physical health status whereas MBCT had more favorable mental health outcomes.

In the *disengagement theory*, Kholifah (5) states that with increasing age, a person gradually begins to free himself from his social life. This condition causes the social interactions of the elderly to shrink, both in quality and quantity, so that there is often a triple *loss*, namely the loss of roles, barriers to social contact, reduced commitment contacts and even disturbances in their sleep rest needs. The awareness and acceptance can be a mindfulness intervention mechanism in improving sleep quality and partially reducing psychological stress [14].

Several studies have used more than one measuring instrument to measure anxiety in the elderly, such as the study conducted by Perez Aranda [9] used the *Mindful Attention* measurement tool. *Awareness Scale* (MAAS), *Self-Compassion Scale* (SCS-12), *Connor-Davidson Resilience Scale* (CD-RISC) and *Goldberg Anxiety and Depression Scale* (GADS).

There are so many variations of Internet-based mindfulness therapy to treat anxiety [15]. The study provided encouraging results for the Internet-based *Mindfulness protocol* in the primary treatment of anxiety disorders. Future replication of these results will show whether web-based mindfulness meditation can be a valid alternative choice for existing treatments based on Internet cognitive-behavioral treatments.

*Transdiagnostic iCBT*, *mindfulness-enhanced iCBT* and *Online mindfulness training* is more effective at treating depression and anxiety disorders than regular treatment, and is a treatment of choice for these problems. While these results are preliminary and need to be replicated in a larger sample, they are encouraging for those who remain in treatment, iCBT and mindfulness can lead to clinically significant improvements and minimal diagnostic recovery with physician guidance [16].

Mindfulness intervention consisting of Q-BCT, MBCT, ICBT, IBMT, MBSR and *Intolerance of Uncertain* and *Aromatherapy* have some positive qualities that arise consciously without judgment, without coercion, acceptance, awareness, trust, openness, tenderness, empathy, gratitude, and compassion. Thus it will be in the form of energy, clear thoughts, and happiness so that it will suppress the level of anxiety in the elderly later, so as to improve the health status of the elderly. Not only suppressing anxiety levels, *mindfulness therapy* can also reduce stress levels to depression in a person and can even improve sleep quality.

Standard Operating Procedures for *Mindfulness* can be carried out with several techniques, namely *short breathing/ breath meditation*, body detection with rewarding behavior (*compassionate body scan*), exercise to be aware of *body sensations*., open awareness (*open awareness*), accept thoughts and feelings and free desires (*wanting release*) [17].

*Mindfulness* SOPs have both similarities and differences. As with MBSR and MBCT, carers for dementia patients were studied. At baseline (T0), immediately after the intervention (T1), and after 3 months of follow-up, several psychological outcomes were evaluated (T2). Their immediate impact was an increase in stress coping, depressed symptoms, and subjective loads. The modified MBCT may be more appropriate than MBSR for carers with impairments. In terms of high attendance rates (more than 70.0 percent) and low attrition rates (3.8 percent), both treatments were determined to be practicable [18].



Another difference is found in a study conducted by [19] For credibility and expectancy effects, students' pleasure with the mindfulness intervention they received persisted from baseline:  $r = 0.21$ ,  $n = 67$ ,  $P = 0.17$  for credibility;  $r = 0.001$ ,  $n = 67$ ,  $P = 0.99$  for expectancies. Students' happiness with the health interventions they got, on the other hand, was positively related to their pre-intervention expectations,  $r = 0.42$ ,  $n = 47$ ,  $P > 0.001$ . 52% of the 68 students allocated to mindfulness ( $n = 35$ ) utilized the iPad software for mindfulness activities at least once; 10% used it 10 times or more.

Not only *Mindfulness Meditation*, Aromatherapy based on *S. brevicalyx* and *S. boliviana essential oils*, can be an alternative treatment option for anxiety [20]. All treatments used isolated or related, can be considered as alternative treatment options for anxiety from 20 to 47%. All therapies, whether taken alone or in combination, can be considered alternative anxiety treatment alternatives.

## 4 Conclusion

*Mindfulness* interventions consisting of Q-BCT, MBCT, ICBT, IBMT, MBSR and *Intolerance of Uncertain* and *Aromatherapy* have several positive qualities that appear consciously without judgment, without coercion, acceptance, awareness, trust, openness, tenderness, empathy, gratitude, and love. Thus it will be in the form of energy, clear thoughts, and happiness so that it will suppress the level of anxiety in the elderly later, so as to improve the health status of the elderly. Not only suppressing anxiety levels, mindfulness therapy can also reduce stress levels to depression in a person and can even improve sleep quality.

## References

1. Khamida K, Meilisa M. Terapi Aktivitas Kelompok (Tak) Stimulasi Persepsi Dalam Menurunkan Tingkat Kecemasan Pada Lansia. *Journal of Health Sciences*. 2016;9(2).
2. Dyah ASP, Fourianalisyawati E. Peran trait mindfulness terhadap kesejahteraan psikologis pada lansia. *Jurnal Psikologi Ulayat: Indonesian Journal of Indigenous Psychology*. 2018;5(1):109–22.
3. Triyono HG, Dwidiyanti M, Widyastuti RH. Pengaruh Mindfulness Terhadap Caregiver Burden Lansia Dengan Demensia Di Panti Wreda. *Jurnal Ilmu Keperawatan Komunitas*. 2018;1(1):14–8.
4. Astiti NLS. TERAPI MINDFULNESS MENGATASI KECEMASAN PADA LANSIA. SEKOLAH TINGGI ILMU KESEHATAN WIRA MEDIKA BALI; 2020.
5. Kholifah SN. Modul Keperawatan Gerontik. Kemenkes RI. Jakarta Selatan; 2016.
6. BPS D. Umur Harapan Hidup Saat Lahir (UHH) Tahun 2020–2021. Badan Pusat Statistik. 2021.
7. Sado M, Park S, Ninomiya A, Sato Y, Fujisawa D, Shirahase J, et al. Feasibility study of mindfulness-based cognitive therapy for anxiety disorders in a Japanese setting. *BMC research notes*. 2018;11(1):1–7.
8. Azizah LM. Keperawatan lanjut usia. Yogyakarta: Graha ilmu; 2011.
9. Pérez-Aranda A, García-Campayo J, Gude F, Luciano J V., Feliu-Soler A, González-Quintela A, et al. Impact of mindfulness and self-compassion on anxiety and depression: The mediating role of resilience. *International Journal of Clinical and Health Psychology*. 2021 May;21(2):100229.

10. Papenfuss I, Lommen MJJ, Grillon C, Balderston NL, Ostafin BD. Responding to uncertain threat: A potential mediator for the effect of mindfulness on anxiety. *Journal of Anxiety Disorders*. 2021 Jan;77:102332.
11. Hoge EA, Bui E, Marques L, Metcalf CA, Morris LK, Robinaugh DJ, et al. Randomized controlled trial of mindfulness meditation for generalized anxiety disorder: effects on anxiety and stress reactivity. *The Journal of clinical psychiatry*. 2013;74(8):786–92.
12. Pieter HZ, Psi S, Janiwarti B, Psi S, Saragih NM. *Pengantar psikopatologi untuk keperawatan*. Kencana; 2011.
13. Chan SHW, Chan WWK, Chao JYW, Chan PKL. A randomized controlled trial on the comparative effectiveness of mindfulness-based cognitive therapy and health qigong-based cognitive therapy among Chinese people with depression and anxiety disorders. *BMC Psychiatry*. 2020 Dec;20(1):1–14.
14. Lau KWK, Leung MK, Wing YK, Lee TMC. Potential Mechanisms of Mindfulness in Improving Sleep and Distress. *Mindfulness*. 2018 Apr;9(2):547–55.
15. Boettcher J, Åström V, Pahlsson D, Schenström O, Andersson G, Carlbring P. Internet-Based Mindfulness Treatment for Anxiety Disorders: A Randomized Controlled Trial. *Behavior Therapy*. 2014 Mar;45(2):241–53.
16. Kladnitski N, Smith J, Uppal S, James MA, Allen AR, Andrews G, et al. Transdiagnostic internet-delivered CBT and mindfulness-based treatment for depression and anxiety: A randomised controlled trial. *Internet Interventions*. 2020 Apr;20:100310.
17. Umniyah U, Afiatin T. Pengaruh pelatihan pemusatan perhatian (mindfulness) terhadap peningkatan empati perawat. *JIP (Jurnal Intervensi Psikologi)*. 2009;1(1):17–40.
18. Cheung DSK, Kor PPK, Jones C, Davies N, Moyle W, Chien WT, et al. The Use of Modified Mindfulness-Based Stress Reduction and Mindfulness-Based Cognitive Therapy Program for Family Caregivers of People Living with Dementia: A Feasibility Study. *Asian Nursing Research*. 2020 Oct;14(4):221–30.
19. Johnstone JM, Ribbers A, Jenkins D, Atchley R, Gustafsson H, Nigg JT, et al. Classroom-Based Mindfulness Training Reduces Anxiety in Adolescents: Acceptability and Effectiveness of a Cluster-Randomized Pilot Study. *Journal of restorative medicine*. 2020 Jul;10(1).
20. Soto-Vásquez MR, Alvarado-García PAA. Aromatherapy with two essential oils from *Satureja* genre and mindfulness meditation to reduce anxiety in humans. *Journal of Traditional and Complementary Medicine*. 2017 Jan;7(1):121–5.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

