

CORE CURRICULUM FRAMEWORK FOR SUPPORTED PAIN SELF-MANAGEMENT COURSES AT TERTIARY PAIN PROGRAMS IN BRITISH COLUMBIA

TOPIC: SLEEP

KEY POINTS FROM THE LITERATURE

- Insomnia as a disorder is described as: "A predominant complaint of dissatisfaction with sleep quantity or quality, associated with any of difficulty initiating sleep, difficulty maintaining sleep, or early-morning awakening with inability to return to sleep. The disturbances occur at least three nights per week despite adequate opportunity for sleep and are not better explained by another sleep-wake disorder, mental disorder, or physiological effects of a substance. Insomnia may be transient, episodic or chronic"².
- Restorative sleep is needed for normal growth, tissue restoration and energy conservation¹⁴. Sleep deterioration, specifically sleep quality, has a negative effect on pain-related outcomes^{1, 17}, including central sensitization, by increasing pain sensitivity through inflammatory mediators^{9, 10, 13}.
- Those with chronic pain conditions, including arthritis and fibromyalgia, consistently report worse sleep^{17,}
 ²¹. The relationship between chronic pain and sleep is circular: poor sleep followed by increased pain and reduced quality of life increases poor sleep, and so on^{4, 13, 14}.
- Sleep, depression, and chronic pain seem to be significantly interconnected^{4, 13, 17}, and each should be explicitly assessed by the pain professional¹⁴ to prevent poor outcomes, including suicide¹¹. Sleep and pain are also mediated by anxiety, pain helplessness, attention to pain, fatigue, prescription medications, and hormones^{, 21}. Psychosocial factors such as strong social networks and resilience have been shown to increase sleep quality and quantity^{6, 21}.
- Obstructive sleep apnea one possible cause of daytime sleepiness and is widely undiagnosed ^{22.} Consider appropriate screening if OAS is suspected.
- Cognitive Behavioral Therapy for Insomnia (CBT-I) has been shown to improve sleep efficiency and sleeponset in chronic pain patients of various demographics and conditions^{10, 12, 14, 16, 20} with as much effectiveness and potentially more safety than hypnotic medications⁵. CBT-I should only be provided by a trained and competent professional because it involves advanced understanding and practice, including cognitive restructuring therapy, stimulus control and sleep restriction mechanisms^{3, 9, 16}. As well, CBT-I interventions should be person-centered, accessible, and encouraging to the client⁶.
- Sleep Hygiene Education (SHE) can be an appropriate entry-level treatment to improve sleep for those with insomnia, however, CBT-I and mindfulness-based therapies are more effective³. SHE involves facilitating a change in the client's lifestyle and environment to improve sleep-wake cycles, such as avoiding stimulants and having a night-time routine⁹. SHE can be more accessible due to lower training costs for professionals; however, it should still be comprehensively delivered³, and may work effectively as an adjunct to CBT-I, relaxation techniques, exercise, avoiding frequent daytime napping, and other neuroscience-based pain education^{3, 9, 14, 18}.
- Effective adjunct treatments for insomnia also include acupuncture^{7, 14} and single aroma, typically lavender, aroma inhalation therapy⁸; however, dosage and frequency are unknown. Cranial electrical stimulation has inconclusive efficacy on insomnia¹⁵.



RECOMMENDED LEARNING OBJECTIVES FOR PARTICIPANTS

We recognize that not everyone who enters a pain self-management program will be in the same place in their journey to living well with pain and not everyone will have the same level of readiness to change their behaviour. Therefore, the following suggested skills and activities have been organized according to the Stages of Readiness for Change.

1. Precontemplation:

- i. Start to explore features of sleep including quantity, quality, and lifestyle habits that might be influencing sleep.
- ii. Start to articulate what restorative sleep could mean to them.

2. Contemplation:

- i. Discuss past experiences with modifying sleep behaviors.
- ii. Identify what mechanisms are currently being used to achieve restorative sleep (effective and noneffective).
- iii. Discuss benefits of restorative sleep and how it could influence pain.
- iv. Identify sleep hygiene activities they have not tried.

3. Preparation:

- i. Locate a sleep hygiene education class or a pain specialist that offers cognitive behavioral therapy for insomnia (CBT-I) within the pain program (or in the community).
- ii. Explain the importance of lifestyle modifications that can improve restorative sleep.
- iii. Create a Brief Action Plan for SMART behavior-based sleep goals.

4. Action:

- i. Participate in new class or with a CBT-I specialist.
- ii. Incorporate a mindfulness component into your nighttime routine. (If desired)

5. Maintenance:

- i. Encourage adjustment of the sleeping environment based on their needs and preferences to solidify behaviour change modifications, such as decluttering the nightstand, making the bed, or changing into specific sleepwear.
- ii. Invite friends and family into the conversation about restorative sleep and behaviours that help to facilitate it.
- iii. Acknowledge and celebrate the behaviour change.

RESOURCES AND TOOLS

This is a selection of recommended resources. Please supplement with resources and tools you have used at your clinic/program as needed.

For patients (general):

• LivePlanBe: Sleep and rest

• University of Victoria: <u>self-management programs</u>

HealthLink BC: <u>Insomnia</u>

• HealthLink BC: Sleep problems, age 12 and older



- TED series: Sleeping with Science
- Sleep Foundation website:
 - o Pain and Sleep
 - o Cognitive Behavioral Therapy for Insomnia (CBT-I)
- CBTi resources from Dalhousie University: MySleepwell
- Self-management app: <u>MySleepButton</u>

For Indigenous people living with chronic pain:

- First Nations Health Authority: Traditional Medicine web.pdf (fnha.ca)
- First Nations Health Authority: First Nations Virtual Doctor of the Day (fnha.ca)
- Metro Vancouver Indigenous Counselling: <u>Indigenous Mental Health and Wellness Counselling (mvic.ca)</u>

Resources in Punjabi:

- Punjabi Community Health Services: https://pchs4u.com/#
 - Support with: Provide services in Punjabi for many different aspects such as mental health, family supports, addictions, and senior supports. Phone: (905) 677-0889
- Sikh Family Helpline: Call 1-800-551-9128 to be supported by volunteers in Punjabi. You leave a voicemail and they will return your call within 24 hours
- Moving Forward Family Services: Offer counselling in Punjabi. Phone: 877-485-5025
- Deltassist: Offer support groups and counselling in Punjabi. Phone: 604-594-3455
- List for Punjabi counsellors: https://counsellingbc.com/counsellors/language/punjabi-64

Resources in Arabic:

- Mental Health Information & Resources in Arabic MMHRC (multiculturalmentalhealth.ca)
- EENet | Arabic-language mental health resources for newcomers (camh.ca)
- عادات غذائية تساعدك في التخلص من الألم المزمن •
- (webteb.com) .الألم المزمن :أسياب، وأعراض، وعلاج •
- الألم المزمن :قرارات العلاج Mayo Clinic (مابو كلينك)

Resources in Chinese:

- Richmond Mental Health Outpatient Services https://www.vch.ca/en/location-service/richmond-mental-health-outpatient-services-richmond-hospital
- 中僑心理輔導服務 S.U.C.C.E.S.S. Counselling Service https://successbc.ca/news/s-u-c-c-e-s-s-extends-free-affordable-community-counselling-services/
- 中僑互助會心理熱線 S.U.C.C.E.S.S Chinese Help Lines https://successbc.ca/counselling-crisis-support/services/help-lines
- 由教練帶領的學習 BounceBack Coaching https://bouncebackbc.ca/bounceback-coaching/
- 粵語「打開心窗」關懷互助小組 Cantonese 'Heart to Heart' Share and Care Group https://vancouver-fraser.cmha.bc.ca/programs/chinese-mental-health-promotion/
- 開創會所中文愛心小組活動 Pathways Richmond Chinese Family Support Group https://pathwaysclubhouse.com/what-we-do/chinese-support/

For program facilitators:



- Pain BC webinar: <u>Empowering people in pain to make peace with sleep</u>
- Canadian Sleep Society
- Centre for Effective Practice tool: Management of Chronic Insomnia
- B.C. Guidelines and Protocols Advisory Committee: <u>Obstructive Sleep Apnea: Assessment and Management</u> in Adults
- CBTi training for professionals:
 - o PESI
 - o Dr. Colleen E. Carney
 - o Perelman School of Medicine University of Pennsylvania
- American Academy of Sleep Medicine: Educator resources
- PHSA: San'yas Indigenous Cultural Safety Online Training (sanyas.ca)
- Island Health: Indigenous Health Cultural Safety | Island Health
- Trans Care BC: <u>Intro to Gender Diversity Expanded LearningHub (phsa.ca)</u>
- Intercultural Online Health Network (iCON): English iCON (iconproject.org)
- EQUIP Health: <u>Trauma and Violence Informed Care</u>

LITERATURE SUMMARY

- 1. Afolalu, E.F., Ramlee, F., & Tang, N.K. (2018). Effects of sleep changes on pain-related health outcomes in the general population: A systematic review of longitudinal studies with exploratory meta-analysis. *Sleep Medicine Reviews*, *39*, 82–97. https://doi.org/10.1016/j.smrv.2017.08.001
- 2. American Psychiatric Association. (2013). Insomnia disorders. *In Diagnostic and statistical manual of mental disorders (5th ed.).* https://www.ncbi.nlm.nih.gov/books/NBK519704/table/ch3.t36/
- 3. Chung, K., Lee, C., Yeung, W., Chan, M., Chung, E.W., & Lin, W. (2018). Sleep hygiene education as a treatment of insomnia: A systematic review and meta-analysis. *Family Practice*, *35(4)*, 365-375. https://doi.org/10.1093/fampra/cmx122
- 4. Dreweck, F.D., Soares, S., Duarte, J., Conti, P.C., De Luca Canto, G., & Luís Porporatti, A. (2020). Association between painful temporomandibular disorders and sleep quality: A systematic review. *Journal of Oral Rehabilitation*, 47(8), 1041–1051. https://doi.org/10.1111/joor.12993
- Feng, G., Han, M., Li, X., Geng, L., & Miao, Y. (2020). The clinical effectiveness of cognitive behavioral therapy for patients with insomnia and depression: A systematic review and meta-analysis. *Evidence-based Complementary & Alternative Medicine*, 2020, 1-14. https://doi.org/10.1155/2020/8071821
- 6. Koffel, E., Amundson, E., Wisdom, J.P. (2020). Exploring the meaning of cognitive behavioral therapy for insomnia for patients with chronic pain. *Pain Medicine*, *21(1)*, 67-75. https://doi.org/10.1093/pm/pnz144



- 7. Liu, F., Tan, A., Peng, C., Tan, Y., & Yao, M. (2021). Efficacy and safety of scalp acupuncture for insomnia: A systematic review and meta-analysis. *Evidence-based Complementary & Alternative Medicine, 2021*, 1-12. https://doi.org/10.1155/2021/6621993
- 8. Moon, C.J., Kim, S., Kim, J.S., Lee, H., Lyu, Y., Lee, Y.R., Jeon, B., & Kang, H.W. (2021). A systematic literature review and meta-analysis of the clinical effects of aroma inhalation therapy on sleep problems. *Medicine (Baltimore), 100(9), 1-*16. https://doi.org/10.1097/MD.000000000000024652
- 9. Nalajala, N., Walls, K., & Hili, E. (2013). Insomnia in chronic lower back pain: Non-pharmacological physiotherapy interventions. *International Journal of Therapy & Rehabilitation, 20(10),* 510-516. https://doi.org/10.12968/ijtr.2013.20.10.510
- 10. Nijs, J., Mairesse, O., Neu, D., Leysen, L., Danneels, L., Cagnie, B., Meeus, M., Moens, M., Ickmans, K.. & Goubert, D. (2018). Sleep disturbances in chronic pain: Neurobiology, assessment, and treatment in physical therapist practice. *Physical Therapy*, *98*(*5*), 325-335. https://doi.org/10.1093/ptj/pzy020
- 11. Owen-Smith, A.A., Ahmedani, B.K., Peterson, E., Simon, G.E., Rossom, R.C., Lynch, F.L., Lu, C.Y., Waitzfelder, B.E., Beck, A., DeBar, L.L., Sanon, V., Maaz, Y., Khan, S., Miller-Matero, L.R., Prabhakar, D., Frank, C., Drake, C.L., & Braciszewski, J.M. (2019). The mediating effect of sleep disturbances on the relationship between nonmalignant chronic pain and suicide death. *Pain Practice*, *19(4)*, 382-389. https://doi.org/10.1111/papr.12750
- Papaconstantinou, E., Cancelliere, C., Verville, L., Wong, J.J., Connell, G., Yu, H., Shearer, H., Timperley, C., Chung, C., Porter, B.J., Myrtos, D., Barrigar, M., & Taylor-Vaisey, A. (2021). Effectiveness of non-pharmacological interventions on sleep characteristics among adults with musculoskeletal pain and comorbid sleep problem: a systematic review. *Chiropractic & Manual Therapies, 29(23),* 1-22. https://doi.org/10.1186/s12998-021-00381-6
- 13. Roithmann, C.C., Silva, C.A., Pattussi, M.P., & Grossi, M.L. (2021). Subjective sleep quality and temporomandibular disorders: A systematic literature review and meta-analysis. *Journal of Oral Rehabilitation*, 48(12), 1380-1394. https://doi.org/10.1111/joor.13265
- 14. Saravanan, A. (2021). Sleep risk assessment and clinical management of chronic pain. *Topics in Pain Management, 37(5),* 1-7. https://doi.org/10.1097/01.TPM.0000803080.18745.75
- 15. Shekelle, P. G., Cook, I. A., Miake-Lye, I. M., Booth, M. S., Beroes, J. M., & Mak, S. (2018). Benefits and Harms of Cranial Electrical Stimulation for Chronic Painful Conditions, Depression, Anxiety, and Insomnia: A Systematic Review. *Annals of Internal Medicine*, *168(6)*, 414–421. https://doi.org/10.7326/M17-1970
- Sidani, S., Epstein, D.R., Fox, M., & Collins, L. (2019). Comparing the effects of single- and multiplecomponent therapies for insomnia on sleep outcomes. Worldviews on Evidence-Based Nursing, 16(3), 195-203. https://doi.org/10.1111/wvn.12367



- Sun, Y., Laksono, I., Selvanathan, J., Saripella, A., Nagappa, M., Pham, C., Englesakis, M., Peng, P., Morin, C.M., & Chung, F. (2021). Prevalence of sleep disturbances in patients with chronic non-cancer pain: A systematic review and meta-analysis. *Sleep Medicine Reviews, 2021*, 57. https://doi.org/10.1016/j.smrv.2021.101467
- 18. Vega, R., Racine, M., Castarlenas, E., Solé, E., Roy, R., Jensen, M.P., Miró, J., & Cane, D. (2019). The role of sleep quality and fatigue on the benefits of an interdisciplinary treatment for adults with chronic pain. *Pain Practice*, 19(4), 354-362. https://doi.org/10.1111/papr.12746
- 20. Wantonoro. (2020). Cognitive-behavioural therapy improved quality of sleep and reducing pain among elderly with osteoarthritis: Literature review. *International Journal of Caring Sciences*, *13(3)*, 2309-2316. Retrieved from http://www.internationaljournalofcaringsciences.org/docs/86 wantoro review 13 3.pdf
- 21. Zaidel, C., Musich, S., Karl, J., Kraemer, S., & Yeh, C.S. (2021). Psychosocial factors associated with sleep quality and duration among older adults with chronic pain. *Population Health Management, 24(1),* 101-109. https://doi.org/10.1089/pop.2019.0165
- 22. Yeghiazarians Y, Jneid H, Tietjens JR, Redline S, Brown DL, El-Sherif N, et al. Obstructive Sleep Apnea and Cardiovascular Disease: A Scientific Statement From the American Heart Association. Circulation [Internet]. 2021 Jul 20 [cited 2021 Jul 23];144(3). Available from: https://www.ahajournals.org/doi/10.1161/CIR.00000000000000088

23.

