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PREVALENCE OF SPECIFIC TYPES OF CHRONIC PAIN DIAGNOSIS IN ADULT PATIENTS: A REVIEW

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Doi: https://doi.org/10.52340/jecm.2025.04.12

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ქრონიკული ტკივილის სპეციფიკური ტიპების დიაგნოზების გავრცელება ზრდასრულ პაციენტებში: ლიტერატურის მიმოხილვა

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რეზიუმე

სტატია ეხება ქრონიკული ტკივილის ცალკეული ტიპების დიაგნოზების გავრცელებას მსოფლიოში. ყველაზე მაღალი პრევალენტობით გამოირჩევა ძვალ-კუნთვანი სისტემის ტკივილი. პირველ ადგილზეა ქვემო წელის ტკივილი, რომელიც უუნარობით განპირობებული წლების დაკარგვის მიზეზების პირველ ხუთეულში შედის. დემოგრაფიული და სოციალურ-ეკონომიური ფაქტორები ქრონიკული ტკივილის ტიპებთან ასოცირებულ ან მის პრედიქტორ ფაქტორებს წარმოადგენენ.

Background: Globally, it has been estimated that 1 in 5 adults suffer from pain and that another 1 in 10 adults are diagnosed with chronic pain (CP) each year (IASP). Prevalence of pain widely varies over time by countries, research population, pain types, study design and demographic and other factors associated with pain [24,15,19,2,3,5,20,18,23,25,28,34]. Across many studies, the prevalence of pain over time appears to be rising [15,13,10,22] and it is increasing with increasing age [33]. Patients with pain conditions place significant demands on health care services globally [24]. A common challenge in treating patients suffering from CP conditions is accurate diagnosis and treatment [12,21].

Goal and Objective: We aimed to determine prevalence of individual types of pain diagnoses in adult patients based on a literature review for the past over a two-decade period.

Methods: Ninth and Tenth Revisions' (ICD-9 and ICD-10) codes of the International Classification of Diseases were used to select patients' populations. Articles were searched in MEDLINE, Google Scholar, Science Direct. The selection criteria were: language (English), patients' age ≥ 18 years with at least one ICD pain code. Search keywords: chronic pain, incidence or prevalence, pain types or pain diagnoses, sex or gender, age, demographic and associated factors.

Results: Out of 543 articles 36 met the inclusion criteria. Literature on the types of CP appeared to be scarcely, though CP is highly prevalent in the general population. Point prevalence rates of CP worldwide were 33% [18], approximately 20% in Europe [27], 18% - in developing countries [31], between 7%-61% - in Asia. Prevalence was high within regions across countries ranging closer to 20%-25% [14]. Yong RJ et al. and Duca LM et al. studying CP in the United States determined that the prevalence of CP was 20%-20.9% [36,9], and the prevalence of high-impact CP (CP that results in substantial restriction to daily activities -HICP) was 6.9%. Similar estimates of HICP between 5.7% and 7.8% have been reported in the UK [10]. The prevalence of CP and HICP were higher among older adults, females, adults currently

unemployed [7,4,29]. Data from the Middle East indicates that 4% of the adult population report HICP [1]. Stevens et al. estimated that one in two people report CP lasting for three months or more, rising to two in three over 67 years [33]. Significantly higher prevalence of CP (17–19%) was determined in those in their 30s to 50s and mostly among employed individuals [26]. Other factors: marital status (divorced and single participants), lower education level and unemployment were associated with or predicting CP [17,28]. Contradictory information was found regarding some demographic factors, such as age [11,35,32], sex [35,32], educational level [11,26] and emplyement status [18,7,4,28,26]. The prevalence of CP showed a wider variation by types. Musculoskeletal pain has been identified as one of the top 5 causes of disability-adjusted life-years [35] and low back pain has been known to be the top cause of years lived with disability worldwide. A cross-sectional survey with 11507 individuals aged 18 years or older, selected randomly nationwide in Japan demonstrated that the prevalence of chronic musculoskeletal pain was 15.4%. In low-income and middle-income countries, it ranged between 19-33% [18]. Pain occurred most frequently in the low back (65%), neck (55%), shoulder (55%), and knee (26%) [26]. In Brazil the prevalence of CBP was 20.7% [32]. In US Murphy KR et al. grouped 6,575,999 patients with ICD-9 pain diagnoses and determined that the prevalence of 7 specific pain diagnoses were back pain (CBP) (74.7%), CP (10.4%), complex regional pain syndrome (1.2%), degenerative spine disease (63.6%), limb pain (50.0%), neuritis/radiculitis (52.8%), and post-laminectomy syndrome (14.8%) [24]. The reviewed articles showed high prevalence of women population, over a half of the patients were presented with females [24,10,16,17]. Women were also slightly more likely to have back pain compared with men [24,26,32,35]. The prevalence of CP and the types differ by age groups: Younger subjects (18-29 years of age) suffered more often from headaches, while those older than 65 years suffered most often from CP in lower extremities [6]. Some researchers highlighted that the prevalence of pain in the knee, hip and low back increased with age [22,35,32].

Conclusion: CP is a prevalent disease globally. Low back pain, joint pain, and headache dominate. Prevalence rate of specific types varies across countries, study design, methodology and research population. We postulate that broad variation in prevalence rates across countries and within studies is most likely to be related to the types of prevalence that are missing or inconsistently addressed in the reviewed articles. Demographic and social-economic factors, such as sex, age, education level, marital and employments statuses as well as income were predictors of or associated with CP. Some specific types of CP were age and gender dependent, however data in the reviewed literature were found to be contradictory.

Bibliography:

1. Almalki MT, BinBaz SS, Alamri SS, Alghamdi HH, El-Kabbani AO, Al Mulhem AA, Alzubaidi SA, Altowairqi AT, Alrbeeai HA, Alharthi WM, Alswat KA. Prevalence of chronic pain and high-impact chronic pain in Saudi Arabia. *Saudi Med J,* 2019; 40(12):1256-1266.
2. Anderson GB. "Epidemiological features of chronic low-back pain. *Lancet (London, England)* 1999;354:581-585.
3. Bicket MC, Mao J. "Chronic pain in older adults. ." *Anesthesiology Clinics.* 2015; 33:577-590.
4. Brattberg G, Thorslund M, Wikman A. "The prevalence of pain in a general population. The results of a postal survey in a county of Sweden. *PAIN.* 1989;37:215–22.
5. Bulls HW, Freeman EL, Anderson AJ, et al. "Sex differences in experimental measures of pain sensitivity and endogenous pain inhibition." *Journal of Pain Research* 2015;8:311-320.
6. Catala E, Reig E, Artes M, Aliaga L, López J, Segu J. "Prevalence of pain in the Spanish population: telephone survey in 5000 homes. *Eur J Pain 2002;6:133–40.* 2002;6:133–40.

7. Dahlhamer J, Lucas J, Zelaya C, et al. "Prevalence of chronic pain and high-impact chronic pain among adults—United States, 2016. *MMWR Morb Mortal Wkly Rep.* 2018;67:1001–6. PMID:30212442
8. Daniel S Goldberg, Summer J McGee. "Pain as a global public health priority." *BMC Public Health.* 2011;11:770.
9. Duca LM, Helmick CG, Barbour KE, et al. "A review of potential nationalchronic pain surveillance systems in the United States. ." *J Pain.* 2022;23:1492–509. PMID:35421595
10. Fayaz A, Croft P, Langford RM, Donaldson LJ, Jones GT. "Prevalence of chronic pain in the UK: a systematic reviewand meta-analysis of population studies. *BMJ Open,* 2016;6(6):e010364.
11. Ferreira GD, Silva MC, Rombaldi AJ, et al. "Prevalence and associated factors of back pain inadults from southern Brazil: a population-based study. *Braz JPhys Ther.* 2011;15(1):31-36.
12. Fishman SM, Young HM, Lucas Arwood E, et al. "Core competencies for pain management: Results of an interprofessional consensus summit. ." *Pain Medicine (Malden, Mass).* 2013;14:971-981.
13. Freburger JK, Holmes GM, Agans RP, et al. *The rising prevalence of chronic low back pain. Archives of Internal Medicine.* 2009;169:251-258.
14. Gureje O, van Corff M, Simon GE, Gater R. "Persistent pain and well-being: A World Health Organization Study in Primary Care." *JAMA.* 1998;280(2):147-51.
15. Hardt J, Jacobsen C, Goldberg J, Nickel, Buchwald D. "Prevalence of Chronic Pain in a Representative Sample in the United States,." *Pain Medicine, Oct 2008;* 9(7). https://doi.org/10.1111/j.1526-4637.): 803–812.
16. IASP. "International sssociation for the study of pain. "Unrelieved pain is a major global healthcare problem". *[http://www.iasp-pain.org/AM/Template.cfm?*
17. Jablonska B, Soares JJ, Sundin Ö. "Pain among women: associations with socio-economic and work conditions. " *Eur J Pain.* 2006;10:435–47.
18. Jackson T., Thomas S, Stabile V, et al. "Prevalence of chronic pain in low-income and middle-income countries: a systematic review and meta-analysis." *Lancet.* 2015;385(2):S10.
19. Kennedy J, Roll JM, Schraudner T, Murphy S, McPherson S. Prevalence of persistent pain in the U.S. adult population:. New data from the 2010 national health interview survey. The Journal of Pain 2014; 15:979-984.
20. Lamerato LE, Dryer RD, Wolff GG, Hegeman-Dingle R, Mardekian J, Park PW, Zlateva G. "Prevalence of chronic pain in a large integrated healthcare delivery system in the U.S.A." *Pain Practice.* 2015; doi: 10.1111/papr.12334.
21. Lippe PM, Brock C, David J, Crossno R, Gitlow S. "The First National Pain Medicine Summit – final summary report." *Pain Medicine (Malden, Mass)* 2010; 11:1447-1468.
22. Macfarlane GJ, Beasley M, Smith BH, Jones GT, Macfarlane TV. "Can large surveys conducted on highly selected populations provide valid information on the epidemiology of common health conditions? An analysis of UK Biobank data on musculoskeletal pain. *Br J Pain.* 2015;9:203–12.
23. Mansfield KE, Sim J, Jordan JL, Jordan KP. "A systematic review and meta-analysis of the prevalence of chronic widespread pain in the general population." *Pain.* 2015;157:55-64.
24. Murphy KR, Han JL, Yang S, Hussaini SM, Elsamadicy AA, et al. "Prevalence of Specific Types of Pain Diagnoses in a Sample of United States Adults." *Pain Physician.* 2017 Feb; 28158163., 20(2):E257-E268.
25. Nahin RL. "Estimates of pain prevalence and severity in adults: United." *States, 2012. The Journal of Pain.* 2015; 16:769-780.
26. Nakamura M, Nishiwaki Y, Ushida T, Toyama Y. "Prevalence and characteristics of chronic musculoskeletal pain in Japan. ." *J Orthop Sci.* 2011 Jul;16(4):424-32.
27. Rometsch C, Martin A, Junne F, Cosci F. "Chronic pain in European adult populations: a systematic review of prevalence and associated clinical features." *Pain.* 2025 Apr 1;166(4):719-731. doi: 10.1097/j.pain.0000000000003406. Epub 2024 Oct 8. PMID: 40101218;.
28. Rustoen T, Wahl AK, Hanestad BR, Lerdal A, Paul S, Miaskowski C. "Age and the experience of chronic pain: Differences in health and quality of life among younger, middle-aged, and older adults." *The Clinical Journal of Pain.* 2005; 21:513-523.

29. Rustoen T, Wahl AK, Hanestad BR, Lerdal A, Paul S, Miaskowski C. "Prevalence and characteristics of chronic pain in the general Norwegian population." *Eur J Pain*. 2004;8:555–65.
30. S. Michaela Rikard, Andrea E. Strahan, Kristine M. Schmit, Gery P. Guy Jr. "Chronic Pain Among Adults — United States, 2019–2021." *MMWR* (/ April 14, 2023 / Vol. 72 / No. 15): 375-385.
31. S´ a KN, Moreira L, Baptista AF, Yeng LT, Teixeira MJ, Galhardoni R, de Andrade DC. "S´ a KN, Moreira L, Baptista AF, Yeng LT, Teixeira MJ, Galhardoni R, de Andrade DC. Prevalence of chronic pain in developing countries: systematic review and meta-analysis." 2019;Dec 6;4(6):e779.
32. Saes-Silva E, Vieira YP, Saes MO, et al. "Epidemiology of chronic back pain among adults and elderly from Southern Brazil: a cross-sectional study." *Braz J Phys Ther.)*. 2021 May-Jun;25(3):344-351.
33. Stevens A., Raftery, J., Mant, J., & Simpson, S. *Health Care Needs Assessment: The Epidemiologically Based Needs Assessment Reviews, v. 2,*. 2007.
34. Tsang A, Von Korff M, Lee S et al. "Common chronic pain conditions in developed and developing countries: Gender and age differences and comorbidity with depression-anxiety disorders." *The Jounal of Pain.* 2008; 9:883-891.
35. Wu A, March L, Zheng X, Huang J, Wang X, Zhao J, Blyth FM, Smith E, Buchbinder R, Hoy D. Global low back pain prevalence and years lived with disability from 1990 to 2017: estimates from the Global Burden of Disease Study 2017." *Ann Transl Med.* 2020 Mar;8(6):299.
36. Yong RJ, Mullins PM, Bhattacharyya N. "Prevalence of chronic pain among adults in the United States." *PAIN*. 2022;163:e328–32.

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SUMMARY

Among chronic pain diagnoses low back pain, joint pain, and headache dominate worldwide. Prevalence rates of specific types varies across countries, study design, methodology and research population. We postulate that broad variation in prevalence rates is most likely to be related also to the types of the prevalence that is usually missing or inconsistently addressing in the reviewed articles. Demographic and social-economic factors: sex, age, education level, marital and employments status and income were predictors of or associated with CP, however data in the reviewed literature were contradictory. Some specific types of CP were age and gender defendant.

Keywords: Types, Chronic pain, associated factors, prevalence