



The Role of Posture Analysis and Fascial Treatment in Adolescent and Young Adult with Stress and Postural Disorder

Sergio Palandri

Department of Radiology Umberto I Hospital Ordine Mauriziano di Torino – Turin – Italy.

Article Info

Received: December 25, 2024

Accepted: January 10, 2025

Published: January 23, 2025

***Corresponding author:** Sergio Palandri, Department of Radiology Umberto I Hospital Ordine Mauriziano di Torino – Turin – Italy.

Citation: Palandri S. (2025) “The Role of Posture Analysis and Fascial Treatment in Adolescent and Young Adult with Stress and Postural Disorder”. International Journal of Epidemiology and Public Health Research, 6(1); DOI: 10.61148/2836-2810/IJEPHR/93

Copyright: © 2025. Sergio Palandri. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract

Introduction

In the last 12 months or so, numerous articles have been found in the literature concerning issues related to distress and postural disorders in young adults and adolescents.

The phenomenon cannot be overlooked, given the age range of the subjects involved.

The aim of this work is to find evidence of studies in the literature on the subject and, if necessary, to promote their implementation.

Methods

Specific search strings were built. A structured database such as PubMed and a search engine in grey literature, such as Google Scholar, were used.

Results

The results obtained highlight a lack of studies in the fight against distress and postural disorders in young adults and adolescents, despite having tools such as postural analysis and fascial treatments, recognized for their effectiveness in the respective sectors of diagnosis and therapy.

Conclusions

Even within the limits of the research conducted, a lack at the application level of tools recognized as effective in combating the highlighted problem, seems to be realistically present, documented by the absence of specific studies on the subject, of which the construction is therefore sensitized, to obtain useful results for the new generations.

Keywords: relaxation; fascia; shiatsu; posture; acupressure

Introduction

The Literature of the last 12 months, approximately, documents the presence of a non-negligible number of articles reporting problems related to distress in the range of age including adolescents and young adults [1-26] (articles extracted for example from the 1730 obtained with the search string "A" reported in the bibliography [27], using the PubMed MeSH terms). Also documented, in the same period and for the same range of age, is an equally non-negligible number of articles reporting postural disorders [28-55] (articles extracted for example from the 56 obtained with the search string "B" reported in the bibliography [56], using the PubMed MeSH terms).

If this second finding may reasonably not arouse particular interest since the two aspects are linked to each other, as described by several authors [57-64], undoubtedly the phenomenon that emerges from the union of the two aspects documented by the results of the double research, may arouse justified perplexity and should not be ignored.

The search for a strategy to face it is therefore fundamental and urgent, considering, also from a prevention perspective, the range of age involved, representing our future.

It is necessary, consequently, to find tools that highlight it early and that can efficiently face both the distress aspect and the postural aspect. In order to succeed in this intent, it is basic to find a common denominator for the two aspects involved and the most logical choice naturally falls on the fascia, whose structure, properties and functions have been widely described starting from the works of Langevin, Dorsher and Stecco C. [65-68] and since the fascia itself is involved both in the aspects related to distress and in those related to posture, as reported in the articles of various authors [69-78].

What has been previously exposed allows us to identify more easily in postural analysis, an investigation tool capable of highlighting early disharmonies in the subject's posture, in accordance with is supported in various articles [79-88]. At the same time, it allows us to identify Acupressure as a tool that can have significant efficacy in the treatment of both distress-related and postural aspects, in accordance with reported by numerous authors regarding its literature supports [89-92], regarding its use in facing distress [93-103] and regarding its use in facing postural disorders [104-116].

It is important to underline that the concepts expressed in Acupressure can also be found in the different types of existing fascial treatments, as they share the target of action, although with different methods, as can be seen from many articles present in the literature on the subject [117-139], (articles extracted for example from those obtained with the search string "C" reported in the bibliography [140], using the MeSH terms of PubMed).

This premise has necessarily been long and detailed, in order to more clearly explain the purpose of this article, aimed precisely at investigating whether there are already articles in the literature that document the use of postural analysis and fascial treatments, in their broadest sense, in order to contribute to the solution of problems related to distress and posture in adolescents and young adults, as they constitute the potential of the future of our species, a potential that must be supported and preserved.

A second purpose of this work, but not in importance, is to encourage the construction of studies on the subject, should the research carried out highlight their lack or absence.

Methods

The database on which to carry out the research was chosen in PubMed, as it is broad-spectrum and widely used globally.

To build the search strings, suitable for investigating the aim of this work, we started from the search string "A" and the search string "B" already mentioned above, integrating them with specific discriminants, suitable for focusing the research itself on the particular aspects identified in the purpose of this work, namely the application of postural analysis, acupressure and fascial treatments, within the declared topics: distress and postural disorders among young adults and adolescents.

As regards postural analysis, there is no specific MeSH term in PubMed, but the binomial "*posture analysis*" is recognized, used consequently as a replacement and employed in the form in quotation marks to make the search more selective. In order to

obtain a more complete search, a second re-search string was constructed, using the binomial "*postural analysis*", equally recognized, instead of the previous "*posture analysis*", using it, also in this case, in the form in quotation marks for the reasons already explained.

The term "*acupressure*", however, is included in the MeSH descriptors of PubMed and was therefore used directly.

Also for the term "*fascial treatment*" there is no specific descriptor in the MeSH terms. Therefore, the same strategy already adopted for "*posture analysis*" was used, since "*fascial treatment*" is also recognized as a binomial and, similarly to the case already exposed, the form in quotation marks was used for a more targeted search. Also in this case, in analogy with what was indicated previously, the search was completed by creating a second string with a further definition, using another equivalent recognized binomial, such as "*fascial manipulation*", always in the form in quotation marks for the same reasons already explained.

The five descriptors thus constructed are summarized in Table 1.

"posture analysis"
"postural analysis"
acupressure
"fascial treatment"
"fascial manipulation"

Table 1

At this point, the initial search strings "A" and "B" were combined with the descriptors in Table 1, obtaining the search strings reported in Table 2 (for "stress" topic) and in Table 3 (for "postural disorder" topic), to which identification acronyms were associated for a more practical and simple reference.

L-Pa-S	("posture analysis") AND (("Stress, Psychological"[Mesh]) AND (("Young Adult"[Mesh]) OR ("Adolescent"[Mesh])))
L-Pb-S	("postural analysis") AND (("Stress, Psychological"[Mesh]) AND (("Young Adult"[Mesh]) OR ("Adolescent"[Mesh])))
L-A-S	("Acupressure"[Mesh]) AND (("Stress, Psychological"[Mesh]) AND (("Young Adult"[Mesh]) OR ("Adolescent"[Mesh])))
L-Fa-S	("fascial treatment") AND (("Stress, Psychological"[Mesh]) AND (("Young Adult"[Mesh]) OR ("Adolescent"[Mesh])))
L-Fb-S	("fascial manipulation") AND (("Stress, Psychological"[Mesh]) AND (("Young Adult"[Mesh]) OR ("Adolescent"[Mesh])))

Table 2

L-Pa-PD	("posture analysis") AND (("Pathological Conditions, Signs and Symptoms"[Mesh]) AND ("Posture"[Mesh]) AND ("Young Adult"[Mesh]) OR ("Adolescent"[Mesh]))
L-Pb-PD	("postural analysis") AND (("Pathological Conditions, Signs and Symptoms"[Mesh]) AND ("Posture"[Mesh]) AND ("Young Adult"[Mesh]) OR ("Adolescent"[Mesh]))
L-A-PD	("Acupressure"[Mesh]) AND (("Pathological Conditions, Signs and Symptoms"[Mesh]) AND ("Posture"[Mesh]) AND ("Young Adult"[Mesh]) OR ("Adolescent"[Mesh]))
L-Fa-PD	("fascial treatment") AND (("Pathological Conditions, Signs and Symptoms"[Mesh]) AND ("Posture"[Mesh]) AND ("Young Adult"[Mesh]) OR ("Adolescent"[Mesh]))
L-Fb-PD	("fascial manipulation") AND (("Pathological Conditions, Signs and Symptoms"[Mesh]) AND ("Posture"[Mesh]) AND ("Young Adult"[Mesh]) OR ("Adolescent"[Mesh]))

Table 3

The searches described by the queries in Table 2 and Table 3 were performed on December 15, 2024.

In order to have results able to represent as complete panorama of the literature as possible regarding the purpose of this work, it was decided to also investigate the gray literature, even though, by definition, it represents a less known and uncertified source. This essentially posed a fundamental problem in the coding of the searches, no longer executable with the methodology used by consulting a structured and recognized database such as PubMed. In order to solve this problem and to be able to structure the search efficiently, it was decided to preliminarily build structured queries similar to the more complex ones implemented on PubMed. However, the reference database was naturally changed, for which it was decided to use Google Scholar, given its notoriety and global diffusion.

The summary of the search strings used is reported in Table 4 (for “stress” topic) and in Table 5 (for “postural disorder” topic), with their respective identification acronyms introduced for the reason previously described.

GL-Pa-S	"posture analysis" AND (stress AND ("young adult" OR adolescent))
GL-Pb-S	"postural analysis" AND (stress AND ("young adult" OR adolescent))
GL-A-S	acupressure AND (stress AND ("young adult" OR adolescent))
GL-Fa-S	"fascial treatment" AND (stress AND ("young adult" OR adolescent))
GL-Fb-S	"fascial manipulation" AND (stress AND ("young adult" OR adolescent))

Table 4

GL-Pa-PD	"posture analysis" AND ("postural disorder" AND ("young adult" OR adolescent))
GL-Pb-PD	"postural analysis" AND ("postural disorder" AND ("young adult" OR adolescent))
GL-A-PD	acupressure AND ("postural disorder" AND ("young adult" OR adolescent))
GL-Fa-PD	"fascial treatment" AND ("postural disorder" AND ("young adult" OR adolescent))
GL-Fb-PD	"fascial manipulation" AND ("postural disorder" AND ("young adult" OR adolescent))

Table 5

The researches described by the queries in Table 4 and Table 5 were performed on December 15, 2024.

Results

The following tables report the results, quantified in number of articles found by the research engine used, of the ewsearches performed. In particular Table 6 for the topic “stress” in the literature, Table 7 for the topic “postural disorders” in the literature, Table 8 for the topic “stress” in the grey literature and Table 9 for the topic “postural disorders” in the grey literature.

L-Pa-S	("posture analysis") AND ("Stress, Psychological"[Mesh] AND ("Young Adult"[Mesh] OR ("Adolescent"[Mesh])))	0
L-Pb-S	("postural analysis") AND ("Stress, Psychological"[Mesh] AND ("Young Adult"[Mesh] OR ("Adolescent"[Mesh])))	0
L-A-S	("Acupressure"[Mesh] AND ("Stress, Psychological"[Mesh] AND ("Young Adult"[Mesh] OR ("Adolescent"[Mesh])))	9
L-Fa-S	("fascial treatment") AND ("Stress, Psychological"[Mesh] AND ("Young Adult"[Mesh] OR ("Adolescent"[Mesh])))	0
L-Fb-S	("fascial manipulation") AND ("Stress, Psychological"[Mesh] AND ("Young Adult"[Mesh] OR ("Adolescent"[Mesh])))	0

Table 6

L-Pa-PD	("posture analysis") AND ("Pathological Conditions, Signs and Symptoms"[Mesh] AND ("Posture"[Mesh] AND ("Young Adult"[Mesh] OR ("Adolescent"[Mesh])))	11
L-Pb-PD	("postural analysis") AND ("Pathological Conditions, Signs and Symptoms"[Mesh] AND ("Posture"[Mesh] AND ("Young Adult"[Mesh] OR ("Adolescent"[Mesh])))	9
L-A-PD	("Acupressure"[Mesh] AND ("Pathological Conditions, Signs and Symptoms"[Mesh] AND ("Posture"[Mesh] AND ("Young Adult"[Mesh] OR ("Adolescent"[Mesh])))	0
L-Fa-PD	("fascial treatment") AND ("Pathological Conditions, Signs and Symptoms"[Mesh] AND ("Posture"[Mesh] AND ("Young Adult"[Mesh] OR ("Adolescent"[Mesh])))	0
L-Fb-PD	("fascial manipulation") AND ("Pathological Conditions, Signs and Symptoms"[Mesh] AND ("Posture"[Mesh] AND ("Young Adult"[Mesh] OR ("Adolescent"[Mesh])))	0

Table 7

GL-Pa-S	"posture analysis" AND (stress AND ("young adult" OR adolescent))	591
GL-Pb-S	"postural analysis" AND (stress AND ("young adult" OR adolescent))	504
GL-A-S	acupressure AND (stress AND ("young adult" OR adolescent))	4670
GL-Fa-S	"fascial treatment" AND (stress AND ("young adult" OR adolescent))	7
GL-Fb-S	"fascial manipulation" AND (stress AND ("young adult" OR adolescent))	108

Table 8

GL-Pa-PD	"posture analysis" AND ("postural disorder" AND ("young adult" OR adolescent))	27
GL-Pb-PD	"postural analysis" AND ("postural disorder" AND ("young adult" OR adolescent))	29
GL-A-PD	acupressure AND ("postural disorder" AND ("young adult" OR adolescent))	8
GL-Fa-PD	"fascial treatment" AND ("postural disorder" AND ("young adult" OR adolescent))	0
GL-Fb-PD	"fascial manipulation" AND ("postural disorder" AND ("young adult" OR adolescent))	0

Table 9

In order to verify the results obtained, the researches were carried out twice, obtaining the same numbers in both cases.

Discussion

In light of the results obtained, some considerations can help to better outline the situation that emerges.

With regard to the first topic considered, “stress”, it is particularly evident, looking at Table 6, the lack of literature that seems to exist in reference to the consideration of posture and fascia. Only a very limited number of articles debate the use of acupressure concerning this topic. Furthermore it should be noted that acupressure is also based on the existence and properties of the fascia.

Referring instead to the second topic considered, “postural disorders”, looking at Table 7, it seems polite to state that, although postural analysis seems to be more considered, moreover with non-striking numbers, there is still clearly a lack of literature in the consideration of the fascia, and this time also of acupressure, in its possible involvement, despite what the related articles cited previously report.

The grey literature seems to bring more encouraging results, with reference to Table 8, but it should be noted that, precisely because of the impossibility of a structured research such as on databases of the PubMed type, these can often be overestimated, collecting articles not strictly related to the desired topic.

It should also not be overlooked that, in light of this last consideration, the results reported in Table 9, relating to the topic "postural disorders", prove to be even more negatively evident.

There are also two other general considerations that are important to highlight.

The first concerns the contrast between the evidence in the literature of the problems considered and the lack of studies on the same subjects.

The second concerns the contrast between the number of articles reporting studies supporting the evidence of the effectiveness of both postural analysis in the evaluation, and of acupressure and fascial treatments in the treatment, and the lack of articles reporting the results of studies conducted on their use.

Conclusions

Even within the limits of this restricted review of the literature, the results obtained seem to indicate a lack of studies regarding the use of postural analysis and fascial treatments, such as acupressure, in facing distress and postural disorders in the range of age that includes adolescents and young adults.

Given on the other hand the presence of many articles supporting the effectiveness of these tools, the need to construct studies in the sense indicated by this article remains consequent.

Declarations

Conflicts of interest

The Author declares that he has no conflicts of interest

References

1. Sinval J, Oliveira P, Novais F, Almeida CM, Telles-Correia D. Exploring the impact of depression, anxiety, stress, academic engagement, and dropout intention on medical students' academic performance: A prospective study. *J Affect Disord.* 2025 Jan 1; 368:665-673. doi: 10.1016/j.jad.2024.09.116. Epub 2024 Sep 18. PMID: 39303881.
2. Rodwin AH, Banya M, Shimizu R, Jaccard J, Lindsey MA, Munson MR. Childhood adversities and suicidal ideation among young adults with serious mental illnesses: The mediating roles of perceived stress, dispositional hope, and mental health hope. *J Affect Disord.* 2025 Jan 1; 368:820-828. doi: 10.1016/j.jad.2024.09.095. Epub 2024 Sep 17. PMID: 39299587; PMCID: PMC11561892.
3. Ansari S, Khan I, Iqbal N. Association of stress and emotional well-being in non-medical college students: A systematic review and meta-analysis. *J Affect Disord.* 2025 Jan 1; 368:200-223. doi: 10.1016/j.jad.2024.09.029. Epub 2024 Sep 11. PMID: 39271067.
4. Rich A, Viney R, Silkens M, Griffin A, Medisaukaite A. The experiences of students with mental health difficulties at medical school: a qualitative interview study. *Med Educ* Online. 2024 Dec 31;29(1):2366557. doi:10.1080/10872981.2024.2366557. Epub 2024 Jun 13. PMID: 38870397; PMCID: PMC11177711.
5. Zheng X, Zhang M, Yang L, Zhang X, Xiao S, Li X, Xue B, Liao Y, Tian F, Zhang C. The relationship between fear of negative evaluation, physical activity, eating behavior and psychological distress among nursing students. *J Int Soc Sports Nutr.* 2024 Dec;21(1):2416905. doi: 10.1080/15502783.2024.2416905. Epub 2024 Oct 28. PMID: 39466119; PMCID: PMC11520090.
6. Taylor MJ, Andreatta R, Woltenberg L, Cormier M, Hoch JM. The relationship of emotional intelligence to burnout and related factors in healthcare profession students. *Nurse Educ Today.* 2024 Dec; 143:106387. doi: 10.1016/j.nedt.2024.106387. Epub 2024 Sep 2. PMID: 39243528.
7. Aonso-Diego G, González-Roz A, Weidberg S, Secades-Villa R. Depression, anxiety, and stress in young adult gamers and their relationship with addictive behaviors: A latent profile analysis. *J Affect Disord.* 2024 Dec 1; 366:254-261. doi: 10.1016/j.jad.2024.08.203. Epub 2024 Aug 30. PMID: 39218313.
8. Luo M, Duan Z, Chen X. The role of physical activity in mitigating stress-induced internet addiction among Chinese college students. *J Affect Disord.* 2024 Dec 1; 366:459-465. doi: 10.1016/j.jad.2024.08.188. Epub 2024 Aug 29. PMID:39216640.
9. Baik SY, Shin KE, Fitzsimmons-Craft EE, Eisenberg D, Wilfley DE, Taylor CB, Newman MG. The relationship of race, ethnicity, gender identity, sex assigned at birth, sexual orientation, parental education, financial hardship and comorbid mental disorders with quality of life in college students with anxiety, depression or eating disorders. *J Affect Disord.* 2024 Dec 1; 366:335-344. doi: 10.1016/j.jad.2024.08.098. Epub 2024 Aug 22. PMID: 39173926; PMCID: PMC11444337.
10. Yigit D, Cakirli M, Acikgoz A. The effect of nomophobia levels on nursing students' depression, anxiety and stress levels. *J Eval Clin Pract.* 2024 Dec;30(8):1490-1496. doi: 10.1111/jep.14071. Epub 2024 Jun 29. PMID: 38943492.
11. Morgan JK, Conner KK, Fridley RM, Olino TM, Grewen KM, Silk JS, Iyengar S, Cyranowski JM, Forbes EE. Adolescents' Hormonal Responses to Social Stress and Associations with Adolescent Social Anxiety and Maternal Comfort: A Preliminary Study. *Child Psychiatry Hum Dev.* 2024 Dec;55(6):1701-1711. Doi:10.1007/s10578-023-01521-0. Epub 2023 Mar 30. PMID: 36995488.
12. İltir SM, Ovayolu Ö, Serçe S, Ovayolu N. An Investigation of the Relationship Between Compassion Fatigue and Moral Sensitivity of Intensive Care Nurses. *Omega (Westport).* 2024 Dec;90(2):521-535. doi:10.1177/00302228221107976. Epub 2022 Jun 13. PMID: 35696290.
13. Do EK, Tulsiani S, Koris K, Minter T, Hair EC. Depression, anxiety, stress, and current e-cigarette use: Results from the Truth Longitudinal Cohort of youth and young adults (2022-2023). *J Affect Disord.* 2024 Nov 15; 365:628-633. doi: 10.1016/j.jad.2024.08.127. Epub 2024 Aug 30. PMID: 39182517.
14. Leung CY, Kyung M, Weiss SJ. Greater perceived stress and

- lower cortisol concentration increase the odds of depressive symptoms among adolescents. *J Affect Disord.* 2024 Nov 15; 365:41-48. doi: 10.1016/j.jad.2024.08.053. Epub 2024 Aug 12. PMID: 39142582.
15. Ehsan F, Iqbal S, Younis MA, Khalid M. An educational intervention to enhance self-care practices among 1st year dental students- a mixed method study design. *BMC Med Educ.* 2024 Nov 14;24(1):1304. doi: 10.1186/s12909-024-06198-0. PMID: 39538231; PMCID: PMC11562083.
 16. Sánchez JC, Porras GL, Torres MA, Olaya JC, García AM, Muñoz LV, Mesa HY, Ramírez AF. Effects of clowning on anxiety, stress, pain, and hormonal markers in paediatric patients. *BMC Pediatr.* 2024 Nov 13;24(1):728. doi:10.1186/s12887-024-05211-1. PMID: 39533218; PMCID: PMC11558874.
 17. Dodin Y, Obeidat N, Dodein R, Seetan K, Alajjawe S, Awwad M, Adwan M, Alhawari A, Alkatari A, Alqadasi AA, Alsheyab G. Mental health and lifestyle-related behaviors in medical students in a Jordanian University, and variations by clerkship status. *BMC Med Educ.* 2024 Nov 9;24(1):1283. doi:10.1186/s12909-024-06273-6. PMID: 39521969; PMCID: PMC11549786.
 18. Fiedler R, Geber J, Reichert M, Kellmann M. Young athletes' mental well-being is associated with smartphone social networking application usage and moderated by performance level and app type. *Sci Rep.* 2024 Nov 7;14(1):27048. doi: 10.1038/s41598-024-77418-2. PMID: 39511245; PMCID: PMC11543683.
 19. Zhang X, Tian W, Tang X, Jia L, Meng X, Shi T, Zhao J. Mediating role of resilience on burnout to well-being for hospital nursing staff in Northeast China: a cross-sectional study. *BMJ Open.* 2024 Nov 7;14(11):e081718. doi:10.1136/bmjopen-2023-081718. PMID: 39510776; PMCID: PMC11552554.
 20. Jahre H, Grotle M, Smedbråten K, Richardsen KR, Øiestad BE. Pain and depressive symptoms among adolescents: prevalence and associations with achievement pressure and coping in the Norwegian Ungdata study. *BMC Public Health.* 2024 Nov 5;24(1):3054. doi: 10.1186/s12889-024-20566-x. PMID: 39501232; PMCID: PMC11539564.
 21. Viftrup A, Laustsen S, Pahle ML, Dreyer P, Nikolajsen L. Patient-reported harm following cancellation of planned surgery at a Danish university hospital: a cross-sectional study. *BMJ Open.* 2024 Nov 5;14(11): e082807. doi:10.1136/bmjopen-2023-082807. PMID: 39500606; PMCID: PMC11552578.
 22. Schmid RF, Thomas J, Rentzsch K. Individual differences in parasympathetic nervous system reactivity in response to everyday stress are associated with momentary emotional exhaustion. *Sci Rep.* 2024 Nov 4;14(1):26662. doi:10.1038/s41598-024-74873-9. PMID: 39496636; PMCID: PMC11535362.
 23. Wang Z, Li C, Xie Z, Hong O. Grit Difference in the Association Between Academic Stress and adolescents' Meaning in Life: The Roles of School Burnout and Self-Compassion. *Child Care Health Dev.* 2024 Nov;50(6): e70005. doi:10.1111/cch.70005. PMID: 39540694.
 24. Sarialioğlu A, Oluç T. The Relationship Between Social Media Addiction and Perceived Stress in Adolescents. *J Child Adolesc Psychiatr Nurs.* 2024 Nov;37(4):e70000. doi: 10.1111/jcap.70000. PMID: 39529463.
 25. Müller R, Glardon OJ, Scholz M, Müller P, Traversari J, Burger P. Stress profile of veterinarians in Switzerland: Young + female + employed = stressed? *Schweiz Arch Tierheilkd.* 2024 Nov;166(11):573-581. German. doi: 10.17236/sat00436. PMID: 39470437.
 26. Speck B, Kaliush PR, Tacana T, Conradt E, Crowell SE, Raby KL. Childhood Maltreatment and Electrodermal Reactivity to Stress Among Pregnant Women. *Dev Psychobiol.* 2024 Nov;66(7):e22553. doi: 10.1002/dev.22553. PMID: 39397284; PMCID: PMC11538214.
 27. String search A: ("Stress, Psychological"[Mesh] AND (y_1[Filter])) AND (("Young Adult"[Mesh]) OR ("Adolescent"[Mesh]) AND (y_5[Filter]) AND (y_5[Filter])) AND (y_1[Filter])
 28. Öztürk D, Karaduman AA, Akbayrak T. Lower urinary tract symptoms in children with Duchenne muscular dystrophy: An evaluation in terms of functional level, posture, and muscle strength. *Neurourol Urodyn.* 2024 Nov;43(8):2130-2139. doi:10.1002/nau.25575. Epub 2024 Aug 16. PMID: 39149820.
 29. Loredan NP, Lipovac D, Kastelic K, Šarabon N. Association of self-reported musculoskeletal pain with school furniture suitability and daily activities among primary school and university students. *PLoS One.* 2024 Oct 24;19(10): e0305578. doi: 10.1371/journal.pone.0305578. PMID: 39446920; PMCID: PMC11500950.
 30. Batebi M, Namin BG, Nasermelli MH, Abolhasani M, Fard AHS. The relationship between static and dynamic postural deformities with pain and quality of life in non-athletic women. *BMC Musculoskelet Disord.* 2024 Oct 1;25(1):771. doi:10.1186/s12891-024-07880-6. PMID: 39354433; PMCID: PMC11446062.
 31. McMaster H, Battis A, Alano C, Beaudette SM. The role of diurnal variation in development of musculoskeletal pain during prolonged standing. *Gait Posture.* 2024 Oct; 114:119-126. doi: 10.1016/j.gaitpost.2024.09.012. Epub 2024 Sep 21. PMID: 39332308.
 32. Batool A, Soomro RR, Baig AAM. Comparing the effects of neck stabilization exercises versus dynamic exercises among patients having nonspecific neck pain with forward head posture: a randomized clinical trial. *BMC Musculoskelet Disord.* 2024 Sep 4;25(1):707. doi: 10.1186/s12891-024-07749-8. PMID: 39232708; PMCID: PMC11373259.
 33. Akbari-Chehrehbargh Z, Tavafian SS. Effects of E-learning for Postural Education in Music Students (El-Poems): A Randomized Controlled Trial Among Iranian Adolescents. *Med Probl Perform Art.* 2024 Sep;39(3):137-147. Doi: 10.21091/mppa.2024.03015. PMID: 39510541.
 34. Ducas J, Pano-Rodriguez A, Couture S, Gallina A, Abboud J. The effect of trunk position and pain location on lumbar extensor muscle recruitment strategies. *J Appl Physiol (1985).* 2024 Sep 1;137(3):540-553. doi:10.1152/jappphysiol.00086.2024. Epub 2024 Jun 13. PMID: 38867670.
 35. Helmich I, Gemmerich R. Neuronal Control of Posture in Blind Individuals. *Brain Topogr.* 2024 Sep;37(5):783-795. doi: 10.1007/s10548-024-01041-7. Epub 2024 Mar 15. PMID:

- 38491332; PMID: PMC11393032.
36. Ratajczak M, Górniewicz R. The influence of breastfeeding factors on the prevalence of back and neck pain: data from an online survey. *BMC Musculoskelet Disord.* 2024 Aug 29;25(1):675. doi: 10.1186/s12891-024-07785-4. PMID: 39210354; PMID: PMC11360292.
 37. Łebek E, Dąbek J, Szynal M, Knapik A. Frequency of back pain occurrence among high school youth including their physical activity. *Minerva Pediatr (Torino).* 2024 Aug;76(4):487-497. doi: 10.23736/S2724-5276.21.06186-3. Epub 2021 Jun 21. PMID: 34152112.
 38. Kaya M, Ucgün H, Denizoglu Kulli H. The effect of proprioceptive neuromuscular facilitation on individuals with text neck syndrome: A randomized controlled study. *Medicine (Baltimore).* 2024 Jul 26;103(30):e38716. Doi:10.1097/MD.00000000000038716. PMID: 39058818; PMID: PMC11272373.
 39. Banadaki FD, Rahimian B, Moraveji F, Varmazyar S. The impact of smartphone use duration and posture on the prevalence of hand pain among college students. *BMC Musculoskelet Disord.* 2024 Jul 23;25(1):574. doi:10.1186/s12891-024-07685-7. PMID: 39044247; PMID: PMC11265474.
 40. Santos FCLD, de Souza F, Barajas FH, Manco OU, João SMA. Odds ratio of occurrence of pain, postural changes, and disabilities of violinists. *J Bodyw Mov Ther.* 2024 Jul; 39:356-363. doi: 10.1016/j.jbmt.2024.03.012. Epub 2024 Mar 13. PMID: 38876652.
 41. Tuckwell GA, Gupta CC, Vincent GE, Vandelanotte C, Duncan MJ, Ferguson SA. Calibrated to drive: Measuring self-assessed driving ability and perceived workload after prolonged sitting and sleep restriction. *Accid Anal Prev.* 2024 Jul; 202:107609. doi: 10.1016/j.aap.2024.107609. Epub 2024 May 2. PMID: 38701560.
 42. Berger V, Bromée L, Lindam A, Hallin T, Reynisson B, Halldner Henriksson L, Naumburg E. Adolescents on psychotropic treatment displayed longer corrected QT intervals than unmedicated controls when they rose rapidly from the supine position. *Acta Paediatr.* 2024 Jul;113(7):1621-1629. doi: 10.1111/apa.17206. Epub 2024 Mar 22. PMID: 38517107.
 43. Lee DH, Kim YH, Baek J, Kim SA, Kim SJ. Femoral anteversion linked to the inability to squat: Analysis of CT images in the patient and control groups. *Medicine (Baltimore).* 2024 Jun 7;103(23): e38411. doi:10.1097/MD.00000000000038411. PMID: 38847668; PMID: PMC11155599.
 44. Chen YL, Chan YC, Alexander H. Gender differences in neck muscle activity during near-maximum forward head flexion while using smartphones with varied postures. *Sci Rep.* 2024 Jun 6;14(1):12994. doi: 10.1038/s41598-024-63734-0. PMID: 38844574; PMID: PMC11156881.
 45. Deodato M, Saponaro S, Šimunić B, Martini M, Murena L, Buoite Stella A. Trunk muscles' characteristics in adolescent gymnasts with low back pain: a pilot study on the effects of a physiotherapy intervention including a postural reeducation program. *J Man Manip Ther.* 2024 Jun;32(3):310-324. Doi:10.1080/10669817.2023.2252202. Epub 2023 Aug 31. PMID: 37649443; PMID: PMC11216269.
 46. Hwang UJ, Kwon OY, Kim JH. Unsupervised machine learning for clustering forward head posture, protraction and retraction movement patterns based on craniocervical angle data in individuals with nonspecific neck pain. *BMC Musculoskelet Disord.* 2024 May 13;25(1):376. doi: 10.1186/s12891-024-07485-z. PMID: 38741076; PMID: PMC11089767.
 47. Koltermann JJ, Floessel P, Hammerschmidt F, Disch AC. A Statistical and AI Analysis of the Frequency Spectrum in the Measurement of the Center of Pressure Track in the Seated Position in Healthy Subjects and Subjects with Low Back Pain. *Sensors (Basel).* 2024 May 9;24(10):3011. doi: 10.3390/s24103011. PMID:38793865; PMID: PMC11125709.
 48. Wu X, Shi X, Hu W, Ma H, Gao YZ, Wang H, Jiang Z. Clinical Application and Curative Effect Analysis of Postural Awareness Surgical Tool Assisted Nail Placement in Adolescent Idiopathic Scoliosis. *Orthop Surg.* 2024 May;16(5):1109-1116. doi: 10.1111/os.14038. Epub 2024 Mar 20. PMID: 38509016; PMID: PMC11062864.
 49. Pooryamanesh L, Daneshmandi H, Hadžić V, Sekulić D, Kondrič M. Eight-week exercise intervention improves shoulder pain and body posture of wheelchair athletes with spinal cord injury. *J Sports Med Phys Fitness.* 2024 May;64(5):483-489. doi: 10.23736/S0022-4707.23.15414-4. Epub 2024 Feb 2. PMID:38305007.
 50. Cochrane D, Leyten C. Investigating scapula positioning in individuals with non-specific lower back pain: A preliminary study. *J Bodyw Mov Ther.* 2024 Apr; 38:47-53. doi: 10.1016/j.jbmt.2023.12.007. Epub 2024 Jan 4. PMID: 38763595.
 51. Tiwari S, Rao PT, Karthikbabu S. Correlations between Trunk Control and Balance in Children with Bilateral Spastic Cerebral Palsy. *Percept Mot Skills.* 2024 Apr;131(2):432-445. doi: 10.1177/00315125231226297. Epub 2024 Feb 5. PMID:38315610.
 52. Kim JW, Cha SH, Lee MK, Ko J, Kwon YR. Effects of infant care posture and weight on static postural balance. *Technol Health Care.* 2024;32(S1):361-369. doi: 10.3233/THC-248032. PMID: 38759061; PMID: PMC11191505.
 53. Algabbani MF. Prevalence of musculoskeletal pain among architecture undergraduates students: A cross-sectional study. *Work.* 2024;78(3):841-847. doi:10.3233/WOR-230459. PMID: 38251091.
 54. Öztürk N, Öter EG, Abacıgil F, Ersungur E. Effect of an online posture exercise program during the COVID-19 pandemic on students' musculoskeletal pain and quality of life. *J Back Musculoskelet Rehabil.* 2024;37(3):781-791. doi:10.3233/BMR-230279. PMID: 38160344.
 55. Pacheco MP, Carvalho PJ, Cavalheiro L, Sousa FM. Prevalence of Postural Changes and Musculoskeletal Disorders in Young Adults. *Int J Environ Res Public Health.* 2023 Dec 17;20(24):7191. doi: 10.3390/ijerph20247191. PMID: 38131742; PMID: PMC10743088.
 56. String Search B: ("Pathological Conditions, Signs and Symptoms"[Mesh] AND (y_5[Filter])) AND ("Posture"[Mesh] AND (y_5[Filter])) AND (y_5[Filter]) AND ("Young Adult"[Mesh]) OR ("Adolescent"[Mesh]) AND (y_5[Filter]) AND (y_5[Filter]) AND (y_5[Filter])

AND (y_1[Filter])

57. Dawu W, Kaiting L, Dawei C, Yuzhang T, Weiwei Y. Differences in risk factors for flare-ups in patients with lumbar radicular pain may depend on the definition of flare. *Scand J Pain*. 2024 Aug 16;24(1). doi:10.1515/sjpain-2024-0023. PMID: 39158005.
58. Richer R, Koch V, Abel L, Hauck F, Kurz M, Ringgold V, Müller V, Küderle A, Schindler-Gmelch L, Eskofier BM, Rohleder N. Machine learning-based detection of
 - a. acute psychosocial stress from body posture and movements. *Sci Rep*. 2024 Apr 8;14(1):8251. doi: 10.1038/s41598-024-59043-1. PMID: 38589504; PMCID:PMC11375162.
59. Karaman S, Özdemir ÖÇ. The effect of low back and neck pain on posture, burnout, and quality of life in formal caregivers of children with disabilities and the elderly. *Ir J Med Sci*. 2023 Oct;192(5):2059-2064. doi:10.1007/s11845-023-03286-w. Epub 2023 Jan 23. PMID: 36689068.
60. Matsuda T, Akezaki Y, Tsuji Y, Hamada K, Ookura M. Psychological Stress Induced by Prone Positioning among Adults with Severe Cerebral Palsy. *Acta Med Okayama*. 2022 Oct;76(5):535-540. doi: 10.18926/AMO/64034. PMID: 36352800.
61. Chaharaghran F, Tabatabaei S, Rostamzadeh S. The impact of noise exposure and work posture on job stress in a food company. *Work*. 2022;73(4):1227-1234. doi:10.3233/WOR-210872. PMID: 36057807.
62. Felez-Nobrega M, Bort-Roig J, Briones L, Sanchez-Niubo A, Koyanagi A, Puigoriol E, Puig-Ribera A. Self-reported and activPALTM-monitored physical activity and sedentary behaviour in college students: Not all sitting behaviours are linked to perceived stress and anxiety. *J Sports Sci*. 2020 Jul;38(13):1566-1574. doi: 10.1080/02640414.2020.1748359. Epub 2020 Apr 13. PMID: 32279592.
63. Hussain J, Sundaraj K, Subramaniam ID. Cognitive stress changes the attributes of the three heads of the triceps brachii during muscle fatigue. *PloS One*. 2020 Jan 30;15(1):e0228089. doi: 10.1371/journal.pone.0228089. PMID:31999750; PMCID: PMC6992167.
64. Pope-Ford R, Pope-Ozimba J. Musculoskeletal disorders and emergent themes of psychosocial factors and their impact on health in dentistry. *Work*. 2020;65(3):563-571. doi: 10.3233/WOR-203110. PMID: 32116274.
65. Langevin HM, Yandow JA. Relationship of acupuncture points and meridians to connective tissue planes. *Anat Rec*. 2002 Dec 15;269(6):257-65. PubMed PMID:12467083.
66. Langevin HM, Churchill DL, Wu J, Badger GJ, Yandow JA, Fox JR, Krag MH. Evidence of connective tissue involvement in acupuncture. *FASEB J*. 2002 Jun;16(8):872-4. Epub 2002 Apr 10. PubMed PMID: 11967233.
67. Dorsher PT. Myofascial Meridians Anatomical Evidence of Acupuncture Channels. *Medical Acupuncture*. 2009; 21(2). DOI:10.1089=acu.2009.0631
68. Stecco C, Day JA. The fascial manipulation technique and its biomechanical model: a guide to the human fascial system. *Int J Ther Massage Bodywork*. 2010;3(1):38–40. Published 2010 Mar 17.
69. Cui X, Cheng Z, Zhang T, Xu H, Luan H, Feng J, Zhang X, Zhu P. Effect of pericapsular nerve group block and suprainguinal fascia iliaca block on postoperative analgesia and stress response in elderly patients undergoing hip arthroplasty: a prospective randomized controlled double-blind trial. *BMC Anesthesiol*. 2024 Jul 2;24(1):220. doi: 10.1186/s12871-024-02604-8. PMID:38956469; PMCID: PMC11218169.
70. Stickley CD, Hetzler RK, Kimura IF, Lozanoff S. Crural fascia and muscle origins related to medial tibial stress syndrome symptom location. *Med Sci Sports Exerc*. 2009 Nov;41(11):1991-6. doi: 10.1249/MSS.0b013e3181a6519c. PMID:19812520.
71. Butler JH, Folke LE, Bandt CL. A descriptive survey of signs and symptoms associated with the myofascial pain-dysfunction syndrome. *J Am Dent Assoc*. 1975 Mar;90(3):635-9. doi: 10.14219/jada.archive.1975.0147. PMID: 1054051.
72. Little KE. Toward more effective manipulative management of chronic myofascial strain and stress syndromes. *J Am Osteopath Assoc*. 1969 Mar;68(7):675-85. PMID: 5192597.
73. Bohunicky S, Rutherford L, Harrison KL, Malone Q, Glazebrook CM, Scribbans TD. Immediate effects of myofascial release to the pectoral fascia on posture, range of motion, and muscle excitation: a crossover randomized clinical trial. *J Man Manip Ther*. 2024 Oct;32(5):495-505. doi: 10.1080/10669817.2024.2316414. Epub 2024 Feb 16. PMID: 38363078; PMCID: PMC11421133.
74. Chen B, Liu C, Lin M, Deng W, Zhang Z. Effects of body postures on the shear modulus of thoracolumbar fascia: a shear wave elastography study. *Med Biol Eng Comput*. 2021 Feb;59(2):383-390. doi: 10.1007/s11517-021-02320-2. Epub 2021 Jan 25. PMID: 33495983.
75. Hirata K, Yamadera R, Akagi R. Associations between Range of Motion and Tissue Stiffness in Young and Older People. *Med Sci Sports Exerc*. 2020 Oct;52(10):2179-2188. doi: 10.1249/MSS.0000000000002360. PMID: 32348099; PMCID:PMC7497479.
76. Astorga Verdugo S, Gonzalez Silva S, Rojas Cabezas G, Martinez Araya A. Effectiveness of thoracolumbar myofascial release on increasing sternocleidomastoid resistance and reducing forward head posture angle. *Rehabilitacion (Madr)*. 2019 Jul-Sep;53(3):162-168. Spanish. doi:10.1016/j.rh.2019.04.003. Epub 2019 May 22. PMID: 31370943.
77. Taş S, Ünlüer NÖ, Korkusuz F. Morphological and mechanical properties of plantar fascia and intrinsic foot muscles in individuals with and without flat foot. *J Orthop Surg (Hong Kong)*. 2018 May-Aug;26(3):2309499018802482. doi:10.1177/2309499018802482. PMID: 30270752.
78. Choi HW, Kim YE. Effect of lumbar fasciae on the stability of the lower lumbar spine. *Comput Methods Biomech Biomed Engin*. 2017 Oct;20(13):1431-1437. doi: 10.1080/10255842.2017.1370459. Epub 2017 Aug 24. PMID: 28836460.
79. Pizzigalli L, Micheletti Cremasco M, Mulasso A, Rainoldi A. The contribution of postural balance analysis in older adult fallers: A narrative review. *J Bodyw Mov Ther*. 2016 Apr;20(2):409-17. doi: 10.1016/j.jbmt.2015.12.008. Epub 2015 Dec 18. PMID:27210860.
80. Gouleme N, Ezane MD, Wiener-Vacher S, Bucci MP. Spatial

- and temporal postural analysis: a developmental study in healthy children. *Int J Dev Neurosci*. 2014 Nov;38:169-77. doi: 10.1016/j.ijdevneu.2014.08.011. Epub 2014 Sep 4. PMID:25196999.
81. Zipori AB, Colpa L, Wong AMF, Cushing SL, Gordon KA. Postural stability and visual impairment: Assessing balance in children with strabismus and amblyopia. *PLoS One*. 2018 Oct 18;13(10):e0205857. doi: 10.1371/journal.pone.0205857. PMID:30335817; PMCID: PMC6193669.
 82. Rasmussen LJH, Caspi A, Ambler A, Broadbent JM, Cohen HJ, d'Arbeloff T, Elliott M, Hancox RJ, Harrington H, Hogan S, Houts R, Ireland D, Knodt AR, Meredith-Jones K, Morey MC, Morrison L, Poulton R, Ramrakha S, Richmond-Rakerd L, Sison ML, Sneddon K, Thomson WM, Hariri AR, Moffitt TE. Association of Neurocognitive and Physical Function With Gait Speed in Midlife. *JAMA Netw Open*. 2019 Oct 2;2(10):e1913123. doi: 10.1001/jamanetworkopen.2019.13123. PMID:31603488; PMCID: PMC6804027.
 83. Bruno G, Melissa S, Natalia C, Francesco G, Francesco F, Rocco B, Patrizia L, Antonella P, Ettore C, Zhang D, Gianlorenzo D, Francesco G. Posture and dysphonia associations in patients undergoing total thyroidectomy: stabilometric analysis. *Updates Surg*. 2020 Dec;72(4):1143-1149. Doi:10.1007/s13304-020-008440. Epub 2020 Jul 11. PMID: 32654042.
 84. Rafeemanesh E, Khooei A, Niroumand S, Shirzadeh T. A study on musculoskeletal complaints and working postures in pathology specialists in Iran. *BMC Musculoskelet Disord*. 2021 Dec 3;22(1):1012. doi: 10.1186/s12891-021-04870-w. PMID: 34861852; PMCID: PMC8642988.
 85. Palandri S, Spinometric Analysis of Patient Affected By Scoliosis, Treated With Acupressure. *Int J Rhinol Otol* 2021 3(1): 108 DOI: <https://doi.org/10.36266/IJRO/108>
 86. Niaradi FDSL, Niaradi MFDSL, Gasparetto MERF. Effect of Eutonia, Holistic Gymnastics, and Pilates on body posture for pre-adolescent girls: Randomized clinical trial. *J Bodyw Mov Ther*. 2022 Apr;30:226-236. doi: 10.1016/j.jbmt.2022.02.021. Epub 2022 Mar 1. PMID: 35500975.
 87. Kasović M, Štefan L, Piler P, Zvonar M. Longitudinal associations between sport participation and fat mass with body posture in children: A 5-year follow-up from the Czech ELSPAC study. *PLoS One*. 2022 Apr 11;17(4):e0266903. doi: 10.1371/journal.pone.0266903. PMID: 35404976; PMCID: PMC9000121.
 88. Palandri S, Changing in Dental Setting and Postural Analysis -A Case Report. *Journal of Medical & Clinical Nursing* 2022 SRC/JMCN-150 DOI: [doi.org/10.47363/JMCN/2022\(3\)141](https://doi.org/10.47363/JMCN/2022(3)141)
 89. Stecco A, Giordani F, Fede C, Pirri C, De Caro R, Stecco C. From Muscle to the Myofascial Unit: Current Evidence and Future Perspectives. *Int J Mol Sci*. 2023 Feb 24;24(5):4527. doi: 10.3390/ijms24054527. PMID: 36901958; PMCID: PMC10002604.
 90. Suarez-Rodriguez V, Fede C, Pirri C, Petrelli L, Loro-Ferrer JF, Rodriguez-Ruiz D, De Caro R, Stecco C. Fascial Innervation: A Systematic Review of the Literature. *Int J Mol Sci*. 2022 May 18;23(10):5674. doi: 10.3390/ijms23105674. PMID: 35628484; PMCID: PMC9143136.
 91. Fede C, Petrelli L, Pirri C, Neuhuber W, Tiengo C, Biz C, De Caro R, Schleip R, Stecco C. Innervation of human superficial fascia. *Front Neuroanat*. 2022 Aug 29;16:981426. doi: 10.3389/fnana.2022.981426. PMID: 36106154; PMCID: PMC9464976.
 92. Bianco G. Fascial neuromodulation: an emerging concept linking acupuncture, fasciology, osteopathy and neuroscience. *Eur J Transl Myol* 2019 29: 8331.
 93. Koca HU, Kucukkelepce DS, Nacar G, Çetin NS, Taşhan ST. The effects of acupressure, laughter yoga, and a mindfulness-based stress reduction program applied to postmenopausal women for menopause symptoms and quality of life. *Menopause*. 2024 Oct 1;31(10):879-886. doi: 10.1097/GME.0000000000002402. Epub 2024 Sep 3. PMID: 39226408.
 94. Kisker J, Schöne B. Regular use of acupressure mats reduces perceived stress at subjective but not psychophysiological levels: Insights from a three-week relaxation training. *Appl Psychol Health Well Being*. 2024 Feb;16(1):338-355. doi:10.1111/aphw.12490. Epub 2023 Sep 16. PMID: 37715543.
 95. Liu Q, Wang C, Wang Y, Xu W, Zhan C, Wu J, Hu R. Mindfulness-based stress reduction with acupressure for sleep quality in breast cancer patients with insomnia undergoing chemotherapy: A randomized controlled trial. *Eur J Oncol Nurs*. 2022 Dec;61:102219. doi: 10.1016/j.ejon.2022.102219. Epub 2022 Oct 5. PMID: 36257214.
 96. Afrasiabi J, McCarty R, Hayakawa J, Barrows J, Lee K, Plouffe N, Schomberg J. Effects of Acupuncture and Acupressure on Burnout in Health Care Workers: A Randomized Trial. *J Trauma Nurs*. 2021 Nov-Dec 01;28(6):350-362. doi:10.1097/JTN.0000000000000614. PMID: 34766929.
 97. Go GY, Park H. Effects of Auricular Acupressure on Women With Irritable Bowel Syndrome. *Gastroenterol Nurs*. 2020 Mar/Apr;43(2):E24-E34. doi:10.1097/SGA.0000000000000332. Epub 2019 Jun 25. PMID: 32251223.
 98. Olshan-Perlmutter M, Carter K, Marx J. Auricular acupressure reduces anxiety and burnout in behavioral healthcare. *Appl Nurs Res*. 2019 Oct;49:57-63. doi:10.1016/j.apnr.2019.05.011. Epub 2019 May 19. PMID: 31160145.
 99. Bouheret B. Le shiatsu thérapeutique pour les patients et les soignants [Shiatsu therapy for patients and caregivers]. *Rev Infirm*. 2016 Feb;(218):40-1. French. doi:10.1016/j.revinf.2015.12.009. PMID: 26861088.
 100. Chen HM, Wang HH, Chiu MH, Hu HM. Effects of acupressure on menstrual distress and low back pain in dysmenorrheic young adult women: an experimental study. *Pain Manag Nurs*. 2015 Jun;16(3):188-97. doi:10.1016/j.pmn.2014.06.002. Epub 2014 Aug 28. PMID: 25175554.
 101. Hmwe NT, Subramanian P, Tan LP, Chong WK. The effects of acupressure on depression, anxiety and stress in patients with hemodialysis: a randomized controlled trial. *Int J Nurs Stud*. 2015 Feb;52(2):509-18. doi:10.1016/j.ijnurstu.2014.11.002. Epub 2014 Nov 11. PMID: 25468282.
 102. McFadden KL, Healy KM, Hoversten KP, Ito TA, Hernández TD. Efficacy of acupressure for non-pharmacological stress

- reduction in college students. *Complement Ther Med*. 2012 Aug;20(4):175-82. doi: 10.1016/j.ctim.2011.12.003. Epub 2012 Jan 4. PMID: 22579428.
103. Long AF. The effectiveness of shiatsu: findings from a cross-European, prospective observational study. *J Altern Complement Med*. 2008 Oct;14(8):921-30. doi:10.1089/acm.2008.0085. Erratum in: *J Altern Complement Med*. 2008
 104. Feng W, Du X, Zhao Y. Enhancing treatment of lumbar disc herniation with Erxian decoction and auricular acupoint pressure: A randomized controlled trial. *Medicine (Baltimore)*. 2024 Jul 12;103(28):e38899. doi:10.1097/MD.00000000000038899. PMID: 38996119; PMCID: PMC11245190.
 105. Mahanani S, Kertia N, Madyaningrum E. Combination of Curcuminoids and Acupressure for Inflammation and Pain in Older People with Osteoarthritis Genu: Protocol for a Randomized Controlled Trial. *JMIR Res Protoc*. 2024 Jun 24;13:e54970. doi: 10.2196/54970. PMID: 38771152; PMCID: PMC11231618.
 106. Chen SC, Tsai CF, Wang PH, Lee YT, Chen CC. Auricular acupressure approach for the early stage of knee osteoarthritis. *QJM*. 2023 Oct 6;116(9):811-812. doi:10.1093/qjmed/hcab086. PMID: 37162482.
 107. Zhang X, He B, Wang H, Sun X. Auricular acupressure for treating early stage of knee osteoarthritis: a randomized, sham-controlled prospective study. *QJM*. 2022 Aug 13;115(8):525-529. doi: 10.1093/qjmed/hcab230. PMID: 34463759.
 108. Motalebi SA, Zajkani Z, Mohammadi F, Habibi M, Mafi M, Ranjkesh F. Effect of Acupressure on Dynamic Balance in Elderly Women: A Randomized Controlled Trial. *Exp Aging Res*. 2020 Oct-Dec;46(5):433-445. doi: 10.1080/0361073X.2020.1802981. Epub 2020 Aug 6. PMID: 32757822.
 109. Serçe S, Ovayolu Ö, Pirbudak L, Ovayolu N. The Effect of Acupressure on Pain in Cancer Patients With Bone Metastasis: A Nonrandomized Controlled Trial. *Integr Cancer Ther*. 2018 Sep;17(3):728-736. doi: 10.1177/1534735418769153. Epub 2018 Apr 12. PMID: 29649905; PMCID: PMC6142077.
 110. He BJ, Tong PJ, Li J, Jing HT, Yao XM. Auricular acupressure for analgesia in perioperative period of total knee arthroplasty. *Pain Med*. 2013 Oct;14(10):1608-13. doi: 10.1111/pme.12197. Epub 2013 Jul 18. PMID: 23865512.
 111. Zanelatto AP. Evaluation of ear acupressure on painful shoulder syndrome: case study. *Rev Bras Enferm*. 2013 Sep-Oct;66(5):694-701. Portuguese. doi: 10.1590/s0034-71672013000500009. Erratum in: *Rev Bras Enferm*. 2013 Dec;66(6):991. PMID: 24217753.
 112. Horng HC, Kuo CP, Cherng CH, Yeh CC, Wang TC, Liaw WJ, Ko SC, Wong CS. The effects of collateral meridian therapy for knee osteoarthritis pain management: a pilot study. *J Manipulative Physiol Ther*. 2013 Jan;36(1):51-6. doi:10.1016/j.jmpt.2012.12.003. PMID: 23380214.
 113. Lee HY, Hale CA, Hemingway B, Woolridge MW. Tai Chi exercise and auricular acupressure for people with rheumatoid arthritis: an evaluation study. *J Clin Nurs*. 2012 Oct;21(19-20):2812-22. doi: 10.1111/j.1365-2702.2011.04058.x. Epub 2012 Jul 25. PMID: 22830622.
 114. Hu SJ, Ying YR, Zhu RT, Shi HD. [Acupression combined with manipulation for the treatment of abnormal cervical curvature in teenagers]. *Zhongguo Gu Shang*. 2010 Apr;23(4):314-5. Chinese. PMID: 20486393.
 115. Yeh CC, Ko SC, Huh BK, Kuo CP, Wu CT, Cherng CH, Wong CS. Shoulder tip pain after laparoscopic surgery analgesia by collateral meridian acupressure (shiatsu) therapy: a report of 2 cases. *J Manipulative Physiol Ther*. 2008 Jul-Aug;31(6):484-8. doi: 10.1016/j.jmpt.2008.06.005. PMID: 18722205.
 116. Witzmann A. Akupunktur und andere Therapieformen beim Patienten mit chronischen Wirbelsäulenschmerzen [Acupuncture and other forms of treatment for patients with chronic back pain]. *Wien Med Wochenschr*. 2000;150(13-14):286-94. German. PMID: 11075429.
 117. Yang C, Li Y, Sucharit W, Eungpinichpong W, Huang X. Effects of percussive massage therapy on fascia echo intensity and fascia thickness in firefighters with chronic non-specific low back pain: a randomized controlled trial. *BMC Complement Med Ther*. 2024 Nov 8;24(1):390. doi: 10.1186/s12906-024-04687-9. PMID: 39516833; PMCID: PMC11549861.
 118. Bohunicky S, Rutherford L, Harrison KL, Malone Q, Glazebrook CM, Scribbans TD. Immediate effects of myofascial release to the pectoral fascia on posture, range of motion, and muscle excitation: a crossover randomized clinical trial. *J Man Manip Ther*. 2024 Oct;32(5):495-505. doi: 10.1080/10669817.2024.2316414. Epub 2024 Feb 16. PMID: 38363078; PMCID: PMC11421133.
 119. Liu Z, Zhong Y, Maemichi T, Zhou Q, Okunuki T, Li Y, Kazuki W, Kumai T. Acute Effects of Local High-Frequency Percussive Massage on Deep Fascial and Muscular Stiffness and Joint Range of Motion in Young Adult Men. *J Sport Rehabil*. 2024 Mar 20;33(4):252-258. doi: 10.1123/jsr.2022-0455. PMID: 38508160.
 120. Pirri C, Ricci V, Stecco C, Özçakar L. Clinical and Ultrasound Examination of the Thoracolumbar Fascia: The Hands and the Probe Together. *Am J Phys Med Rehabil*. 2021 Oct 1;100(10):e157-e158. doi: 10.1097/PHM.0000000000001728. PMID: 34137564.
 121. Boucher J, Mooney S, Dewey T, Kirtley RG, Walker T, Rabago D. Manual Therapy Informed by the Fascial Distortion Model for Plantar Heel Pain: Results of a Single-Arm Prospective Effectiveness Study. *J Altern Complement Med*. 2021 Aug;27(8):697-705. doi: 10.1089/acm.2020.0486. Epub 2021 Jun 29. PMID: 34185582.
 122. Burk C, Perry J, Lis S, Dischiavi S, Bleakley C. Can Myofascial Interventions Have a Remote Effect on ROM? A Systematic Review and Meta-Analysis. *J Sport Rehabil*. 2019 Oct 18;29(5):650-656. doi: 10.1123/jsr.2019-0074. PMID: 31629335.
 123. Martínez-Jiménez EM, Becerro-de-Bengoa-Vallejo R, Losa-Iglesias ME, Díaz-Velázquez JI, Palomo-López P, Rodríguez-Sanz D, Calvo-Lobo C, López-López D. Pressure and Traction Technique Improves Postural Control More Than tactile Stimulation in Foot Plantar Fascia: A Randomized Single-Blind Trial. *Arch Phys Med Rehabil*. 2020 Jun;101(6):978-984. doi: 10.1016/j.apmr.2020.01.017. Epub 2020 Feb 28. PMID: 32113972.
 125. Cathcart E, McSweeney T, Johnston R, Young H, Edwards

- DJ. Immediate biomechanical, systemic, and interoceptive effects of myofascial release on the thoracic spine: A randomised controlled trial. *J Bodyw Mov Ther.* 2019 Jan;23(1):74-81. doi: 10.1016/j.jbmt.2018.10.006. Epub 2018 Oct 24. PMID:30691766.
126. Harper B, Steinbeck L, Aron A. Fascial manipulation vs. standard physical therapy practice for low back pain diagnoses: A pragmatic study. *J Bodyw Mov Ther.* 2019 Jan;23(1):115-121. doi: 10.1016/j.jbmt.2018.10.007. Epub 2018 Nov 3. PMID: 30691738.
 127. E Silva DCCM, de Andrade Alexandre DJ, Silva JG. Immediate effect of myofascial release on range of motion, pain and biceps and rectus femoris muscle activity after total knee replacement. *J Bodyw Mov Ther.* 2018 Oct;22(4):930-936. doi: 10.1016/j.jbmt.2017.12.003. Epub 2017 Dec 6. PMID: 30368337.
 128. Whyte Ferguson L. Adolescent idiopathic scoliosis: The Tethered Spine III: Is fascial spiral the key? *J Bodyw Mov Ther.* 2017 Oct;21(4):948-971. doi:10.1016/j.jbmt.2017.01.013. Epub 2017 Jun 24. PMID: 29037653.
 129. Grieve R, Goodwin F, Alfaki M, Bourton AJ, Jeffries C, Scott H. The immediate effect of bilateral self myofascial release on the plantar surface of the feet on hamstring and lumbar spine flexibility: A pilot randomised controlled trial. *J Bodyw Mov Ther.* 2015 Jul;19(3):544-52. doi:10.1016/j.jbmt.2014.12.004. Epub 2014 Dec 18. PMID: 26118527.
 130. Ćosić V, Day JA, Iogna P, Stecco A. Fascial Manipulation® method applied to pubescent postural hyperkyphosis: A pilot study. *J Bodyw Mov Ther.* 2014 Oct;18(4):608-15. doi: 10.1016/j.jbmt.2013.12.011. Epub 2013 Dec 25. PMID:25440216.
 131. Mikołajczyk A, Kociński M, Zaklukiewicz A, Listewnik M, Gębska M. zastosowanie koncepcji tensegracji strukturalnej w manipulacjach powięziowych® według stecco [use of the structural tensegration concept in the stecco fascial manipulation method]. *Ann Acad Med Stetin.* 2014;60(2):59-64. Polish. PMID:26591110.
 132. Fernández-Pérez AM, Peralta-Ramírez MI, Pilat A, Moreno-Lorenzo C, Villaverde-Gutiérrez C, Arroyo-Morales M. Can myofascial techniques modify immunological parameters? *J Altern Complement Med.* 2013 Jan;19(1):24-8. doi:10.1089/acm.2011.0589. Epub 2012 Nov 23. PMID: 23176374.
 133. McSweeney TP, Thomson OP, Johnston R. The immediate effects of sigmoid colon manipulation on pressure pain thresholds in the lumbar spine. *J Bodyw Mov Ther.* 2012 Oct;16(4):416-23. doi: 10.1016/j.jbmt.2012.02.004. Epub 2012 Mar 28. PMID:23036875.
 134. Tozzi P, Bongiorno D, Vitturini C. Low back pain and kidney mobility: local osteopathic fascial manipulation decreases pain perception and improves renal mobility. *J Bodyw Mov Ther.* 2012 Jul;16(3):381-391. doi:10.1016/j.jbmt.2012.02.001. Epub 2012 Mar 3. PMID: 22703751.
 135. Whisler SL, Lang DM, Armstrong M, Vickers J, Qualls C, Feldman JS. Effects of myofascial release and other advanced myofascial therapies on children with cerebral palsy: six case reports. *Explore (NY).* 2012 May-Jun;8(3):199-205. doi:10.1016/j.explore.2012.02.003. PMID: 22560759.
 136. Wójcik B, Jabłoński M, Gębala E, Drelich M. A comparison of effectiveness of fascial relaxation and classic model of patients rehabilitation after hip joint endoprosthetics. *Ortop Traumatol Rehabil.* 2012 Mar-Apr;14(2):161-78. Doi:10.5604/15093492.994499. PMID: 22619101.
 137. Picelli A, Ledro G, Turrina A, Stecco C, Santilli V, Smania N. Effects of myofascial technique in patients with subacute whiplash associated disorders: a pilot study. *Eur J Phys Rehabil Med.* 2011 Dec;47(4):561-8. Epub 2011 Jul 28. PMID: 21796089.
 138. Tozzi P, Bongiorno D, Vitturini C. Fascial release effects on patients with non-specific cervical or lumbar pain. *J Bodyw Mov Ther.* 2011 Oct;15(4):405-16. doi: 10.1016/j.jbmt.2010.11.003. Epub 2011 Jan 8. PMID: 21943614.
 139. Liptan GL. Fascia: A missing link in our understanding of the pathology of fibromyalgia. *J Bodyw Mov Ther.* 2010 Jan;14(1):3-12. doi:10.1016/j.jbmt.2009.08.003. PMID: 20006283.
 140. String Search C: ("Fascia"[Mesh]) AND ("Musculoskeletal Manipulations"[Mesh])