

Disturbi muscoloscheletrici negli insegnanti e negli assistenti didattici

From OSHWiki

Lorna Taylor, fisioterapista, Jolly Back

0
Votazione

Condividere |

▼ Disturbi muscoloscheletrici

Una revisione metodologica dei dati disponibili sui DMS
Applicazione di esercizi speciali nell'educazione fisica. Il programma di prevenzione ungherese
Valutazione dei carichi di lavoro fisici per prevenire i DMS correlati al lavoro
Mappe corporee per MSD: utilizzo di mappe corporee individuali
Realizzazione di ergonomia partecipata
Educazione fisica quotidiana come parte della promozione olistica della salute nelle scuole ungheresi
Guida per lavoro e DMS
Intervento precoce per i disturbi muscolo-scheletrici tra la popolazione attiva
Mappatura dei pericoli e MSD
Introduzione ai disturbi muscolo-scheletrici
Gestione delle condizioni lombari e della lombalgia
Disturbi muscoloscheletrici tra bambini e giovani: prevalenza, fattori di rischio, misure preventive
Disturbi muscoloscheletrici e seduta statica prolungata
Disturbi muscoloscheletrici e posizione statica prolungata
Disturbi muscoloscheletrici e telelavoro
Disturbi muscoloscheletrici nei bambini e nei giovani
Disturbi muscoloscheletrici nella pesca
Disturbi muscoloscheletrici negli insegnanti e negli assistenti didattici
Disturbi muscoloscheletrici nei compiti dell'unità di visualizzazione visiva (VDU).
Disturbi muscoloscheletrici degli arti inferiori
Strumenti basati sull'osservazione per la valutazione del rischio di disturbi muscoloscheletrici
Meccanismi fisiopatologici dei disturbi muscolo-scheletrici
Consigli pratici per rendere il telelavoro da casa il più sano, sicuro ed efficace possibile
Strategie di prevenzione dei DMS nel settore sanitario
Promuovere il movimento e l'esercizio al lavoro per evitare di stare in piedi e seduti prolungati
Fattori di rischio psicosociale per i DMS – approcci di prevenzione
Fattori di rischio psicosociale per disturbi muscoloscheletrici (MSD)
Raccomandazioni e interventi per diminuire l'inattività fisica sul lavoro
Strategie di ritorno al lavoro per prevenire la disabilità da disturbi muscolo-scheletrici
Fattori di rischio per lo sviluppo di disturbi muscoloscheletrici: compiti mano-braccio, lavoro ripetitivo
Fattori di rischio per disturbi muscolo-scheletrici nella movimentazione manuale dei carichi
Fattori di rischio per disturbi muscoloscheletrici: posizioni di lavoro
Scuole e studenti in movimento – Un'iniziativa finlandese
Strategie per affrontare i disturbi muscolo-scheletrici sul lavoro
Strategie per affrontare i disturbi muscolo-scheletrici sul lavoro: la formazione
L'ambiente di lavoro fisico e lo stress lavoro correlato: meccanismi e conseguenze.
Disturbi muscolo-scheletrici legati al lavoro tra gli operatori ospedalieri
Lavorare con malattie reumatiche e muscoloscheletriche (RMD)

Contenuti

- 1 introduzione
- 2 Fattori di rischio ed effetti dei DMS negli insegnanti e negli assistenti didattici
- 3 Gestione dei rischi MSD nella forza lavoro dell'istruzione
- 4 Guida alla prevenzione dei MSD per insegnanti e assistenti didattici
 - 4.1 Ambiente di lavoro più sano
 - 4.2 Praticante più sicuro
- 5 Conclusione
- 6 Link per ulteriori letture
- 7 Risorse
- 8 Riferimenti

introduzione

Prove schiacciante chiariscono che una buona salute muscolo-scheletrica è alla base della capacità di una persona di vivere e lavorare bene ^{[1] [2] [3]}. È anche fondamentale per un invecchiamento sano, la qualità della vita e l'indipendenza oltre gli anni di lavoro ^{[4] [5] [6]}.

La legislazione sul posto di lavoro è in vigore per prevenire e ridurre i disturbi muscoloscheletrici (DMS) con i datori di lavoro che hanno l'obbligo di garantire la sicurezza e la salute dei dipendenti. Tuttavia, i dati mostrano che i DMS restano il problema lavorativo più comune nell'UE ^{[7] [8] [9]}. Mal di schiena e dolori muscolari agli arti superiori sono i problemi più comuni segnalati, con circa tre lavoratori su cinque colpiti ^[9].

I DMS nella forza lavoro dell'istruzione sono spesso trascurati e non segnalati ^{[10] [11]}. L'obiettivo principale delle strutture educative è il più delle volte i bisogni dei bambini e la consapevolezza dei DMS nel settore dell'istruzione (in formazione, al lavoro e tra i dirigenti scolastici) è bassa.

Studies suggest MSD complaints are frequently high within education sector workers globally, with perceived on-going MSDs up to 95%^[12], 82% of early years teachers and teaching assistants experienced work-related MSDs atleast once a week, yet only 8% had officially reported symptoms to their employer^[11].

Direct and indirect costs of work-related MSDs to individuals, society (including healthcare systems) and organisations are vast^[13]. Additionally pertinent for the education sector is that there is a positive association with teacher wellbeing and pupil performance^[14].

Encouragingly, MSDs are preventable. This article gives a holistic approach to tackling MSDs in teachers and teaching assistants. By identifying risk factors and incorporating health and wellbeing as an integrated, collaborative approach, focused on health promotion and a culture of prevention, improvements can be made to musculoskeletal health which will benefit both staff and students.

Risk Factors and Effects of MSDs in Teachers and Teaching Assistants

Musculoskeletal disorders affect the body's bones, muscles, joints, ligaments/tendons, and nerves. Various symptoms present depending on the pathophysiological mechanisms of the structures affected but symptoms tend to include: pain, fatigue, stiffness and restricted joint movement, sensory loss and numbness (including sciatica) and localised swelling.

Low back pain, neck and upper limb strain and lower limb discomfort can be caused or exacerbated by work-related activities. For example from:

- **Uncomfortable working postures** (including sitting on children's chairs, bending over tables, kneeling^{[11][15][16]}, prolonged standing, prolonged sitting and during computer/VDU use. Working from home postures should also be considered)
- **Awkwardly lifting** and moving equipment and/or young children (during classroom activities, outdoor play, PE or transporting books^[10])
- **Psychosocial issues** (including workload, mental health at work^[17], job demands^[18], job satisfaction^{[19][20]}, conflicts at work, work-related stress^{[21][22]}, work-life balance^[23]).

MSDs associated with long-term health conditions for example, pain, joint stiffness and fatigue associated with rheumatoid arthritis, osteoarthritis, systemic lupus, fibromyalgia, osteoporosis and ankylosing spondylitis can also be exacerbated by work.

Additional risk factors to teachers and teaching assistants include:

- **Physical inactivity** - Physical activity maintains and improves strength and flexibility of the body's muscles and joints, improves circulation and associated joint and muscle nutrition, maintains and improves balance to reduce the risk of falls and improves emotional wellbeing, all factors which contribute to musculoskeletal (MSK) health.

Studies show increased physical exercise in educators is associated with a lower incidence of MSD in the upper body^[15] and practitioners who increase the amount of exercise they undertake show decrease in overall MSDs^{[15][19]}.

- **Unhealthy working environment** – A healthy workplace design and physical environment incorporates ergonomics, movement, areas for rest and considers noise, lighting, temperature and air quality. It is a particular challenge to address the ergonomic requirements of adult workers with the learning needs of children, especially in low, "child-height" environments.

A higher "perception of inappropriate infrastructures" (including noise, lighting, temperature, cleaning, ventilation, size and furniture is significantly associated with higher MSD reporting in elementary teachers^[22].

- **Older age** – Increased length of employment is a strong predictor of increased MSDs in teachers^{[21][22]}. It should be noted that teachers are working longer as retirement ages are increased. MSDs can begin in young workers with cumulative effects presenting later in life.
- **High Body Mass Index** – Being overweight increases strain on the body's musculoskeletal system and being obese increases the risk of developing osteoarthritis of the knee^[24]. Maintaining a healthy weight with balanced nutrition assists body repair and bone health which helps prevent osteoporosis^[25] (and the risk of fractures) in later life.
- **Vitamin D and Calcium Deficiency** – Adequate Vitamin D and Calcium are required for bone health. Deficiency can result in reduced bone mineral density which increases the risk of fractures from falls (one of the most serious musculoskeletal problems in the older population^[24]).
- **Smoking** – In the general population, smokers and ex-smokers experience 60% more pain in the back, neck and legs and a 114% increase in disabling lower back pain^[24]. Smoking reduces bone mineral density, particularly among post-menopausal women. It is associated with more bone fractures and slower healing and associated with up to a 40% increase in the risk of hip fractures among men^[24]. Studies support a higher incidence of MSDs associated with smoking in teachers^{[15][19]}.

MSDs can develop quickly or build slowly over time. Once developed they can adversely affect many aspects of life, including work and leisure activities, ability to take care of our mental and physical health, ability to drive and can lead to absence from work.

Mental health and physical health are inter-related and MSDs and mental ill health frequently co-exist^[2]. People with depression are at a greater risk of developing back pain, depression is 4 times more likely in people with persistent back pain and living with MSD pain can lead feelings of anxiety and depression^[24]. Mental health also impacts a person's ability to cope with and recover from MSDs^[24].

The good news is, the majority of MSDs can be prevented, symptoms eased and fully recovered from with early intervention, suitable treatment and musculoskeletal health management (which incorporates occupational safety and health systems, leadership commitment and employee participation).

Effective awareness and management of MSDs helps reduce risk and improves employee wellbeing, no matter what size a school is.

Additional benefits include:

- Fewer injuries to teachers and teaching assistants
- Reduced risk of work-related ill health and sickness absence
- Improved morale and reduced stress
- Improved staffing levels, attendance and productivity
- Improved professional care and teaching to children

Managing MSD risks in the education workforce

Working with children is a physically and emotionally demanding role. Numerous, inter-relating factors contribute to musculoskeletal health in teachers and teaching assistants.

Risk assessment is about identifying and taking sensible measures to control risks in the workplace, with the aim to make the risk of someone being injured (employee, visitor or child) as low as possible.

A hazard is something which can cause harm. A risk is the chance, however large or small, that a hazard could cause harm.

Risk assessment should be carried out by someone who:

- is competent to do so (has the right skills, knowledge and experience)
- involves workers and their representatives in the process
- understands when specialist help or advice may be needed.

Identify MSD hazards

Look for hazards which may result in harm when working with children. Employees, or their representatives, can give first-hand experience of what happens in practice; so can those who only work with children occasionally. Hazard mapping and body mapping, involving workers are useful adjuncts to risk assessment. The main areas to consider involve the working environment and practitioner health and safety.

Who might be harmed?

Decide who might be harmed and how. This will usually be the teacher or teaching assistant, but it might also include children or visitors. Consideration should be given to groups who may be particularly at risk of MSDs, such as: new starters, employees returning to work, those with pre-existing medical conditions, new and expectant mothers or those working long hours.

Evaluate the risks

Having identified the hazards, decide how likely it is that harm will occur. It is not always possible to eliminate risks but employers have legal responsibilities to do everything reasonably practicable to protect people from harm.

Record your findings

Significant findings should be recorded, focussing on prevention measures. Together with accident investigations and consultation with workers, changes to working practice can be identified with additional measures put in place to further reduce MSD risks.

Regularly review

MSD risk assessment should be regularly reviewed to ensure continuous sustainability and long-term improvement.

There is no set frequency for carrying out a review, but the risks to those who work with children, and others need to be suitably controlled.

Changing circumstances may also prompt a review, for example: an increasing number of children on role; changing ratios or a reduced number of employees; children with specific moving and handling needs; the acquiring of new equipment; or buildings expansion or redesign. If anything significant changes, a risk assessment should be checked and updated.

MSD Prevention guidance for teachers and teaching assistants

The following measures can help effectively manage MSDs in schools. It is useful to think “Healthier working environment” and “Safer practitioner” for individual workplaces.

Healthier working environment

Seating, Furniture and Equipment

- A range of safe, appropriate seating to meet the needs of the workforce is offered.
- Practitioner health and safety (ergonomics) is considered when purchasing new seating, furniture and equipment.
- Seating, furniture and equipment is in good working order and meets health and safety requirements.
- Seating, furniture and equipment is inspected and maintained at regular intervals, in line with manufacturer’s recommendations and maintenance schedules.
- Manual handling equipment is provided and used appropriately by employees.
- Unsafe equipment is removed immediately from service and reported to a named contact.

Storage

- Furniture and equipment are safely stored with clear access to minimise practitioner lifting, carrying and awkward postures.
- Mobile storage solutions are considered and used where possible.

Workplace Design

- Employees have access to adult height desks and chairs for written/computer work and access to adult height sinks (or can use a washing up bowl in standing).
- Consideration is given to practitioners’ working postures with equipment provided to support low, “child height” working.
- Floors are even, unobstructed, and well-lit, and doorways (including of storage areas) are accessible.
- Children’s independence is encouraged to access their own resources and equipment, especially at mealtimes to reduce lifting.
- Movement, rest breaks and hydration are encouraged throughout the day.
- Timetabling allows as much time as possible for children to be independent and for fewer room changes for staff carrying resources.
- Employees are asked about their seating requirements and workstation/classroom set up.
- New design and build consultations include workplace health and safety needs of practitioners.

Safer practitioner

Training

- Regular, setting-specific manual handling training, which includes lifting and moving children in a range of situations and postural awareness for employees is provided.
- Employees and volunteers working regularly on computer or mobile devices complete VDU training.

Knowledge

- Teachers and teaching assistants are aware of MSD risks in their workplace and how to reduce them (in the classroom, outdoor learning and at a computer).
- Practitioners know how to carry out routine safety checks on mobile and safety equipment and report any faults.
- Teaching and teaching assistants are competent and capable of doing their work in a way that is safe for them and other people.

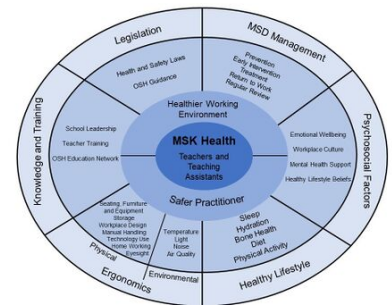


Figure 1: Musculoskeletal Health for Teachers and Teaching Assistants wheel (created for EUOSHA Healthy Workplaces: Lighten the Load 2020-2022 campaign) ©Lorna Taylor

- Practitioners know how to recognise and report early symptoms of MSD ill health via a clear reporting system and are encouraged to do so by school leadership.
- Healthy Lifestyle advice is promoted and initiatives supported (e.g. active travel, physically active school challenges, healthy eating menus, workload recognition, sleep).

For MSD measures to be effective, trusted, proactive leadership is necessary with collaborative working within and between organisations. Additional early intervention and return to work advice can be obtained from occupational health and safety advisors.

Importantly, research shows an increasing number of children and young people are experiencing MSDs, and at an earlier age as lifestyles impact musculoskeletal health^{[26][27][28]}. Pre-existing MSDs can be carried into future workplaces having consequences for children, young people and organisations^[29].

An increased understanding about MSDs in the education sector and the multiple benefits musculoskeletal health can bring an organisation, its people and students can be incorporated via a whole-school approach with the aim to mainstream occupational safety and health into education

Conclusion

Workplace health has proven to be a successful business asset and strategy for improving the health of employees and quality of the working environment. For the education sector, workplace health interventions for teachers and teaching assistants also improve learning experiences and educational outcomes for children and young people.

Holistic MSD management requires an integrated approach recognising physical, social and emotional influences with a focus on prevention (with self-management) and early intervention.

A collaborative, multidimensional effective approach includes: whole-school interventions promoting health, improved MSK health and ergonomics training of educators and school leaders, liaison with school designers and occupational health professionals to improve teaching and learning environments, MSD risk awareness and healthy lifestyle engagement for education employees, together with health and safety education for children and young people.

There is enormous opportunity for greater, combined impact to tackle MSDs in the education sector.

Data collection will be required to understand local needs and measure impacts. However, there is a genuine desire for healthy and successful teachers and teaching assistants, together with healthy and achieving children and young people.

Links for further reading

<https://osha.europa.eu/en/publications/introduction-musculoskeletal-disorders-msds-prevention/view>

<https://osha.europa.eu/en/publications/risk-assessment-musculoskeletal-disorders-msds-0/view>

<https://osha.europa.eu/en/publications/body-and-hazard-mapping-prevention-musculoskeletal-disorders-msds/view>

<https://osha.europa.eu/en/publications/factsheet-71-introduction-work-related-musculoskeletal-disorders>

<https://osha.europa.eu/is/publications/factsheet-72-work-related-neck-and-upper-limb-disorders>

<https://osha.europa.eu/en/publications/e-fact-42-checklist-prevention-lower-limb-disorders>

<https://osha.europa.eu/en/publications/factsheet-22-work-related-stress>

<https://osha.europa.eu/en/publications/factsheet-101-health-promotion-among-young-workers-summary-good-practice-cases/view>

<https://osha.europa.eu/en/publications/factsheet-103-strategies-training-teachers-deliver-risk-education/view>

<https://osha.europa.eu/en/publications/e-fact-78-involving-young-workers-osh/view>

<https://osha.europa.eu/en/publications/factsheet-91-challenges-and-opportunities-mainstreaming-osh-university-education/view>

<https://osha.europa.eu/en/publications/factsheet-83-good-practice-preventing-risks-young-workers-summary/view>

<https://osha.europa.eu/en/publications/factsheet-82-osh-school-curriculum-member-state-activities-summary/view>

<https://osha.europa.eu/en/publications/factsheets-64-protection-young-people-workplace/view>

<https://osha.europa.eu/en/publications/factsheets-62-young-worker-safety-advice-supervisors/view>

<https://osha.europa.eu/en/publications/factsheets-61-young-worker-safety-advice-employers/view>

<https://osha.europa.eu/en/publications/factsheet-52-mainstreaming-occupational-safety-and-health-education/view>

<https://osha.europa.eu/en/publications/e-fact-7-worker-safety-representatives-and-protection-young-workers/view>

<https://osha.europa.eu/en/publications/factsheet-46-occupational-safety-and-health-education-sector/view>

Resources

Physical Activity

<https://www.gov.uk/government/publications/physical-activity-guidelines-infographics>

<https://www.nhs.uk/oneyou/>

Yoga for Teachers: <https://www.youtube.com/watch?v=IHNhHoIuSGE>

Chartered Society of Physiotherapy: <https://www.csp.org.uk/conditions/managing-pain-home>

Versus Arthritis Exercise Sheets: <https://www.versusarthritis.org/about-arthritis/healthcare-professionals/training-and-education-resources/useful-resources/exercise-sheets-for-your-patients/>

Psychosocial Factors

<https://www.gov.uk/government/news/public-health-england-launches-new-every-mind-matters-campaign> (<https://www.gov.uk/government/news/public-health-england-launches-new-every-mind-matters-campaign>)

<https://hminnovations.org/well-being-tools>

<https://www.smilingmind.com.au/smiling-mind-app>

<https://litdrive.org.uk/teacher5aday>

<https://www.everyteachermattersproject.com/>

<https://www.nourishtheworkplace.com/>

<https://www.educationsupport.org.uk/>

Book – “Stop Talking About Wellbeing: A Pragmatic Approach to Teacher Workload”, Kat Howard (2020)

Book – “A Little Guide for Teachers: Teacher Wellbeing and Self-care”, Adrian Bethune and Emma Kell (2020)

Book – “Live Well, Teach Well: A practical approach to wellbeing that works”, Abigail Mann (2018)

Book – Leading Work at Work: Helping School Leaders Foster a Culture Where Work/Life Balance is Possible, James Birchenough (2020)

Healthy Lifestyle

<https://sleepcouncil.org.uk/advice-support/>

<https://www.mind.org.uk/information-support/types-of-mental-health-problems/sleep-problems/about-sleep-and-mental-health/>

<https://www.nhs.uk/live-well/healthy-body/food-for-strong-bones/>

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/528193/Eatwell_guide_colour.pdf

<https://theros.org.uk/information-and-support/bone-health/>

<https://www.nutrition.org.uk/healthyliving/hydration.html>

Ergonomics

<https://planninglearningspaces.com/>

<https://www.haltungsbewegung.de/>

<https://www.bewegteschule.at/die-idee/zahnradmodell/lehren-und-lernen/>

<http://covid19.ergonomics.org.uk/media/CIEHF%20WFH%20Infographic.html> (home working and staying healthy)

<http://www.ergonomics4kids.com/>

<https://www.youtube.com/watch?v=ONMVCx5YTt8&feature=youtu.be> (mobile technology use)

<https://gratnellslearnometer.com/the-classroom-environment/>

https://www.hsa.ie/eng/Publications_and_Forms/Publications/Manual_Handling_and_Musculoskeletal_Disorders/Guide_on_Prevention_and_Management_of_Musculoskeletal_Disorders

Knowledge and Training

<https://www.eyalliance.org.uk/back-pain>

<https://neu.org.uk/advice/back-care-awareness-and-prevention>

<https://osha.europa.eu/en/themes//musculoskeletal-disorders/research-work-related-msds>

<https://www.hse.gov.uk/msd/>

https://www.enetosh.net/webcom/show_article.php/_c-236/i.html

<https://www.napofilm.net/en/learning-with-napo/napo-for-teachers>

<https://www.napofilm.net/en/learning-with-napo/napo-for-teachers/be-body-wise-napo-back>

<https://www.napofilm.net/en/learning-with-napo/napo-in-the-workplace>

<https://www.safetygroupsuk.org.uk/campaigns/locher/>

<https://healthy-workplaces.eu/en/campaign-partners/european-network-education-and-training-occupational-safety-and-health-enetosh>

<http://visionzero.global/node/6>

References

1. <https://www.bitc.org.uk/toolkit/musculoskeletal-health-toolkit-for-employers/>
2. <https://www.versusarthritis.org/media/2078/msk-conditions-and-multimorbidity-report.pdf>
3. <https://ec.europa.eu/jrc/en/health-knowledge-gateway>
4. <https://www.gov.uk/government/publications/health-matters-physical-activity/health-matters-physical-activity-prevention-and-management-of-long-term-conditions>
5. <http://arma.uk.net/musculoskeletal-disorders-msk/living-well-for-longer>
6. <https://osha.europa.eu/en/publications/ageing-workforce-implications-occupational-safety-and-health-research-review-executive>
7. https://oshwiki.eu/images/b/b9/Work_related_MSDs_-_Methodological_report.pdf
8. <https://osha.europa.eu/en/publications/work-related-musculoskeletal-disorders-why-are-they-still-so-prevalent-evidence/view>
9. <https://osha.europa.eu/en/publications/work-related-musculoskeletal-disorders-facts-and-figures-synthesis-report-10-eu-member/view>
10. <https://osha.europa.eu/en/publications/ergokita-example-ergonomic-intervention-education-sector/view>
11. https://issuu.com/acpohe/docs/acpohe_ohp_18.3_november_2014 P14-19
12. <https://bmcmusculoskeletdisord.biomedcentral.com/articles/10.1186/1471-2474-15-359> Erick, P. N., & Smith, D. R. (2011). A systematic review of musculoskeletal disorders among school teachers. *BMC Musculoskeletal Disorders*, 12(1), 260.
13. <https://osha.europa.eu/en/publications/united-kingdom-helping-great-britain-work-well-strategy-and-tackling-msds-there-are/view>
14. https://www.educationsupport.org.uk/sites/default/files/resources/healthy_teachers_1665816616.pdf
15. <https://bmcmusculoskeletdisord.biomedcentral.com/articles/10.1186/1471-2474-15-359> Erick, P. N., & Smith, D. R. (2014). Low back pain among school teachers in Botswana, prevalence and risk factors. *BMC Musculoskeletal Disorders*, 15(1), 359]
16. <https://www.researchgate.net/publication/256461435> (https://www.researchgate.net/publication/256461435_Effectiveness_of_an_at-work_exercise_program_in_the_prevention_and_management_of_neck_and_low_back_complaints_in_nursery_school_teachers_Pillastrini_P_Mugnai_R_Bertozzi_L_Costi_S_Curti_S_Mattioli_S_Vi) Pillastrini, P., Mugnai, R., Bertozzi, L., Costi, S., Curti, S., Mattioli, S., Violante, F.S. (2009). Effectiveness of an at-work exercise program in the prevention and management of neck and low back complaints in nursery school teachers. *Ind Health*, 47(4):349-354
17. <https://bmcpublihealth.biomedcentral.com/articles/10.1186/s12889-019-6553-3> Ng, Y. M., Voo, P., & Maakip, I. (2019). Psychosocial factors, depression, and musculoskeletal disorders among teachers. *BMC public health*, 19(1), 234
18. <https://phcfm.org/index.php/phcfm/article/view/1819> Elias, H. E., Downing, R., & Mwangi, A. (2019). Low back pain among primary school teachers in Rural Kenya: Prevalence and contributing factors. *African journal of primary health care & family medicine*, 11(1), 1-7
19. <https://www.omicsonline.org/open-access/low-back-pain-and-associated-factors-among-teachers-in-gondar-town-north-gondar-amhara-region-ethiopia-2329-6879.1000127.php?aid=16508> Beyen, T.K. , Mengestu, M.Y., Zele, Y.T., (2013). Low back pain and associated factors among teachers in Gondar Town, North Gondar, Amhara Region, Ethiopia. *Occupational Medicine & Health Affairs.*;1(5).
20. <https://www.researchgate.net/publication/296675559> (https://www.researchgate.net/publication/296675559_Work_Task_and_Job_Satisfaction_Predicting_Low_Back_Pain_among_Secondary_School_Teachers_in_Putrajaya) Anuar, N. F. M., Rasdi, I., Saliluddin, S. M., & Abidin, E. Z. (2016). Work task and job satisfaction predicting low back pain among secondary school teachers in Putrajaya. *Iranian Journal of Public Health*, 45(Supple 1), 85-92.
21. <https://www.hindawi.com/journals/prt/2013/878570/>
22. <https://pubmed.ncbi.nlm.nih.gov/31563385/> Coledam, D. H. C., Júnior, R. P., Ribeiro, E. A. G., & de Oliveira, A. R. (2018). Factors associated with musculoskeletal disorders and disability in elementary teachers: A cross-sectional study. *Journal of Bodywork and Movement Therapies*. 23.
23. <https://bmcpublihealth.biomedcentral.com/articles/10.1186/s12889-016-2777-7> Cheng, H.-Y. K., Wong, M.-T., Yu, Y.-C., & Ju, Y.-Y. (2016). Work-related musculoskeletal disorders and ergonomic risk factors in special education teachers and teacher's aides. *BMC Public Health*, 16(1), 137
24. <https://www.gov.uk/government/publications/musculoskeletal-health-applying-all-our-health/musculoskeletal-health-applying-all-our-health>
25. <https://www.nhs.uk/conditions/osteoporosis/prevention/>
26. https://journals.lww.com/md-journal/fulltext/2019/05310/prevalence_of_back_pain_and_the_knowledge_o
27. <https://pubmed.ncbi.nlm.nih.gov/30788593/>
28. <https://pubmed.ncbi.nlm.nih.gov/31827768/>
29. <https://osha.europa.eu/en/publications/msds-facts-and-figures-overview-prevalence-costs-and-demographics-msds-europe/view>

Contributori

Palmer

Retrieved from "http://oshwiki.eu/index.php?title=Musculoskeletal_Disorders_in_Teachers_and_Teaching_Assistants&oldid=252935"

- Questa pagina è stata modificata l'ultima volta il 19 novembre 2020, alle 11:03.