PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (http://bmjopen.bmj.com/site/about/resources/checklist.pdf) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	EUROPEAN KNOWLEDGE ALLIANCE FOR INNOVATIVE
	MEASURES IN PREVENTION OF WORK-RELATED
	MUSCULOSKELETAL PAIN DISORDERS (PREVENT4WORK
	PROJECT): PROTOCOL FOR AN INTERNATIONAL MIXED
	METHODS LONGITUDINAL STUDY
AUTHORS	Bellosta-López, Pablo; Domenech-Garcia, Victor; Palsson, Thorvaldur; Christensen, Steffan; Silva, Priscila de Brito; Langella,
	Francesco; Berjano, P.; Jensen, Palle Schlott; Riis, Allan;
	Baroncini, Alice; Blasco-Abadía, Julia; Jiménez-Sánchez,
	Carolina; Calvo, Sandra; Jaén-Carrillo, Diego; Herrero, Pablo;
	Hoegh, Morten

VERSION 1 – REVIEW

REVIEWER	Cavallo, Eugenio
	Institute of Sciences and Technologies for Sustainable Energy and
	Mobility, National Research Council of Italy
REVIEW RETURNED	16-May-2021

GENERAL COMMENTS	The manuscript reports and describes ongoing research addressed at investigating the risk factors associated with work-
	related MSK pain and how an e-learning course can affect pain
	belief and MSK pain.
	GENERAL COMMENTS
	The manuscript approaches an interesting subject dealing with
	occupational health and safety.
	The manuscript is well written, generally understandable and well describe the issue, the protocol and the expected results.
	Nevertheless, I feel to ask the authors for some clarifications in the
	introduction to make the manuscript clearer to the readers and
	useful for further similar investigations.
	SPECIFIC COMMENTS
	P5 L19-52 The authors do not mention age as factors affecting or
	related to MSK. The world (working) population is ageing. In my
	opinion, this is a factor that has to be considered or at least
	mentioned, in the introduction of the study. Furthermore in L38
	among sociodemographic factors "age" is not mention. On the
	other hand, if there is scientific evidence that MSK is not related to
	the ageing of the workers it should be reported.
	P6L44-47 A generic "pandemic" is introduced here. For sure it is
	the COVID19 we are currently experiencing but, for precision, it
	has to be reported clearly in the text.
	P14 The authors do not report any study limitation. I suggest
	considering introducing a subsection discussing possible study limitations.

REVIEWER	Rypicz, Lukasz Wroclaw Medical University
REVIEW RETURNED	15-Jul-2021

GENERAL COMMENTS	Wyniki tłumaczenia Dear Authors, I read the MSD study protocol with great curiosity. I have devoted the greatest attention to the methodology - it has been prepared with great care and is thoughtful. In reference to the study group - I would like to draw your attention to the nursing staff who struggle with major problems related to pain in the musculoskeletal system - nurses are overloaded (because there are few of them, and secondly, the average age is high, which very often covers many years of work). Outside the medical community, please pay attention to teachers - the covid-19 pandemic forced them to work
	remotely - they were forced to spend long hours in front of a desk and monitor - signals indicate that they have great problems with pain in the musculoskeletal system.
	I am looking forward to the results of the study!

VERSION 1 – AUTHOR RESPONSE

Reviewer Reports:

Reviewer: 1

Dr. Eugenio Cavallo, Institute of Sciences and Technologies for Sustainable Energy and Mobility

Comments to the Author:

The manuscript reports and describes ongoing research addressed at investigating the risk factors associated with work-related MSK pain and how an e-learning course can affect pain belief and MSK pain.

GENERAL COMMENTS

The manuscript approaches an interesting subject dealing with occupational health and safety. The manuscript is well written, generally understandable and well describe the issue, the protocol and the expected results.

Nevertheless, I feel to ask the authors for some clarifications in the introduction to make the manuscript clearer to the readers and useful for further similar investigations.

SPECIFIC COMMENTS

P5 L19-52 The authors do not mention age as factors affecting or related to MSK. The world (working) population is ageing. In my opinion, this is a factor that has to be considered or at least mentioned, in the introduction of the study. Furthermore in L38 among sociodemographic factors "age" is not mention. On the other hand, if there is scientific evidence that MSK is not related to the ageing of the workers it should be reported.

We thank the reviewer for this comment and agree. According to the European Agency for Safety and Health at Work 2020, higher age is a factor related with pain with older workers being more affected by MSK pain as compared to younger ones. Accordingly, we have included age as an additional example of a sociodemographic factor influencing the development of work-related MSK pain:

"...individual factors (e.g., stress exposure, health beliefs, beliefs about pain, sleep quality, social support), iii) contextual factors (e.g., workplace design and organization) and, iv) sociodemographic factors (e.g., level of education, age).⁵"

P6L44-47 A generic "pandemic" is introduced here. For sure it is the COVID19 we are currently experiencing but, for precision, it has to be reported clearly in the text.

We thank the reviewer for this comment and we have specified that we were only referring to the "COVID-19 pandemic" but not to "pandemic" as a general term:

"Additionally, there is insufficient data on how/if the COVID-19 pandemic causes new events or flareups of pain across the successive waves of contagion.15"

P14 The authors do not report any study limitation. I suggest considering introducing a subsection discussing possible study limitations.

Thank you for this comment. According to BMJ Open authors guideline, we have rewritten and extended the "Strenghts and limitations of this study" section after the abstract, which now reads as follows:

- Large multicenter study examining risk factors associated with work-related MSK pain in three different European countries.
- Comprehensive multidimensional assessment of workers is conducted.
- A prospective design protocol which allows to investigate the temporal dynamics of work-related MSK pain.
- Only short-term follow-up is conducted.
- Only self-reported variables but no subject-independent measures are obtained.

Reviewer: 2

Dr. Lukasz Rypicz, Wroclaw Medical University

Comments to the Author:

Dear Authors,

I read the MSD study protocol with great curiosity. I have devoted the greatest attention to the methodology - it has been prepared with great care and is thoughtful. In reference to the study group - I would like to draw your attention to the nursing staff who struggle with major problems related to pain in the musculoskeletal system - nurses are overloaded (because there are few of them, and secondly, the average age is high, which very often covers many years of work). Outside the medical community, please pay attention to teachers - the covid-19 pandemic forced them to work remotely - they were forced to spend long hours in front of a desk and monitor - signals indicate that they have great problems with pain in the musculoskeletal system.

We thank the reviewer for suggesting vulnerable working populations we could direct our attention to. It is highly appreciated as we are continuously looking for feedback in our European project. We are currently conducting pilot actions in hospitals and universities, in order to investigate and ameliorate the consequences of the COVID-19 pandemic among nurses and teachers, respectively.

I am looking forward to the results of the study!

VERSION 2 – REVIEW

REVIEWER REVIEW RETURNED	Cavallo, Eugenio Institute of Sciences and Technologies for Sustainable Energy and Mobility, National Research Council of Italy 16-Aug-2021
GENERAL COMMENTS	The authors addressed and replied to the comments raised on the original version of the manuscript. The manuscript can be published in the present form