Plan Overview

A Data Management Plan created using DMPonline

Title: Construct Validity and Inter and Intra-rater Reliability of Hand Arm Risk-Assessment Method in a Brazilian Blue-Collar Workers Population

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Project abstract:

Upper limbs are especially susceptible to work-related musculoskeletal disorders during repetitive, stressful, and awkward postures in different tasks. The Hand Arm Risk-Assessment Method (HARM) was developed in the Netherlands for the assessment of upper-limb tasks with loads up to 6 kg, and its measurement properties have been successfully evaluated. This observational cross-sectional study aimed to assess the construct validity, and intra and inter-rater reliability of the Brazilian version of HARM (HARM-Br) in comparison to Rapid Upper Limb Assessment (RULA), Rapid Entire Body Assessment (REBA), Roteiro de Avaliação Musculoesquelético (RARME), and Quick Exposure Checklist (QEC) in a public tertiary hospital. To assess intra and inter-rater reliabilities, two raters video-recorded 102 blue-collar workers from kitchen, milk bank, clinical/other areas, sewing sector, and orthopedic workshop two times, with 1-month interval between reassessments. Results of rater 1 showed moderate correlations for HARM-Br and QEC (rho: 0.64), RARME (rho: 0.48), poor correlation for RULA (rho: 0.26) and REBA (rho: 0.27). ICC values for intra and inter-rater were strong (0.96–0.97 and 0.88, respectively), with low measurement error, despite wide limits of agreement in Bland-Altman plots. This study suggests that the HARM-Br could be considered for use in the ergonomist's toolbox for workers at a hospital which have infrastructural and industrial services, although further studies with longitudinal designs are recommended to assess other measurement properties of HARM-Br.

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Construct Validity and Inter and Intra-rater Reliability of Hand Arm Risk-Assessment Method in a Brazilian Blue-Collar Workers Population

Data Collection

What data will you collect or create?

Sociodemographics, patient-reported outcome measures (PROMs), and ergonomics risk assessment.

How will the data be collected or created?

By REDCap and video-recording

Documentation and Metadata

What documentation and metadata will accompany the data?

README and a Zenodo DOI with the dataset and the DMP pdf file as well.

Ethics and Legal Compliance

How will you manage any ethical issues?

Participants' identifications will be de-identified and after double-checking, all participants will be anonymized.

How will you manage copyright and Intellectual Property Rights (IPR) issues?

Copyright and Intellectual Property Rights will be property of the P.I's laboratory, located in Medical School of University of Sao Paulo, Ribeirao Preto (FMRP-USP), Department of Health Sciences (DCS).

Storage and Backup

How will the data be stored and backed up during the research?

Online repository of REDCap and offline raw datasets in external hard-drives (HDs) and SSDs.

How will you manage access and security?

P.I. and supervisor

Selection and Preservation

Which data are of long-term value and should be retained, shared, and/or preserved?

Informed Consent Form (ICF) of all participants will be retained and not shared to external readers. Only to peer review, if requested, and / or to any ethics check.

What is the long-term preservation plan for the dataset?

To be used for further and more robust analyses after similar data being collected from different settings, workplaces, and occupations.

Data Sharing

How will you share the data?

Publicly available at Zenodo: https://doi.org/10.5281/zenodo.24144391

Are any restrictions on data sharing required?

None applied.

Responsibilities and Resources

Who will be responsible for data management?

P.I. and supervisor

What resources will you require to deliver your plan?

Rstudio Software is required to run the statistical analyses script and Excel for opening and reading the dataset. This project was funded by FAPESP agency (Fundação de Amparo à Pesquisa do Estado de São Paulo) under the grant 2023/07258-5.

Planned Research Outputs

Dataset - "Construct Validity and Inter and Intra-rater Reliability of Hand Arm Risk-Assessment Method in a Brazilian Blue-Collar Workers Population"

Planned research output details

Title	DOI	Type	Release date	Access level	Repository(ies)	File size	License	Metadata standard(s)	May contain sensitive data?	May contain PII?
Construct Validity and Inter and Intra-rater Relia...	10.5281/zenodo.24144390...	Dataset	2026-11-11	Open	None specified		Creative Commons Attribution 4.0 International	None specified	No	No