AFOEM RAMAZZINI PRIZE PRESENTATIONS

A CLINICIAN-ADMINISTERED SCREENING TOOL IDENTIFIES POOR RECOVERY IN CASES OF OCCUPATIONAL INJURY WITH EQUAL ACCURACY AS A WORKER-COMPLETED TOOL
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Background: Prompt identification of occupational injury cases likely to result in delayed returns-to-work can enable early allocation of resources to optimise the chance of recovery.

Objectives: To determine if a tool derived from the clinical interview is comparable to a validated tool completed by the injured worker to identify at-risk cases.

Methodology: Participants were drawn from the practice of an occupational specialist doctor, 76 injured workers completed a Short-Form Orebro Musculoskeletal Pain Questionnaire (SF-OMPSQ) whilst the treater simultaneously completed a nouveau Yellow-Flag Questionnaire (mYFQ). 29 workers with lumbar spinal pathology also completed a STarT Back tool (SBT). Regressions were completed to determine whether the mYFQ, SF-OMPSQ and SBT could predict the time taken until recovery.

Results: Regressions showed that only the mYFQ significantly predicted the length of time until clearance to pre-injury duty (β = 1.92, p = .032) whereas the SF-OMPSQ was not a significant predictor (β = 0.29, p = .063). In workers with lumbar spinal pathology, only the mYFQ significantly predicted the time until return to pre-injury work (β = 2.494, p = .016) whereas both the SF-OMPSQ (β = 0.346, p = .153) and the SBT (β = 2.097, p = 0.173) were not significant predictors.

Conclusion: There appears to be significant correlation between the score of the clinician-applied mYFQ and the time taken until recovery to pre-injury duties, whereas the SF-OMPSQ and the SBT were found not to be statistically significant predictive tools.

THE SOCIAL AND WELL-BEING IMPACT FOR INTERNATIONAL AIRCREW WHO EXPERIENCE COVID-19 RELATED RESTRICTIONS
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Background: Aircrew have been dramatically impacted due to the COVID-19 pandemic. Those who have retained international flight roles have experienced major changes and restrictions to their work conditions and social freedoms during and between flights. It appears aircrew are becoming increasingly stressed, though the mechanism for this is not completely clear. Little previous literature-based evidence is available. A potential explanation for increased stress of aircrew may be that their working conditions have changed so dramatically.

Aims: The study examined the social and well-being experiences of aircrew in an airline who have continued to fly internationally during, between, and after flights.

Methodology: A qualitative study where data collection and analysis for international aircrew working were undertaken. 10 participants were interviewed. Data was first collected via in-depth semi-structured interviews and then interpretive phenomenological approach used to generate themes and subthemes.

Results: There were five key themes from this study. The themes were “Impacts at Individual level”, “Pressures on social and family interactions”, “Risk associated with work and job”, “Relationship with Regulatory Authorities and Ministry of Health” and “Future Perceptions”. Aircrew’s experiences at home as well as at work are important. Furthermore, their perceptions of Regulatory Authorities and Ministry of Health has not always been positive.

Discussion/Conclusion: The COVID-19 pandemic has certainly impacted the aircrew’s physical, mental, socio-economic well-being. Airlines need to provide strategies to support aircrew.

SYSTEMATIC REVIEW OF RCTS ASSESSING THE MIRNA AND DNA METHYLATION CHANGES IN INDIVIDUALS EXPOSED TO SHORT TERM TRAFFIC RELATED AIR POLLUTION
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Background: The effect of air pollution and particulate matter exposure on cellular regulatory pathways has been associated with human chronic disease. Multiple cross-sectional studies have shown alteration of microRNA, DNA methylation, and cytokine pathways due to exposure to various traffic-related air pollution and particulate matter.

Objectives: Perform a systematic review and meta-analysis of published Randomized Controlled Trials on subjects exposed to short-term traffic-related air pollution (ST-TRAP), summarize the findings and perform meta-analysis on available data.

Methodology: The search included EMBASE, ProQuest and Medline databases. Studies on human subjects measuring changes in microRNA and DNA methylation in blood were included. Eight published journal articles were found, reviewed and included in the study. Supplementary materials were obtained. Unpublished data from authors was unable to be obtained for this study.

Results: Included articles were assessed as having low risk of bias. There was imprecision and inconsistency between studies. Qualitative analysis of available data showed no consistent findings of microRNA alteration across the five studies. Statistically significant reductions in F3 and EDN1 pathways were shown across two studies. Using meta-analysis, a significant change was shown in LINE-1 (Ch2 (1, N = 47) = 0.09, Z = 3.94, p < 0.0001). Limitations of this review include the small number of studies available and heterogeneity in trial designs and outcomes.

Conclusions: There appears to be an association between LINE-1, F3 and EDN1 pathway changes and exposure to ST-TRAP. Trial designs need improvement to reduce inconsistency and imprecision.

RETURN TO WORK AFTER SURGICAL VERSUS PHYSIOTHERAPIST-LED CONSERVATIVE MANAGEMENT OF LUMBAR DISC PROLAPSE WITH RADICULOPATHY
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Background: There is uncertainty in relation to whether surgical or conservative management results in better return to work outcomes for lumbar disc prolapse with radiculopathy. A comparative study has not been performed in recent years.

Objectives: The primary aim was to determine whether there are differences between sick leave duration for surgical versus physiotherapist-led treatment groups. A secondary aim was to determine the impact of work type and demographic variables.

Methodology: A retrospective cohort study was performed. ACC data on patients receiving compensation for sick leave following a diagnosis of acute traumatic lumbar disc prolapse with radiculopathy between 2010-2014 was reviewed. Patients were categorized according to intervention received and regression analysis was performed. US Department of Labor definitions were used to classify work types according to physical demand levels.

Results: 3,549 patients were included in the regression analysis. This showed that when compared to patients who received neither intervention, physiotherapy and surgery increased the mean duration of sick leave by a factor of 1.31 and 1.81 respectively. More physically demanding work and female gender were associated with statistically significant increases in sick leave. Age and ethnicity were not.

Discussion/conclusion: The results of this study are inconclusive with respect to which intervention leads to better return to work outcomes. The study is consistent with previous published research which shows that more physically demanding occupational categories and female gender are correlated with greater sick leave duration.