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Forgiveness as a predictive factor in stroke recovery

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Research suggests that forgiveness can promote stress reduction. Research also indicates how stress reduction can play a major role in stroke recovery. In the context of this poster; forgiveness refers to a voluntary and intentional process that takes place through a change in attitude or feelings regarding an event or situation. Stress refers to a state of mental or emotional strain resulting from adverse or demanding circumstances that also can elevate blood pressure in an individual. Additionally, stroke refers to a traumatic neurological event that can have long-lasting emotional, social or physical consequences. Research shows that stress levels in individuals undergoing recovery from a stroke can be notably higher than stress levels associated with the general population. Forgiveness based research shows that individuals who fail to forgive are more likely to have adverse emotional and physical implications. Some of these implications include increased anxiety, depression, elevated blood pressure, and decreased immune response. For individuals in stroke recovery, these factors do not promote recovery and raise the risk of reoccurrence. Based on the literature, this poster will demonstrate how forgiveness is a pathway to psychological wellbeing and health outcomes.

The role of lateralization in the functional outcome of the brain from stroke is not well established. Studies are limited on how the side of the brain on which the lesion appears affects the rate and amount of stroke recovery. Hemispheric lesion may demonstrate differences in some cortical functions, as an individual with left-sided hemispheric stroke (LHS) usually has impaired language comprehension and expression Hemispatial or unilateral neglect, which is characterized by reduced attention or spatial awareness of the body and environment on the hemiplegic side, occurs more often and seriously with a right-sided hemispheric stroke.A large prospective acute stroke trial [1] found that hemispheric lateralization was not an independent predictor of functional outcome, as measured by the modified Rankin Scale and NIHSS score. Fink et al. [1] and Woo et al. previously [17] found that if NIHSS is used as a functional outcome, perhaps the NIHSS score is biased in itself. A greater score indicated that severe impairment tended to relate to comprehension deficit of individuals with LHS, that is, language, speech, dysphagia, and facial palsy, rather than impairment following an RHS, that is, inattention. Roles of lateralization on functional recovery are still of interest for rehabilitation professionals, especially in some developing countries with limited resources.

This review provides a critical review of prediction models of walking and arm recovery afterstroke. Studies were identified using the search strategy and inclusion criteria.The review begins in the second section with the definitions and measurements of walking andarm recovery. The third section provides a detailed description of the recommended process fordeveloping and validating a prediction model because this process provides a benchmark againstwhich prediction modelling studies of walking and arm recovery can be evaluated. The fourth sectioncritically appraises development and validation studies of walking and arm recovery with the aim ofidentifying multivariate models that could potentially be implemented in clinical practice. Much hasbeen written about the role of neurophysiological and neuroimaging data in predicting arm recovery.The fifth section considers whether neurophysiological and neuroimaging data provide additional predictive value over clinical data alone in predicting arm recovery. We conclude with a summary and recommendations for future prediction modelling studies.

Previous studies saysBaseline characteristics, stroke risk factors, motor assessment, and complications during hospitalization were compared between patients with LHS and RHS. Fisher's exact test was used for categorical variables and Student's -test performed for normally distributed continuous variables, with a significance level of . Univariable analysis of clinical variables was performed, with dependent variables being the outcomes of walking capacity and functional recovery, and all independent variables, having a dichotomous scale (0 = no; 1 = yes), were clinically meaningful variables. There was no confounding variable in this prognostic study design. Statistically significant variable from the univariable analysis were submitted to the multivariable analysis model.This study found an insignificant trend in the proportion of patients who achieved a clinical outcome in either functional recovery (mRS score of 1–3) or walking capacity between left- and right-sided lesions, despite them being well matched for demographic data and major variables associated with the outcome .However, GCS on admissions with a left-sided lesion had a significantly lower score than those with a right-sided one which was similar to a previous study. If a prediction model is to be used in clinical practice, it must be well developed and externallyvalidated prior to use in clinical practice. While many models predicting death and severe disabilityafter stroke have been well developed and externally validate few models for predictingwalking and arm recovery have been well developed. One model for arm recovery (the proportional recovery model) has been externally validated though results from development and validation studiessuggest that the model does not predict well in all patients with stroke. This model does appear topredict outcomes well in people with less severe strokes. In

this review we have identified fivemodels that are potentially ready for external validation

The small number of subjects was a limitation of this study which could not stratify data according to subtypes of ischemic stroke, which might affect the outcome; that is, lacunar infarct and a small vessel occlusion should reach a better outcome than main territory infarct . In addition, the retrospective nature of this study omitted some possible clinical variables in the regression analysis. Other variables from a multidimensional perspective such as background of the patients prior to stroke, that is, level of fitness, side preference or related factors after stroke, motivation, attitude, and compliance to the rehabilitation training program, might have contributed to the outcome but could not be included as variables in this analysis. These aspects may have limited interpretation ability, and a larger, prospective study is needed for verification.This study demonstrated that motor function of the leg was the strongest independent predictor of walking and functional ability in left-sided ischemic stroke patients. Findings from this study indicate that the determinants of functional outcome may be actual impairments rather than hemispheric involvement. Although this study might not shed new light on predicting functional recovery in the stroke population, its research methodology could be conducted practically on a routine basis and transferred into established guidelines worthy of assisting rehabilitation teams in individualizing appropriate strategic plans for stroke patients .