

## The 12-Month Effects of Early Motivational Interviewing After Acute Stroke

### **BACKGROUND**

- There is a strong relationship between early psychological problems and recovery with depressed stroke patients lacking motivation to participate in rehabilitation, making less progress and failing to engage in leisure and social activities
- MI has been used successfully with a wide range of health problems characterized by poor motivation and the necessity to make some form of health behavior change
- Community-based interventions initiated later post-stroke have been ineffective
- Intervention at an early stage after stroke using motivational interviewing will support and build patients' motivation to adjust and adapt to having had a stroke

### **OBJECTIVE**

- To determine if motivational interviewing (MI) can benefit patients' mood and mortality post-stroke

### **METHODS**

- Design: Single-center, open, randomized controlled trial
- Study duration: 4 weeks
- Inclusion criteria: Over 18 years of age
- Exclusion criteria:
  - severe cognitive and communication problems preventing them from being interviewed
  - known to be moving out of the area after discharge
  - already receiving psychiatric or clinical psychology intervention
- Enrolled # of patients: 207 control group; 204 intervention group
- Treatment Regimens: Usual stroke care (control) & Motivational interviewing (intervention)
  - Usual Stroke Care (control)
    - All patients received usual medical, nursing, and therapy input
      - including inpatient care and discharge planning
      - Stroke Review Clinic appointment at 1, 3, and 6 months post-stroke
  - Motivational Interviewing (intervention)
    - Began 2-4 weeks post-stroke
    - Up to 4 weekly individual sessions with the same therapist
    - Sessions were 30 to 60 minutes long in a private area
    - Therapists elicited patients' personal, realistic goals for recovery and perceived barriers to attaining these, which enabled patients to identify their own solutions
- Outcome measures:
  - Primary: Mood (GHQ-28)
  - Secondary: Status (alive/dead), Depression (Yale), Function/Dependence (Barthel, Nottingham ADL), Beliefs and Expectations (SEQ)
- Data handling method: Intent to treat

### **RESULTS**

- # patients completed study: 156 - Usual stroke care (control); 164 - MI (intervention); 320 total
- Primary outcome:
  - Significant effect on mood ( $P=0.02$ ; OR [normal mood], 1.66; 95% CI, 1.08 to 2.55)
- Secondary outcomes:
  - No significant effect against depression ( $P=0.80$ )
  - No significant effect on average beliefs score ( $P=0.61$ ) or average expectations score ( $P=0.37$ )
  - Effect on the difference between beliefs and expectations was of borderline significance ( $P=0.05$ ; 95% CI, -2.6 to 0.0)
  - No significant effect of MI on function measured by the Nottingham Extended Activities of Daily Living ( $P=0.79$ ) or Barthel (OR [mild/no dependence relative to worse outcome], 1.28; 95% CI, 0.85 to 1.93;  $P=0.24$ ; OR [mild or moderate dependence relative to worse outcome], 1.18; 95% CI, 0.70 to 2.00;  $P=0.54$ )

- Significant effect on death (OR [alive relative to dead], 2.15; 95% CI, 1.06 to 4.38; P=0.03)
- Author's Conclusions: The beneficial effects of MI on mood and potentially survival post-stroke suggest that applying MI in this context was appropriate. Fewer deaths were seen in the intervention than control group, consistent with previous research demonstrating the negative association between mood and survival. No other intervention has been shown to improve mood and survival post-stroke, yet the protective effect of MI on survival suggests that improving mood could increase survival post-stroke. Psychological issues must be addressed early in stroke rehabilitation; however, there is a lack of robust evidence guiding prevention or treatment of problems. Although the MI applied here targeted explicit psychological mechanisms, the mechanisms by which MI was effective, and how it influenced mood and survival require further exploration. For psychological interventions, examining how they affect patient outcomes alone is insufficient; consideration of issues for implementation into clinical practice must be examined. We need to understand what patient characteristics such as cognitive and/or communication abilities and external factors such as therapist effects may influence success of interventions. This knowledge will increase the likelihood of success and appropriate targeting for future interventions.

### **STRENGTHS**

- Adequate sample size: Deemed a 15% difference between groups to be clinically relevant
  - Calculated 187 patients needed per group; inflated to 200 to allow for 5% to 10% dropouts
- Balanced groups [age: median 70 (interquartile range: 61 to 77 years); 58.4% male]
- Therapists received high level MI training and regular clinical psychologist supervision
- Relevant and clinically useful outcome measures
- Author's interpretation of results were appropriate and limitations were adequately addressed

### **LIMITATIONS**

- No 'attention control' group and unblinded participants (intervention group knew they were getting extra attention & control group knew they were not)
- Mailed questionnaires: unable to verify if information is actually self-reported
- Follow up on incomplete or unreturned questionnaires: potential influence
- Exclusion of severely impaired patients with severe communication problems
- Patient characteristics and therapist effects may have influenced success of interventions
- Intervention was relatively brief (only 4 weeks long)
- Data on cause of death was not obtained (effect on survival could be by chance)
- Some assessment tools lacked sensitivity to detect functional changes
- Data imputation and assumptions could have negatively impacted study results

### **CONCLUSIONS**

The beneficial effects of MI on mood and mortality suggest that using this intervention post-stroke is appropriate. Previous research showing a negative association between mood and survival support this, suggesting that improving mood could increase survival post-stroke. Early interventions have more positively influenced mood than later interventions, and this route should be further examined. Also, MI techniques are straightforward and not difficult to learn. None of the therapists in this study were clinical psychologists. This suggests that MI could be provided by various healthcare professionals and more easily accessible to patients. However, this could only be possible if some type of training and supervision manual were developed. In conclusion, any intervention that could potentially improve survival is worth investigating; even more so if that intervention is non-invasive, with essentially no adverse effects. I believe that this type of motivation therapy has great potential for clinical use and really needs to be further explored.