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Traumatic Brain Injury (TBI) & Problematic Anger

- Anger and irritability seen in 1/3 of individuals with moderate/severe TBI
  - Frontal lobe and limbic system damage
    - Emotional dysregulation
    - Frustration over impaired cognition and lifestyle changes post-TBI

- Treatment Options?
  - Medications: inconsistent findings
  - Psycho-educational approaches
Anger Self-Management Training (ASMT)

➢ ASMT Treatment
  ➢ Designed by Tessa Hart and her colleagues
  ➢ Multi-center, randomized controlled trial
  ➢ 8 sessions of 1 on 1 psychoeducational training

➢ 7 Anger Management Techniques/Concepts
  ➢ Anger is a natural response
  ➢ Brain vs. life reasons for anger
  ➢ Self monitoring- small a’s and large A’s
  ➢ “Other feelings” (O’s)
  ➢ Time out
  ➢ Mirror technique
  ➢ Active listening
Treatment Enactment

➢ The extent to which individuals apply an intervention as intended in “real life” settings
  ➢ Not just knowledge, but actual behavior
  ➢ Is there a lasting effect after treatment is completed?
  ➢ Challenging to measure

➢ Especially important for TBI population
  ➢ Declarative memory impairment
ASMT Enactment Interview

- 30-60 minute phone interview >10 weeks after treatment

- Interview Format
  - Present anger management technique/concept
  - Do you remember it?
  - How frequently are you using it?
  - How helpful was it?
  - Provide an example of using it.

- Barriers to Enactment?
Participants in the Study

- N=48 out of original 60 trial participants

Requirements
- At least 6 months post moderate/severe TBI
- Self-reported anger that is new or worse since TBI
- Completed a minimum of 4 ASMT sessions
  - 49 participants did all 8 sessions
Research Questions

➢ Did baseline memory test scores predict enactment?

➢ Did responders to the ASMT trial demonstrate greater enactment compared to non-responders?

➢ Which concepts/techniques were most helpful and most frequently used?

➢ Were there any themes in the qualitative data?
Measures

➢ Enactment:
  ➢ Average frequency score per individual across techniques

➢ Memory:
  ➢ Rey Auditory Verbal Learning Test (RAVLT)

➢ Treatment Response:
  ➢ 1 S.D. improvement at a 2 month follow-up
  ➢ 3 Anger scales
    ➢ Trait Anger (TA) Subscale
    ➢ Anger Expression Output (AX-O) Subscale
    ➢ Brief Anger-Aggression Questionnaire (BAAQ)
Results - Memory & Enactment

- 43 participants (89.5%) remembered all 7 techniques

- No significant correlation between memory scores and number of techniques remembered.

- 13 participants (27%) cited memory as a barrier to enactment

- There was a trend for participants with a memory barrier to have lower RAVLT scores (p=0.12)
Results- Responders and Enactment

➢ 36 out of 43 participants responded to treatment!
  ➢ Smaller sample of participants with a freq. score for all 7 techniques

➢ There was a trend for treatment responders to report a higher average frequency compared to non-responders (p=.09).
Anger Scales and Enactment

➢ Looked at each scale separately:

➢ Degree of change rather than 1 S.D. improvement.

➢ Significant positive correlation between average frequencies and degree of improvement on the TA (rho=.359, p=.02) and BAAQ (rho=.332, p=.03).

➢ The AXO anger scale did not show significant results.
ASMT Techniques/Concepts

➢ Most helpful concepts/techniques:
  ➢ Time-Out
  ➢ Self-Monitoring- small a’s and large A’s
  ➢ Active Listening

➢ Most frequently used concepts/techniques:
  ➢ Time-Out
  ➢ Self-Monitoring-small a’s and large A’s
  ➢ Anger is a natural response
Themes in the Qualitative Data

➢ Reasons for giving a low frequency score
  ➢ "I remember them but then always forget everything when I get angry"

➢ Barriers
  ➢ “Trouble applying techniques to real life situations”

➢ Most helpful parts of treatment
  ➢ “I was able to accept my anger problem”
  ➢ “Having someone to talk to get me through all this”
  ➢ “Learning these [techniques] was extremely helpful for me to learn how to deal with my anger”
Conclusions

➢ ASMT responders are using the techniques more often in daily life compared to non-responders
   ➢ Specifically TA and BAAQ anger scales

➢ Most participants recalled all 7 techniques!

➢ Further research is needed to verify if memory scores can predict which participants would benefit from additional strategies