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DOES THE COLOR OF THERAPIST'S UNIFORMS INFLUENCE THE FUNCTIONAL OUTCOME OF PERSONS WITH STROKE OR TRAUMATIC BRAIN INJURY ?

Michele H Gerber, A. Bellmann, A. Crettenand-Berdoz, Ch. Gobelet, O. Deriaz, Ph. Vuadens;
SuvaCare Hospital for Rehabilitation Sion Switzerland.

PURPOSE: In neurological rehabilitation, motivation, active participation and intensity of treatment are 3 key-elements favoring neuronal plasticity. Persons with stroke (S) or traumatic brain injury (TBI) often suffer from attention deficit. This may delay functional reeducation. Colorful environments and uniforms are used in pediatric practice and the authors assumed that the effects could also affect adults and accelerate the recovery of functional performance. The bright yellow color of the sun, known for stimulating pleasure, joy of life and optimism, was chosen to show the advantage of a colorful environment.

RELEVANCE: This study evaluates the influence of the color of therapist's uniforms on the outcome following CNS lesions. **PARTICIPANTS:** A total of 20 persons (10 with stroke and 10 with TBI) all over 18 years old, were randomized into intervention and control groups.

METHODS: The following tests were used on entry, 3 months later and at discharge (or at entry and discharge if the person left the hospital before 3 months): Barthel, FIM, Hamilton, SF36 and attention test (D2 and bell test). In addition, the NHSS, motor Rivermead and Rankin were administered for persons with stroke, and the Glasgow coma and outcome scales and Rivermead for persons with TBI. Each subject was treated by physiotherapy, occupational therapy, neuropsychology and speech therapy according to a Bobath-based rehabilitation concept. The only independent variable was the color of the therapist's uniforms: a bright yellow T-shirt for the intervention group and a white T-shirt for the control group. **ANALYSIS:**

The median admission delay was 28 days with a median hospital stay of 104 days. Seven persons left before 3 months. The therapists were not necessarily the same throughout. They were not blinded but none of them was biased in favor of the color yellow; half of them preferred the color white and the rest were indifferent. Statistical analysis used ANOVA and 2 tails. **RESULTS:** The intervention group showed a better functional outcome for both stroke and TBI after 3 months (Rivermead $p=0.027$ and Barthel $p=0.07$). This difference remains significant at discharge for the Rivermead ($p=0.027$). Significant decrease of hemineglect was observed in the intervention group (stroke) at discharge for the following items: reaction time ($p=0.06$) divided attention per mistake ($p=0.01$) and divided attention overall ($p=0.001$).

CONCLUSIONS: The wearing of a bright yellow T-shirt by therapists significantly increased the functional outcome of persons with CNS lesions. This improvement may be explained by better attention to the more affected side. **IMPLICATIONS:** Given that the single modification of T-shirt color worn by therapists is sufficient to increase functional outcome, it may be expected that a more colorful further environment (walls, furniture, objects and clothes) may increase these effects even more. This warrants further investigation with a larger number of subjects. **KEYWORDS:** Stroke / Bobath / Rehabilitation / Color **FUNDING**

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CONTACT: gerber.michele@bluewin.ch / www.bobath-based-rehabilitation.com