Psychological and functional recovery in rehabilitative practice

Laura Gestieri [ag], Caterina Romaniello [bg], Gloria Leonardi [cg], Stefania Prostrati [ag], Maria Rosaria Leo [a], Daniela Cevolani [d], Marina Farinelli [aefg].

[a] "Colibrì hospital consortium", Villa Bellombra Hospital, Bologna, Italy; [b] "Colibrì hospital consortium", Bologna, Italy; [c] "Colibrì hospital consortium", Santa Viola Hospital, Bologna, [d] "Neuroradiology Op.Un.", Bellaria Hospital, Bologna, Italy; [e] "Department of Psychology", University of Bologna, Bologna, Italy; [f] International College of Psychosomatic Medicine; [g] Italian Society of Psychosomatic Medicine (SIMP), Bologna, Italy

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Introduction. Stroke is a common, serious, and disabling global health-care problem, and rehabilitation is a major part of patient care(Langhorne et al., 2011). Stroke survivors often show depression, anxiety, fatigue and apathy (Hackett et al., 2014), along with neurological disorders and functional/behavioral deficits (Corbetta et al.,2015) that often hamper the recovery of the rehabilitation process. Post-Stroke Depression (PSD) is one of the most frequent neuro-psychiatric consequences on a clinical level , in particular the prevalence of depressive disorder and depressive symptoms in the acute phase after stroke ranges widely from 5% to 54% (Kouwenhoven et al., 2011). The research (Farinelli et al., 2006, 2013, 2015) highlights the importance of a timely diagnosis and treatment of psychological distress including PSD in order to support the patient's participation in the overall recovery project and the positive outcome of the rehabilitation process.

The aim of this study is to ascertain:

1. The extent of psychological distress in stroke patients during intensive rehabilitation
2. Whether there is a link between degree of psychological distress and functional independence in stroke patients;
3. Whether there is a correlation between the extent of the functional independence gain and psychological distress gain after rehabilitation including psychological support to patients and their caregivers.

The sample

As a whole, the sample includes 616 subjects: 235 post-stroke and 381 orthopedic patients as a control group.

	STROKE	ORTHO
Gender	M: 110 - 47% F: 125 - 53%	M: 101 - 26% F: 280 -74%
Age	AV: 73,2 SD: 11,4	AV: 73,8 SD: 11,7

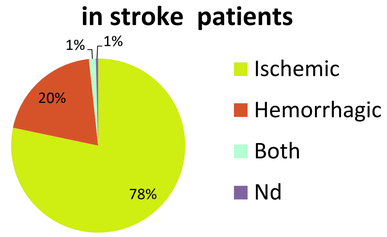
Patients are relatively aged in both Stroke and Orthopedic sub-samples with a prevalence of married and widowed subjects.

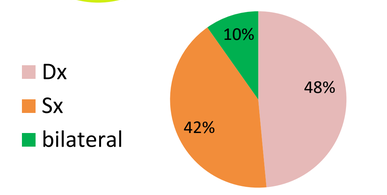
Scholarization is generally low and compatible with the average age of the subjects.

Retired subjects largely prevail.

	STROKE (235)	ORTHO (381)
Civil Condition	Married: 119 – 50% Single: 33 – 14% Divorced: 8 – 3% Widowed: 73 – 32% Nd: 2 – 1%	Married: 169 – 45% Single: 40 – 10% Divorced: 21 – 6% Widowed 146 – 38% Nd: 5 – 1%
Scholariz	No ed. qualific: 28 – 12% Elementary: 89 – 38% Middle School: 55 – 23% Up. mid. Sch: 49 – 21% Graduation: 11 – 5% Nd: 3 – 1%	No ed. qualific: 16 – 4% Elementary: 125 – 33% Middle School: 97 – 26% Up. mid. Sch: 89 – 23% Graduation: 54 – 14% Nd:
Profession	Retired: 200 – 85% Housewife: 9 – 4% Employed: 23 – 10% Nd: 2 – 1%	Retired: 325 – 85% Housewife: 21 – 6% Employed: 32 – 8,5% Nd: 3 – 0,5%

Characteristics and lesion location in stroke patients





Ant: 30%; Post 50%; Mix: 10%
Med: 54%; Lat: 19%; Mix: 11%
Cort: 21%; SubCort: 52%; Mix: 11%

Methods and instruments

Within one week after the income in the hospital for an intensive rehabilitation therapy, all the patients were assessed by the following scales:

- Mini-Mental State Examination- MMSE (Folstein et al., 1975) to evaluate the cognitive profile;
- Hospital Anxiety and Depression Scales-HADS (Zigmond and Snaith, 1983) self-report questionnaire for measuring anxiety (subscale HAD ANX) and depression (subscale HAD DEP);
- Functional Independence Measure –FIM (Dodds et al., 1993) for measuring functional indipendence of patients.

To evaluate the change inpatients were evaluated by HADS and FIM at admission and discharge.

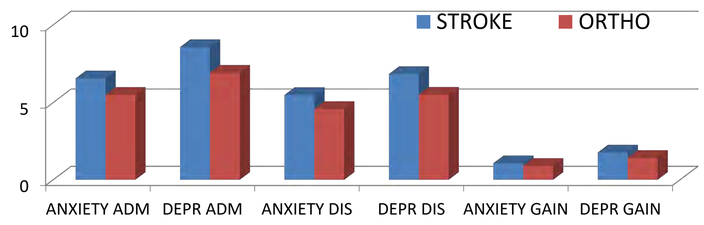
Exclusion criteria: severe aphasia, Mild/Severe cognitive impairment evaluated by MMSE, non collaborative patients.

Data were analyzed through descriptive statistics and parametric tests.

Results: Anxious and depressive symptoms (HADS)

ANXIETY CLUSTERS	ADMISSION		DISCHARGE	
	STROKE	ORTHO	STROKE	ORTHO
Absent	150 - 64%	286 - 75,1%	180 -76,6%	321 - 84,3%
Mild	50 - 21%	61 - 16%	36 - 15,3%	49 - 12,9%
Moderate	32 - 14%	27 - 7,1%	19 - 8,1%	9 - 2,4%
Severe	3 - 1%	7 - 1,8%	0	2 - 0,5%

DEPRESSION CLUSTERS	ADMISSION		DISCHARGE	
	STROKE	ORTHO	STROKE	ORTHO
Absent	102 - 43,5%	236 - 61,9%	136 - 58%	291 - 76,4%
Mild	67 - 28,5%	82 - 21,5%	72 - 30,6%	62 - 16,3%
Moderate	44 - 18,7%	52 - 13,6%	19 - 8%	25 - 6,6%
Severe	22 - 9,3%	11 - 2,9%	8 - 3,4%	3 - 0,8%



36% of stroke patients show HADS anxiety **and 56.5%** HADS depression, while **24.9% of orthopedic** patients show HADS anxiety **and 38%** HADS depression.

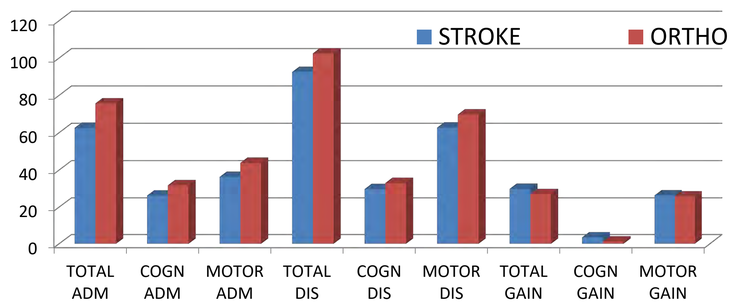
28% of stroke patients and 15% of orthopedic patients show symptoms overlapping on admission

For both groups the psychological distress decreases significantly at discharge ($p \leq .00$)

Psychological distress is higher in stroke patients

Results: Functional Independence (FIM)

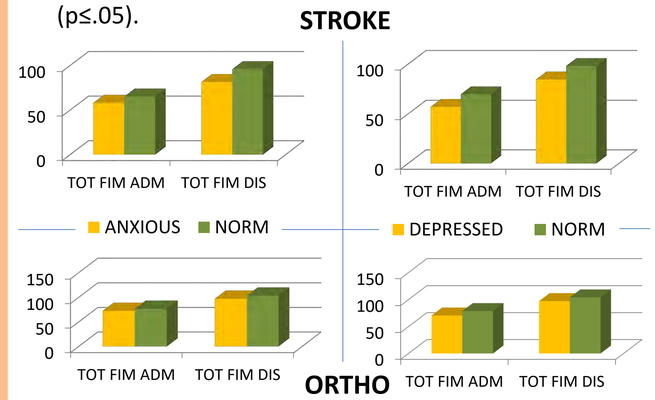
The degree of functional recovery (FIM) was statistically significant ($p < .00$) when admission and discharge were compared; stroke patients had significantly lower scores than orthopaedic patients on both admission and discharge (i.e., they had lower levels of functional independence).



The FIM gain is higher in neurological patients

Results: Correlations and group comparison

1. The extent of FIM gain is correlated with depression gain (r=.129*) for stroke patients and anxiety gain (r=.085*) for orthopedic patients.
2. 2. In both groups, patients with psychological distress show lower scores in functional independence scores ($p \leq .05$).



Integrated psychological approach. A targeted, personalized and integrated psychological support is provided to patients and caregivers during the rehabilitation process. The patient's psychic distress is considered a manifestation of psychological suffering on which numerous individual and bio-psycho-social factors exert an influence. In fact premorbid personality structure, possible unresolved loss, attachment style, adaptive strategies, hemispheric lesion location, clinical conditions, previous lifestyle, family structures and social network must be considered. An early diagnosis and support for environmental/rehabilitation treatments combined with individual support facilitate the patient's reorganization of the self through a supportive and interactive relationship in agreement with the rehabilitation team.

Conclusions. 1). On admission, anxiety was found in 36% of the stroke patients and in 24,9% of the orthopaedic patients, while depression was found in 56,5% of the former group and in 38% of the latter group. Both groups showed a statistically significant reduction in symptoms before discharge.

2). This study highlights how psychological distress in stroke patients is related with functional independence and its gain after rehabilitation including psychological support to patients and their caregivers.

3). In rehabilitative practice it is important to promptly diagnose the patients' psychological distress. It is evident the possible crucial role of anxiety and depression in functional recovery. Specific psychological support to patients and their caregivers has to be included in order to implement therapeutic strategies of intervention in the integrated psychosomatic rehabilitation approach.

Bibliography. 1. Corbetta, M., et al. (2015) Common Behavioral Clusters and Subcortical Anatomy in Stroke. Neuron, 85(5):927-941; **2. Dodds, T.A., et al. (1993).** A validation of the functional independence measurement and its performance among rehabilitation impatients. Archives of Physical Medicine and Rehabilitation, 74(5):531-536.; **3. Kouwenhoven, S.E., et al. (2011).** Depression in acute stroke: prevalence, dominant symptoms and associated factors. A systematic literature review. Journal of Disability and Rehabilitation, 33(7): 539-556; **4. Hackett, M.L., et al. (2014).** Neuropsychiatric outcomes of stroke. The Lancet Neurology, 13(5): 525-534; **5. Li Calzi, S., et al. (2006)**. Andamento clinico del paziente con esiti di malattie neurologiche in riabilitazione fisica e condizioni psicologiche del familiare di riferimento. Med Psicosom, 51:33-40; **6. Farinelli, M., et al. (2013)**. SEEKING and depression in stroke patients: An exploratory study. J Clinical and Experimental Neuropsy. 35(4): 348-35; **7. Farinelli, M., et al. (2015)** Do brain lesions in stroke affect basic emotions and attachment? Clin Exper Neuropsy. 37(6): 595-613; **8. Folstein M.F., et al. (1975).** Mini Mental State: a practical method for grading the mental state of patients for clinician. Journal of Psychiatric Research, 12, 189-198; **9. Langhorne, P., et al. (2011)** Stroke rehabilitation. The Lancet, 377 (9778): 1693-1702 ; **10. Zigmond, A.S., Snaith, R.P. (1983).** The Hospital Anxiety and Depression Scale. Acta Psychiatrica Scandinavica, 67: 361-370.