

There are neurobiological foundations for attachment (Moriceau, Sullivan, 2005). Individuals' attachment systems are activated by sudden and acute pathological events that are perceived as a physical threat. The literature indicates the existence of a link between attachment style, illness and psychological distress: attachment patterns influence symptom perception (Ciechanowsky, 2002), susceptibility to illness and illness behaviour (Maunder e Hunter, 2001). Few studies so far have examined the manifestation and/or modification of attachment styles in patients with cerebral lesions. Given the fact that attachment is a relational concept, the patient-caregiver dyad is extremely significant within this context.

Aims

The aim of this study of patients and their caregivers is to ascertain whether:

1. there is a link between degree of psychological distress and attachment style,
2. **patient-caregiver relationships exhibiting secure attachment styles are associated with positive outcomes on discharge and whether insecure attachment strategies are associated with less successful outcomes.**

Sample

	PATIENTS		CAREGIVERS	
	STROKE (N=35)	ORTHOPEdic (N=30)	STROKE (N=35)	ORTHOPEdic (N=30)
Gender	M = 23 (66%) F = 12 (44%)	M = 8 (27%) F = 22 (73%)	M = 15 (43%) F = 20 (57%)	M = 15 (50%) F = 15 (50%)
Age	M = 69.4; SD = 9.68 MIN = 46; MAX = 82	M = 75.6; SD = 9.26 MIN = 38; MAX = 89	M = 53.4; SD = 15.02 MIN = 25; MAX = 79	M = 61.4; SD = 14.18 MIN = 35; MAX = 87
Civil condition	Married: 23 (66%) Single: 3 (8%) Divorced: 4 (12%) Widow: 5 (14%)	Married: 15 (50%) Single: 0 Divorced: 1 (3%) Widow: 14 (47%)	Married: 26 (74%) Single: 7 (20%) Divorced: 1 (3%) Widow: 1 (3%)	Married: 24 (80%) Single: 2 (7%) Divorced: 4 (13%) Widow: 0
Profession	Retired: 28 (80%) Housewife: 2 (6%) Employed: 5 (14%)	Retired: 25 (84%) Housewife: 4 (13%) Employed: 1 (3%)	Retired: 13 (37%) Housewife: 3 (9%) Employed: 16 (45%) Unemployed: 2 (6%) Student: 1 (3%)	Retired: 15 (50%) Housewife: 0 Employed: 15 (50%) Unemployed: 0 Student: 0
Caregiver	Husband/wife: 15 (43%) Son/daughter: 16 (46%) Others: 4 (11%)	Husband/wife: 14 (47%) Son/daughter: 15 (50%) Others: 1 (3%)	Location and type of the lesion in stroke patients DEX = 21 (60%) ISCH = 23 (66%) ANT = 24 (69%) SIN = 14 (40%) EMO = 12 (34%) POST = 9 (26%) MIX = 2 (5%)	

Psychometric Instruments

- **Attachment style: Relationship Questionnaire (RQ)** (Bartholomew, K., Horowitz, L.M.; 1991) and **Attachment Style Questionnaire (ASQ)** (Feeney et al.)
- **Depression and anxiety in patients on admission and discharge, Hospital Anxiety and Depression Scale (HAD)** (Zigmond e Snaith, 1983)
- **Functional independence of patients on admission and discharge, Functional Independence Measure (FIM)** (Dodds et al., 1993)
- **Depressive symptoms in caregivers on admission and discharge, Center for Epidemiologic Studies-Depression Scale (CES-D)** (Fava, G.A.; 1982)

Results

1. CLINICAL COURSE OF STUDY GROUP

- On admission, anxiety was found in 43% of the stroke patients and in 50% of the orthopaedic patients, while depression was found in 72% of the former group and in 67% of the latter group; both groups showed a statistically significant ($p < .05$) reduction in symptoms shortly before discharge.
- The degree of functional recovery (FIM) was statistically significant ($p < .05$) 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).
- On admission, depression was found in 69% of the of stroke patients caregivers, compared to 57% of the of orthopaedic patients caregivers. Both groups showed a statistically significant reduction ($p < .05$) in symptoms on discharge.

2. CLINICAL COURSE BY ATTACHMENT STYLE:

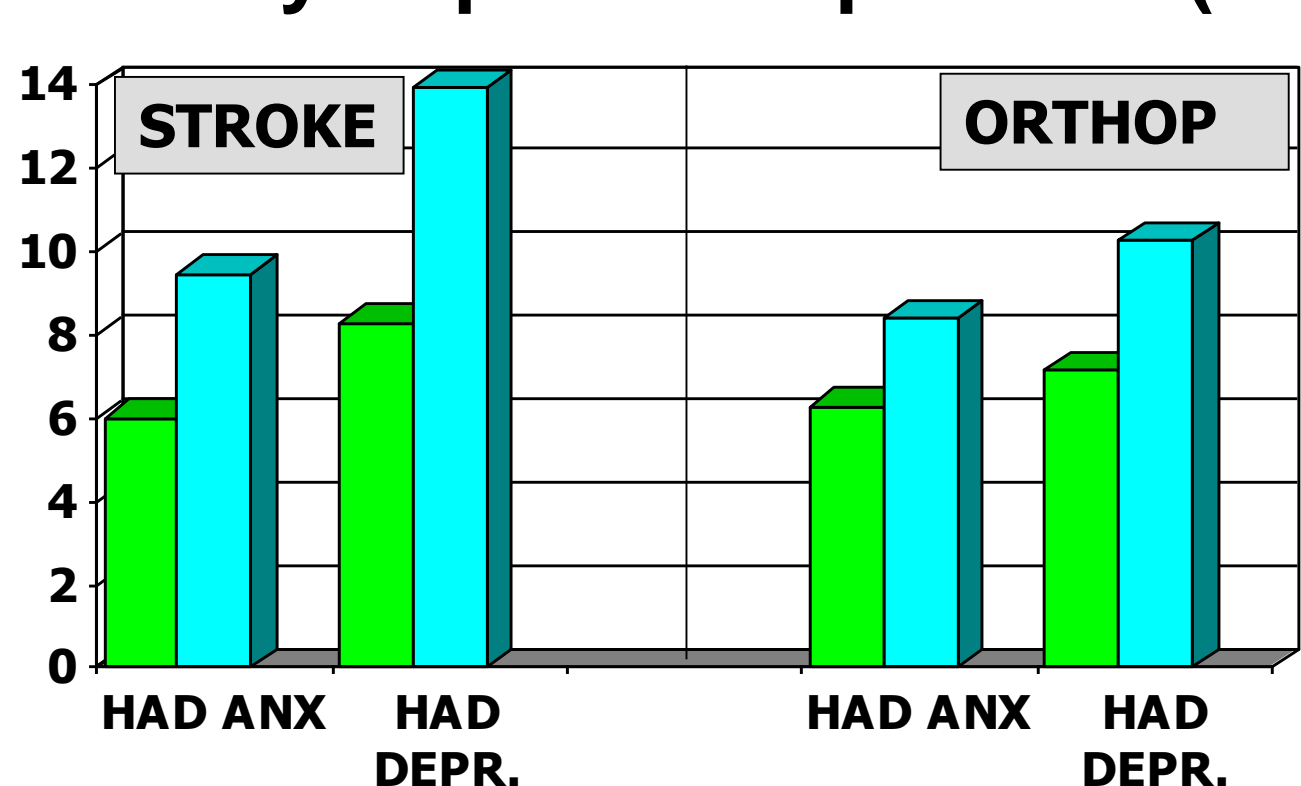
■ INSECURE ■ SECURE

Pattern distribution

PATIENTS	STROKE	ORTHOP
SECURE	15 (43%)	14 (46%)
FEARFUL	14 (40%)	11 (37%)
PREOCCUPIED	5 (15%)	4 (13%)
DISMISSING	1 (3%)	1 (3%)

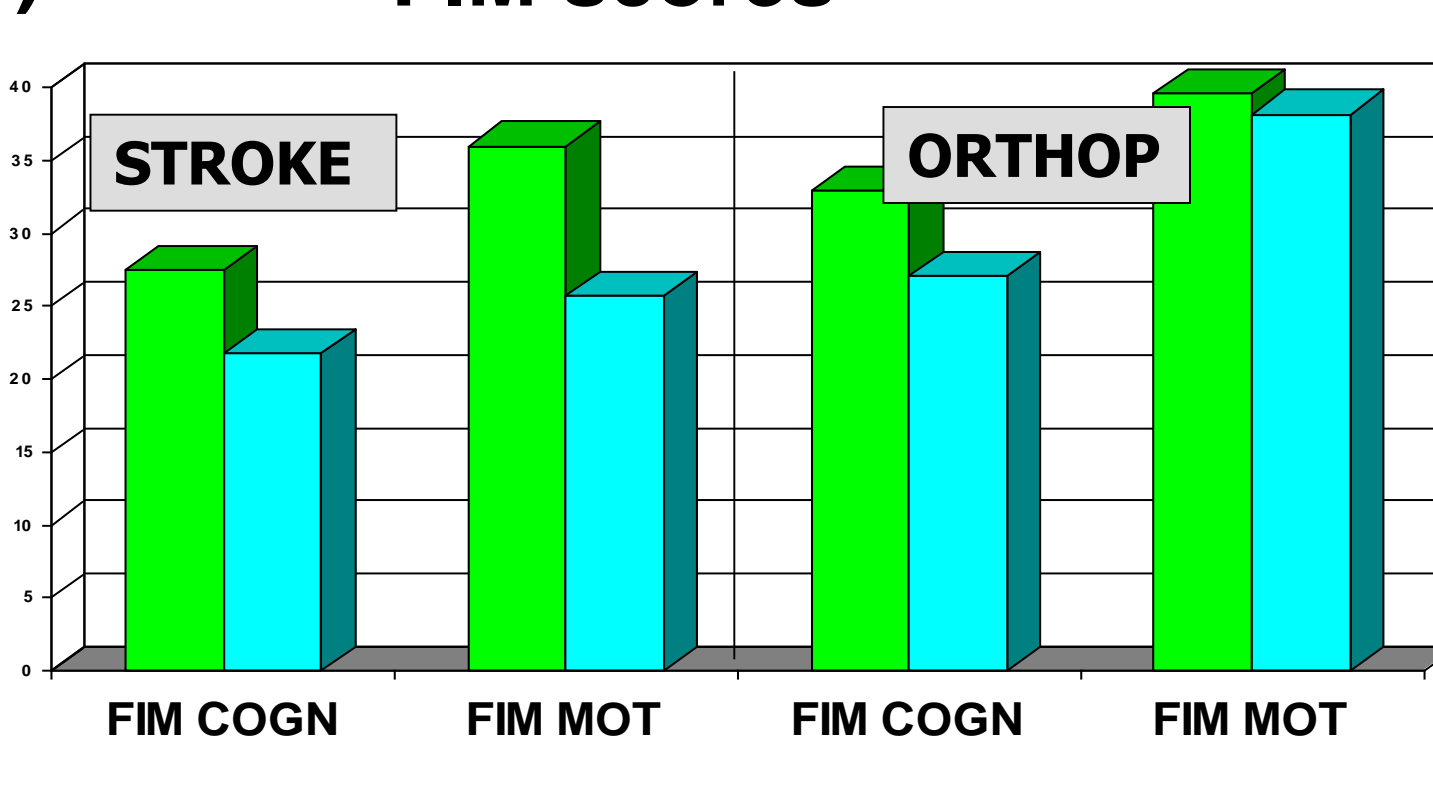
CAREGIVER	STROKE	ORTHOP
SECURE	23 (66%)	17 (57%)
FEARFUL	6 (17%)	6 (20%)
PREOCCUPIED	2 (6%)	6 (20%)
DISMISSING	4 (11%)	1 (3%)

Anxiety-depression patients (HAD)



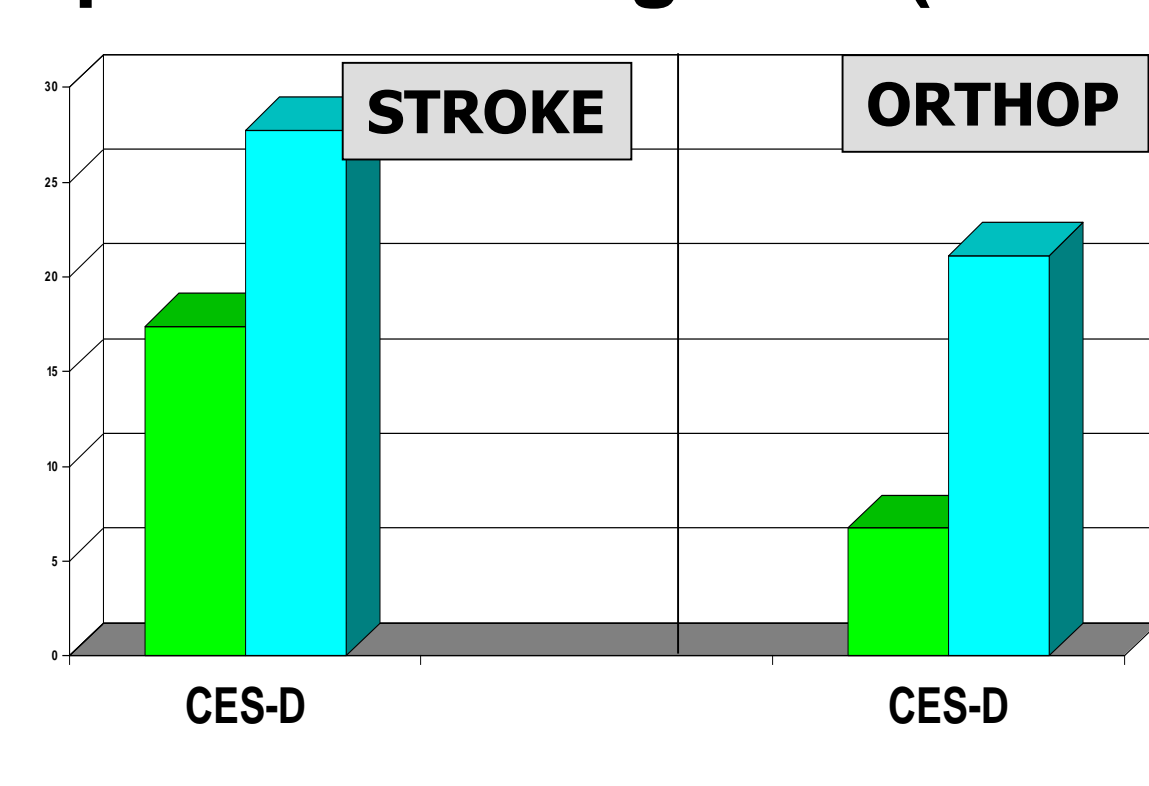
RQ/HAD/CES-D: patients and caregivers with insecure attachment styles show higher levels of psychological distress than those with secure attachment styles ($p < .05$).

FIM scores



ASQ: the Confidence subscale correlates negatively with the scales for psychological distress in both patients and caregivers.

Depression caregivers (CES-D)



DYAD PT-CG	STROKE	ORTOP
SECURE	9 (26%)	7 (23%)
SECURE+INSECURE	20 (57%)	17 (57%)
INSECURE	6 (17%)	6 (20%)

3. ATTACHMENT AND RELATIONSHIP BETWEEN PATIENT AND CAREGIVERS

STROKE	BOTH SECURE	ONE MEMBER INSECURE	BOTH INSECURE	F and P	Post-hoc
HAD ANX. 1	AV = 4.77 SD = 1.56	AV = 8.3 SD = 2.77	AV = 9 SD = 2.68	F = 7.374 P = .002	1 different from 2 and 3
HAD DEP. 1	AV = 7.22 SD = 1.92	AV = 10.7 SD = 3.81	AV = 16.5 SD = 2.88	F = 14.299 P = .000	All different
CES-D 1	AV = 15.77 SD = 6.45	AV = 18.9 SD = 8.19	AV = 29 SD = 5.51	F = 6.083 P = .006	3 different from 1 and 2

A relationship in which **both patient and caregiver manifest secure attachment strategies** is associated with **positive outcomes** following hospitalisation and also fosters the improvement of certain psychological parameters, while **insecure attachment strategies** are associated with **less positive outcomes**.

ORTHOP	BOTH SECURE	ONE MEMBER INSECURE	BOTH INSECURE	F and P	Post-hoc
HAD ANX. 1	AV = 6.57 SD = 3.82	AV = 7 SD = 2.17	AV = 9.16 SD = 1.94	F = 1.932 NOT SIG	
HAD DEP. 1	AV = 7.14 SD = 2.26	AV = 9.05 SD = 3.54	AV = 12.66 SD = 2.25	F = 5.331 P = .011	1 different from 3
CES-D 1	AV = 9.71 SD = 4.27	AV = 17 SD = 10.91	AV = 25.83 SD = 12.33	F = 4.183 P = .028	1 different from 3

Discussion

Conflict between emotional and cognitive needs may emerge in insecure attachment configurations, as evidenced by the greater incidence of manifest psychological distress in individuals with insecure attachment styles.

Moreover, in insecure (patient-caregiver) dyads, the distortion of the dynamic relationship between thoughts and emotions has a negative effect on adjustment to the illness and on functional recovery.

Future research: Closer examination of the relationship between manifestation and modification of attachment styles and lesion location.