

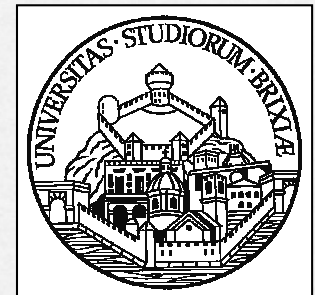
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EMDR therapy in Treatment Resistant Depression (TRD) in-patients: clinical and biomarkers efficacy



Villa Santa Chiara



Trauma and psychiatric disorders

Traumatic experiences significantly increase the risk of developing mental illness.

Major Depressive Disorder

MDD represents up to 11% of YLDs (years lived with disability), making it the leading chronic condition in Europe



Treatment Resistant Depression

- 1/3 of MDD patients experience full remission after first-choice antidepressant.
- Many patients requires repeated trials for achieving remission.
- About 30% of MDD patients are classified as having treatment-resistant depression (TRD).



Economic burden of MDD and TRD

The total economic burden of MDD is estimated to be US\$210.5 billion a year

MDD has a major impact on people during their most productive years

People with severe form of MDD have more physical illness and shorter life expectancy

Economic burden of MDD and TRD

Don't underestimate the socio-economic impact of depression

The Economist



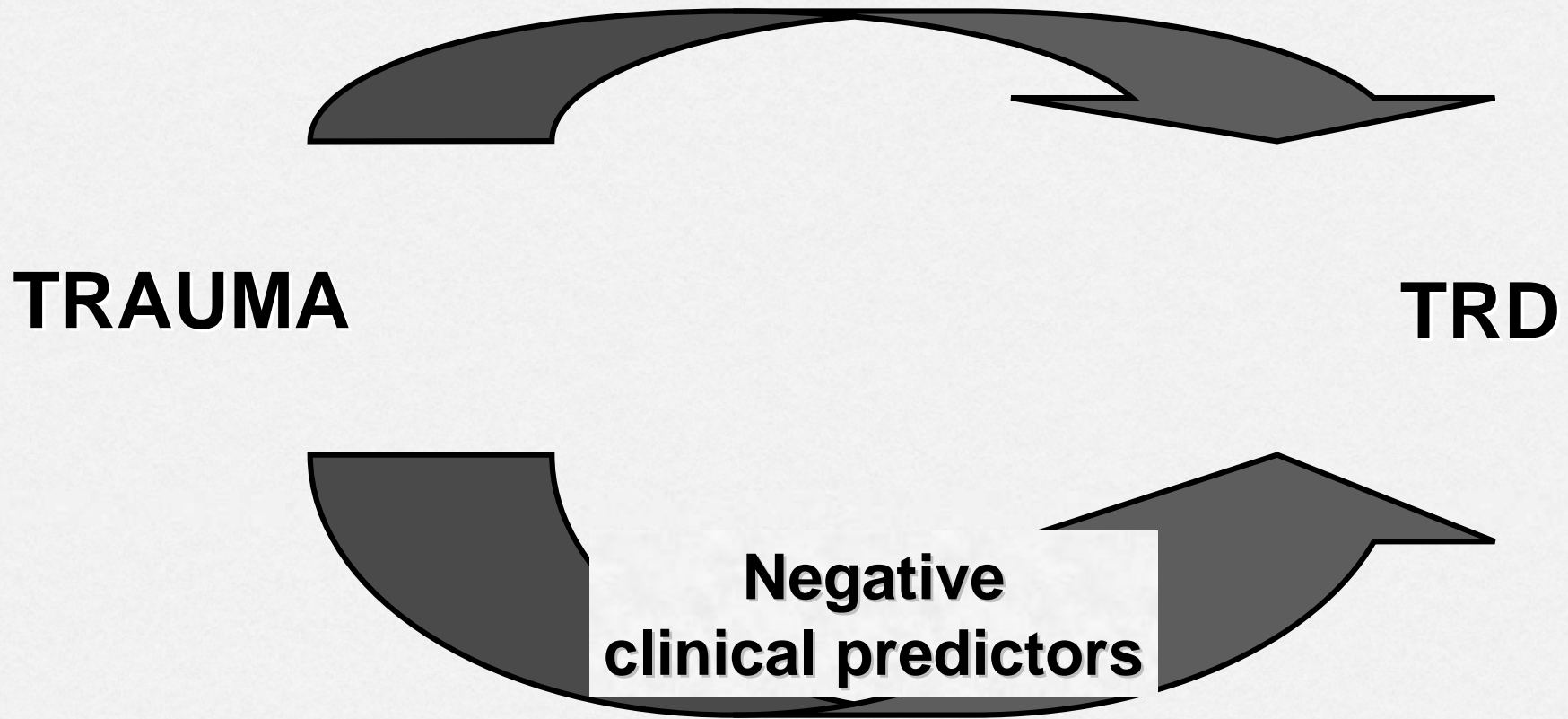
Clinical features and TRD

- Presence of psychotic symptoms
- Comorbidity with personality disorders
- Comorbidity with anxiety disorders
- Risk of suicide
- Low age of onset
- Non-response to the first antidepressant
- Recurrence of depressive episodes
- Low level of education
- Presence of traumatic experiences

Clinical features and trauma

- Presence of psychotic symptoms
- Comorbidity with personality disorders
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- Risk of suicide
- Low age of onset
- Non-response to the antidepressants

Trauma and TRD



TRAUMA a trigger for TRD

EMDR and TRD in-patients

Project “Eye Movement Desensitization and Reprocessing (EMDR) therapy in Treatment Resistant Depression (TRD) in-patients: clinical and biomarkers efficacy”

Project aims

- to give to TRD patients a psychotherapeutic path focused on trauma without any costs for patients and their family
- to test trauma-focused psychotherapies in TRD patients
- to investigate the biological mechanisms underlying trauma-focused psychotherapies in TRD patients

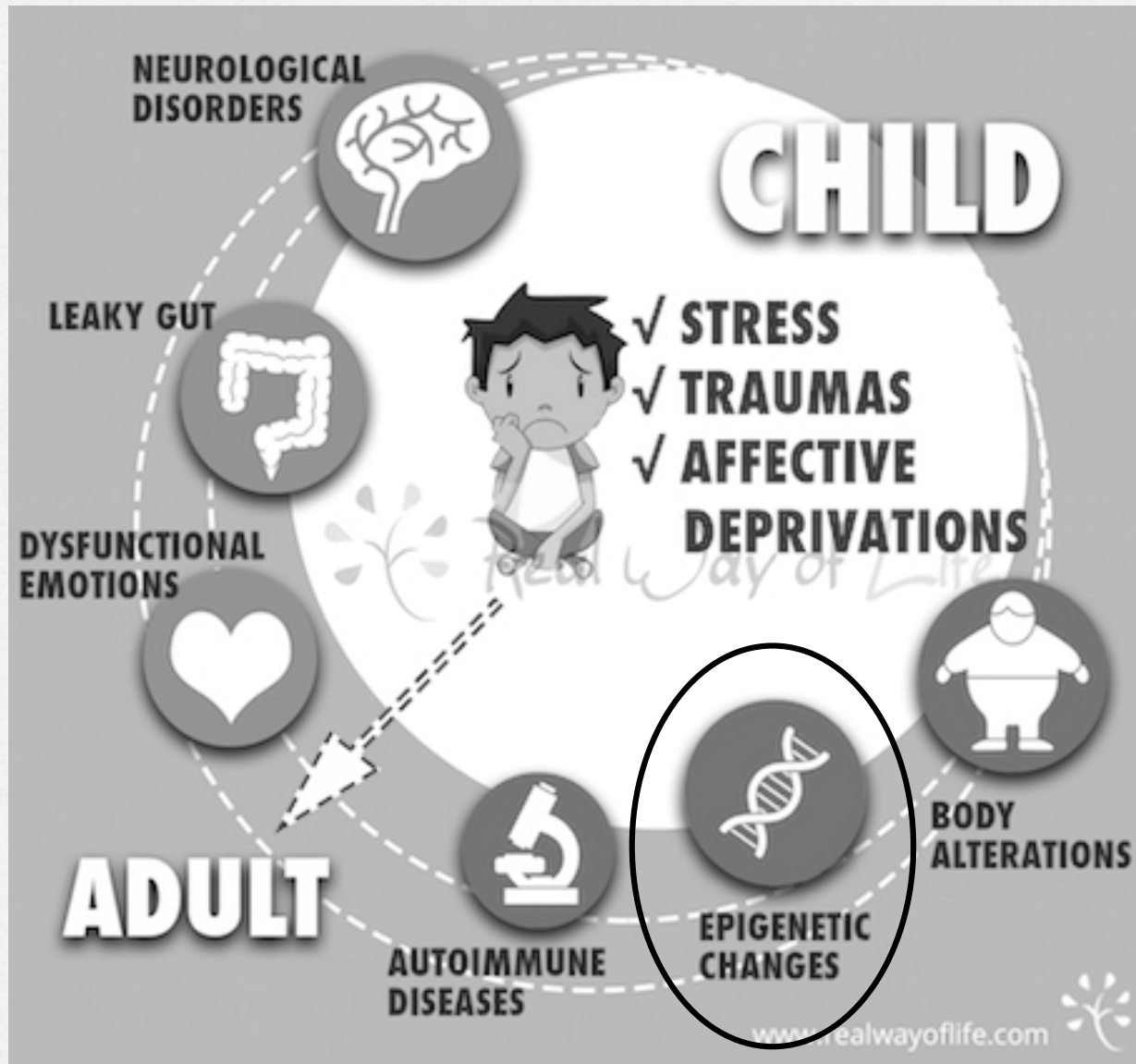


Biological mechanisms

*Stress, Traumas and
Affective Deprivation
leaving a **Mark***

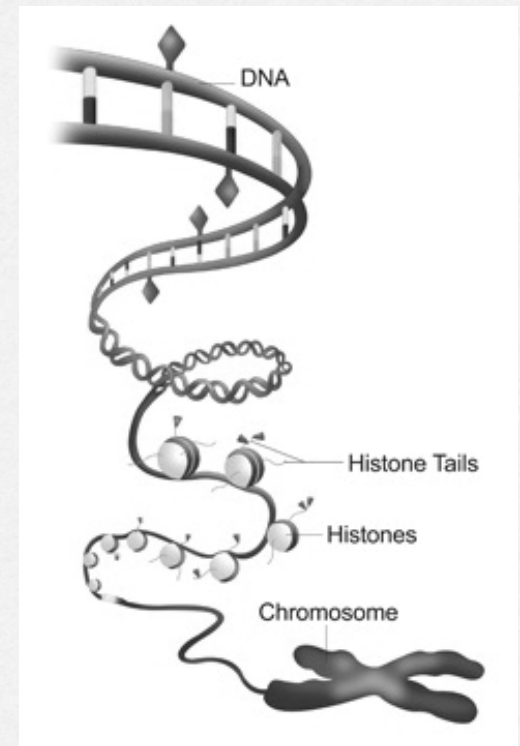


Biological mechanisms



Epigenetics

- Gene-environment interaction
- Chromatin modification, DNA methylation ...



Epigenetics

- Trauma could result in alterations in functional gene networks that lead to brain disease
- Epigenetic processes are potentially reversible pointing to epigenetic therapeutics in psychotherapy (Szyf 2014).

Epigenetics

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www.nature.com/tp

Response to psychotherapy in borderline personality disorder and methylation status of the *BDNF* gene

N Perroud^{1,2}, A Salzmänn¹, P Prada², R Nicastro², M-E Hoeppli³, S Furrer³, S Ardu⁴, I Krejci⁴, F Karege³ and A Malafosse^{1,3}

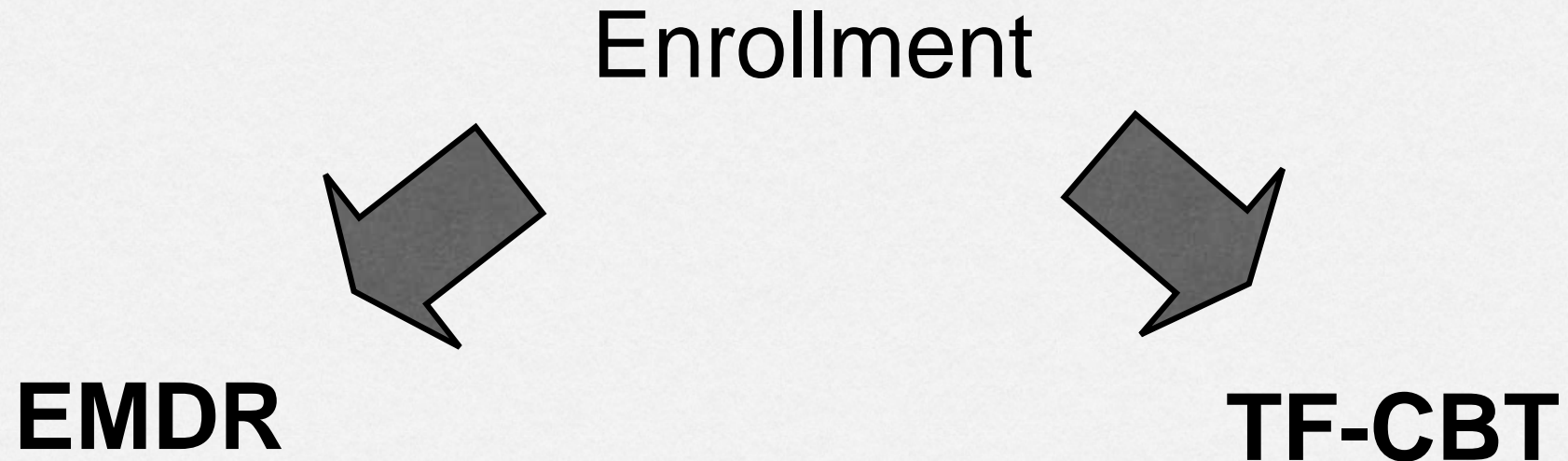
Step 1: Recruitment of TRD in-patients

- Inclusion criteria:
 - a) diagnosis of MDD
- Exclusion criteria:
 - a) mental retardation or cognitive disorder;
 - b) a lifetime history of schizophrenic, schizoaffective, or bipolar disorder;
 - c) personality disorders, substance abuse, alcohol abuse or dependency, obsessive compulsive disorder, post-traumatic stress disorder, as primary diagnosis;
 - d) comorbidity with eating disorders.

Step 1: Recruitment of TRD in-patients

- TRD is defined as at least the failure of the patient to respond to two or more adequate trials of two or more different classes of antidepressants.
 - All participants need to have experienced at least three documentable traumatic events over their lifetime, which are still causing a clinically relevant distress.
-

Step 2: Randomization



Patients receive 3 individual sessions per week, lasting 60 min each over a period of 8 weeks in addition to drugs treatment-as-usual.

Step 3: 1st evaluation

- Symptomatological assessment:
 - a) Montgomery-Åsberg Depression Rating Scale (MADRS)
 - b) MINI-ICF-APP
 - c) Beck Depression Inventory II (BDI-II)
 - d) Beck Anxiety Inventory (BAI)
 - e) Pittsburgh Sleep Quality Index (PSQI)

Psychological evaluations are performed blind to the EMDR and TF-CBT therapists.

- Blood samples collection for DNA, mRNA, serum, plasma.

T0
↓

• Beginning of psychotherapy.

H O S P I T A L I Z A T I O N

Step 4: 2nd evaluation

- Symptomatological assessment
- Blood samples collection
- Continuation of psychotherapy

T4
↓

H O S P I T A L I Z A T I O N

Step 5: 3rd evaluation

- Symptomatological assessment
- Blood samples collection
- Finish of psychotherapy
- Finish of admission in hospital

T8
↓

H O S P I T A L I Z A T I O N

Step 6: 4th evaluation

- Symptomatological assessment
- Blood samples collection

T12
↓

H O S P I T A L I Z A T I O N

Step 7: 5th evaluation

- Phone interview for clinical assessment

H O S P I T A L I Z A T I O N

T24
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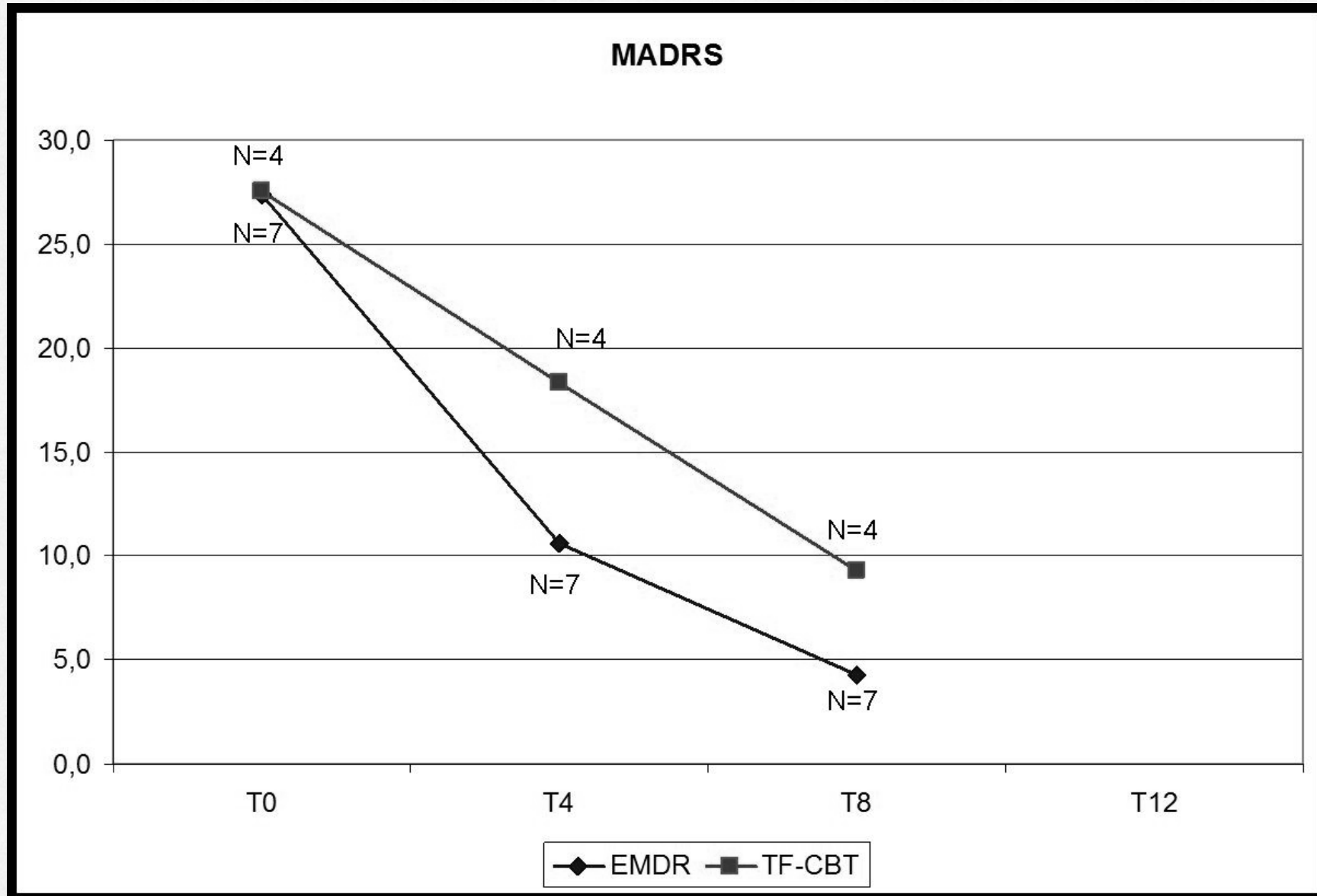
Preliminary results

Characteristics	EMDR group (N=7)	TF-CBT group (N=4)
Age (years), mean (SD)	54.0 (12.3)	56.0 (8.8)
Gender (%F)	100	100
Education (years), mean (SD)	12.7 (4.1)	10.0 (2.4)
% of smokers	30	0
Age of onset (years), mean (SD)	32.3 (12.9)	41.0 (19.0)
% of recurrent MDD	100	100
% of severe vs. moderate MDD	100	100
% of presence of psychotic symptoms	0	50
% comorbidity with personality disorders	70.0	50.0
% comorbidity with anxiety disorders	60.0	80.0
% comorbidity with alcohol abuse	0.0	0.0
% PTSD	30	30
% of psychiatric disorders among the first-degree relatives	90	100

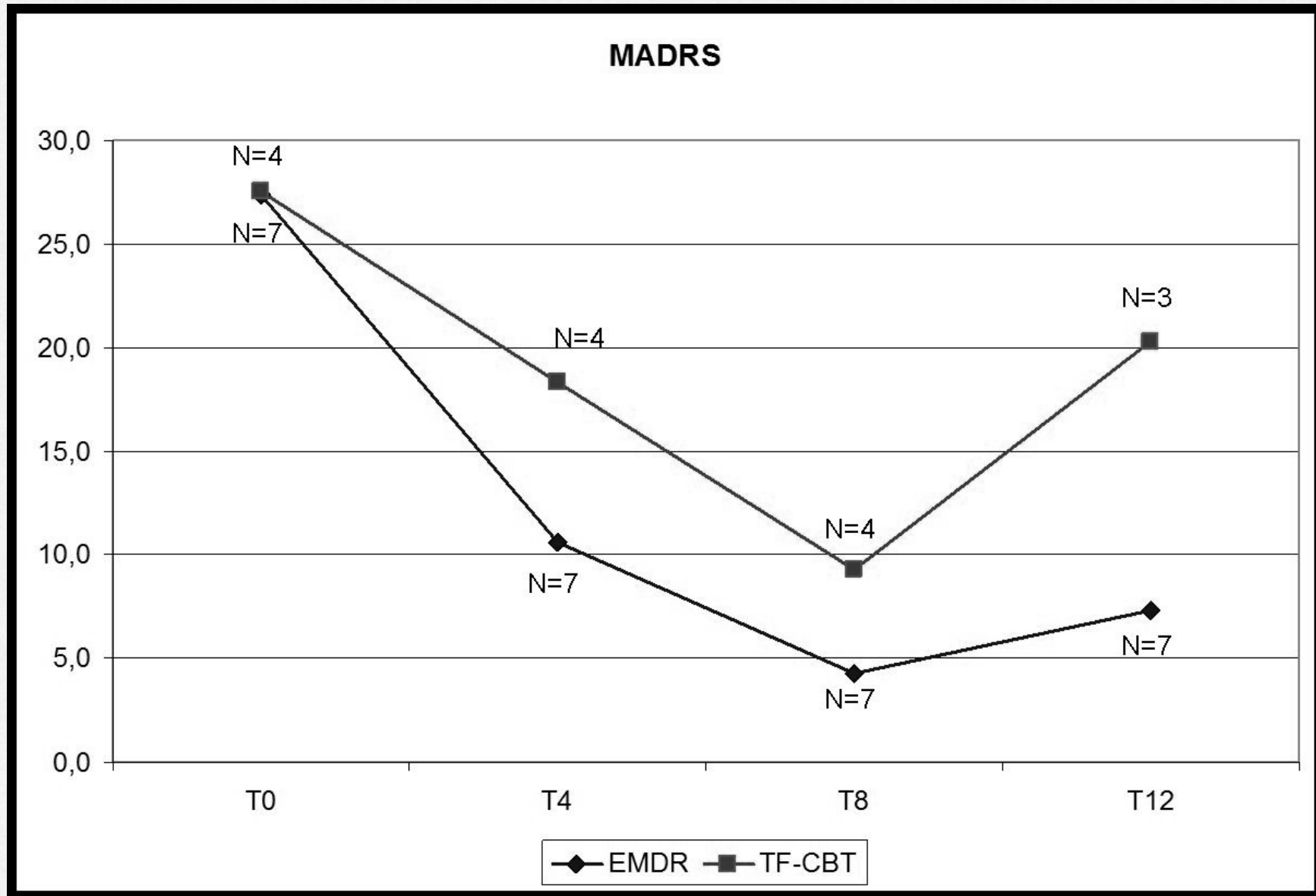
Preliminary results

Characteristics	EMDR group (N=7)	TF-CBT group (N=4)
Trauma CECA-Q: %Mother antipathy (hostility, coldness..)	60	100
Trauma CECA-Q: %Father antipathy (hostility, coldness..)	40	80
Trauma CECA-Q: %Mother neglect	40	30
Trauma CECA-Q: %Father neglect	70	80
Trauma CECA-Q: %Physical abuse mother	10	80
Trauma CECA-Q: %Physical abuse father	30	30
Trauma CECA-Q: %Sexual abuse	60	50
N° of childhood stressful life events, mean (SD)	3.1 (1.8)	2.8 (1.5)
N° of adult stressful life events, mean (SD)	4.4 (0.8)	6.0 (1.4)

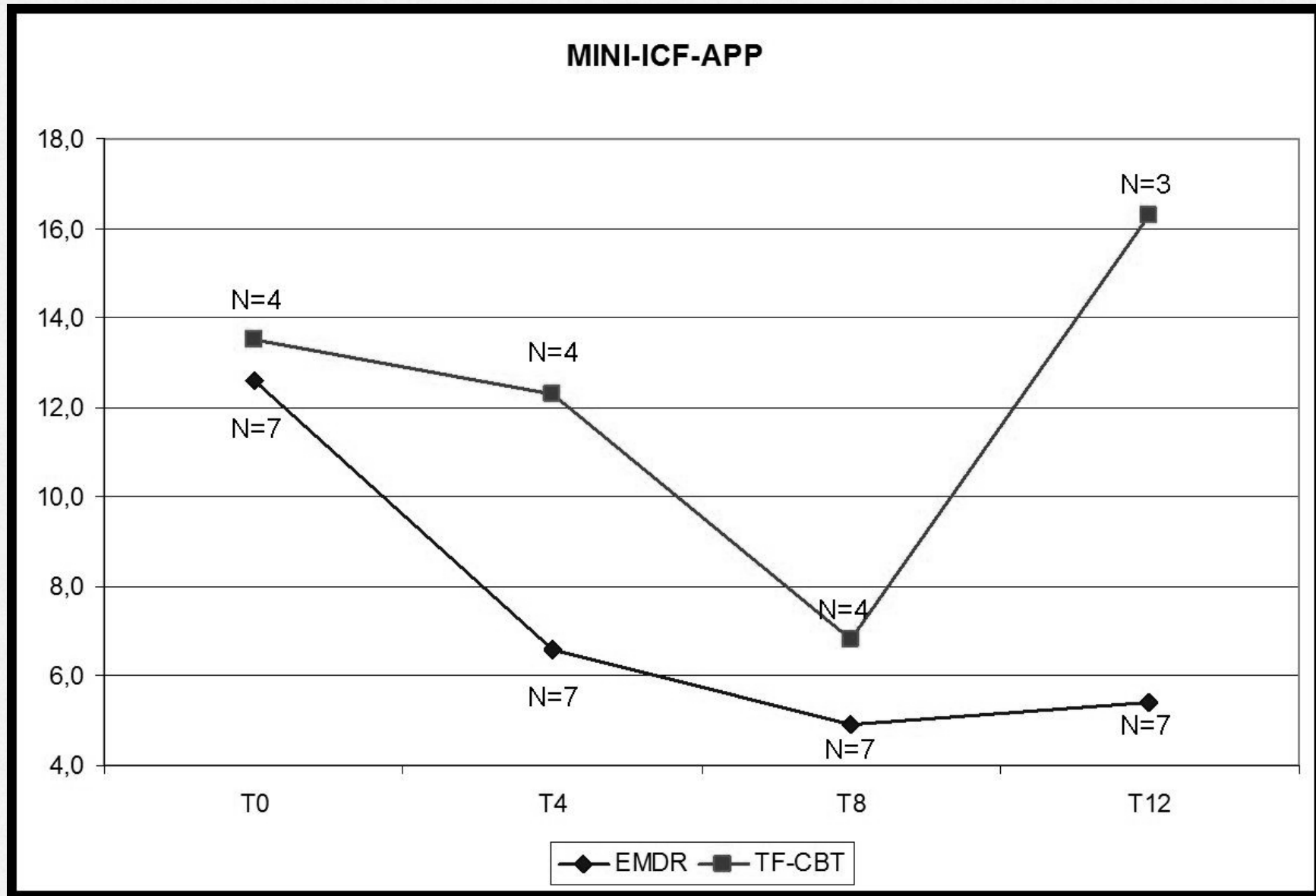
Preliminary results



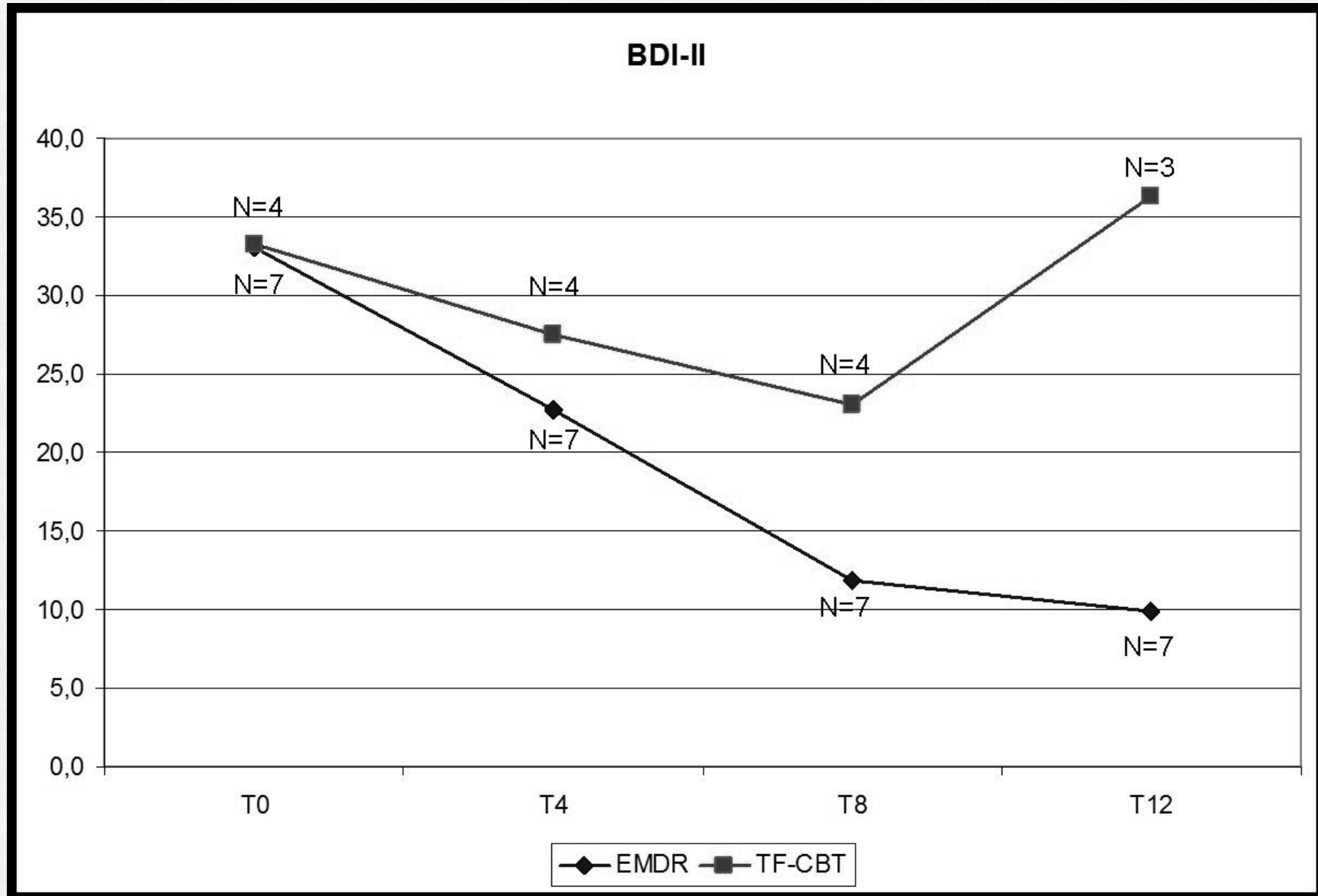
Preliminary results



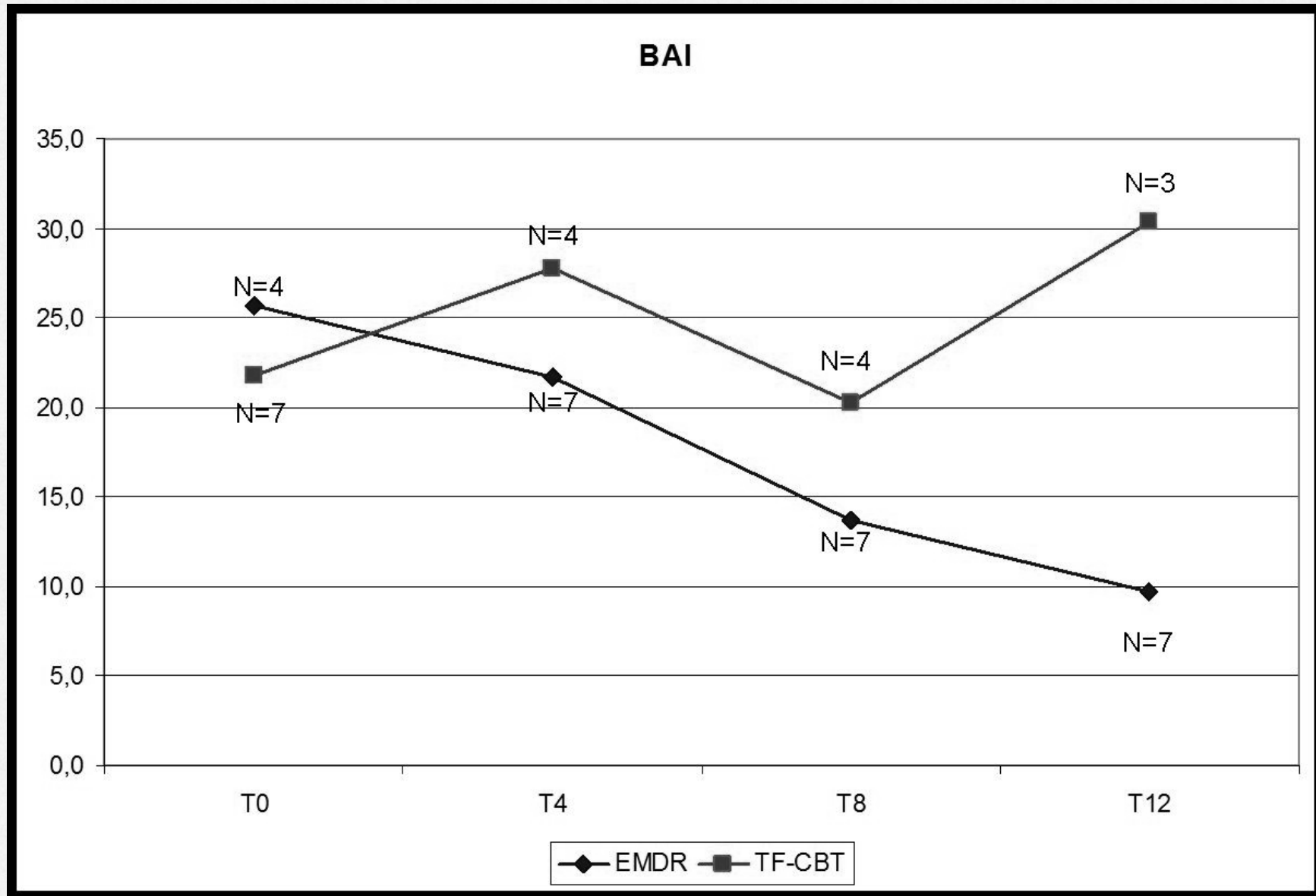
Preliminary results



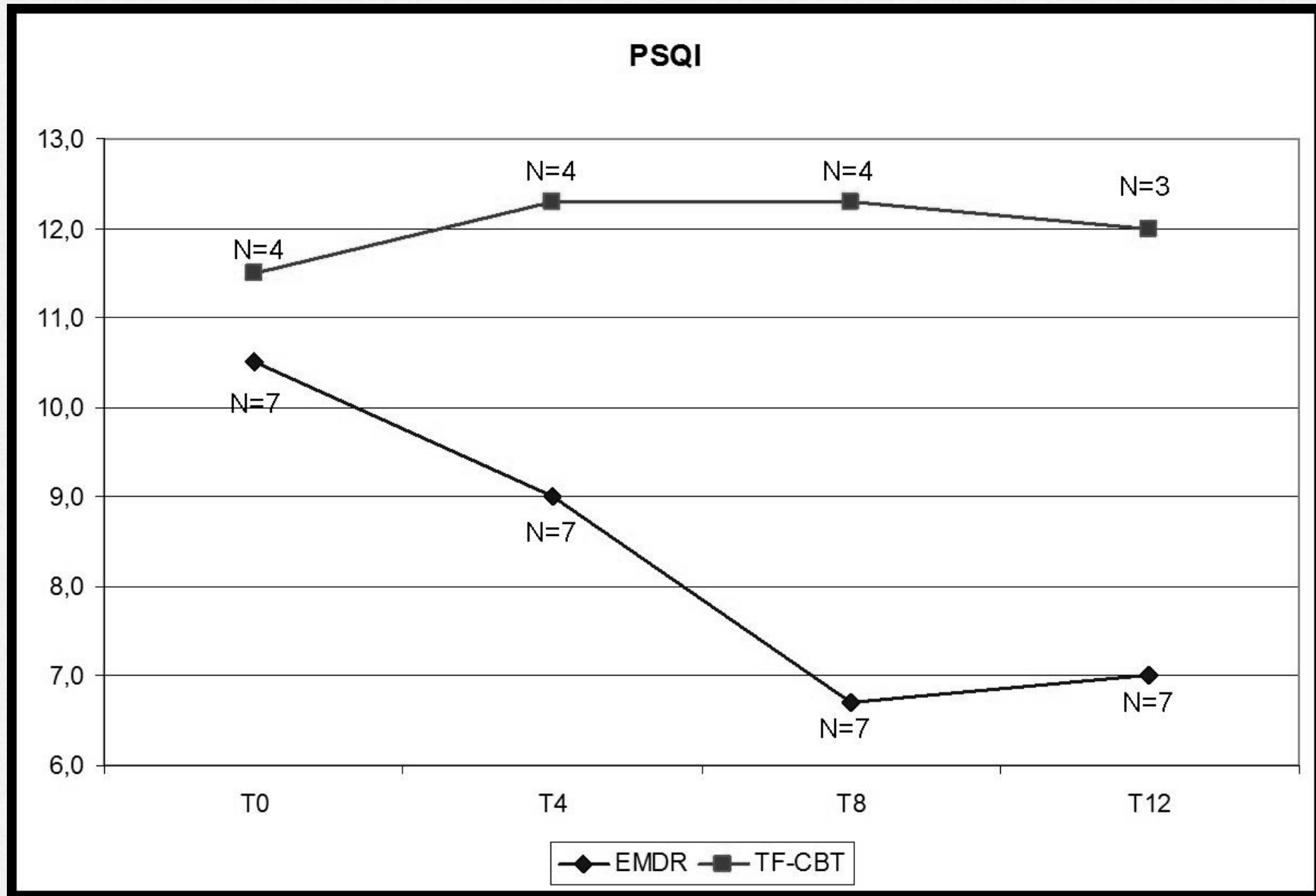
Preliminary results



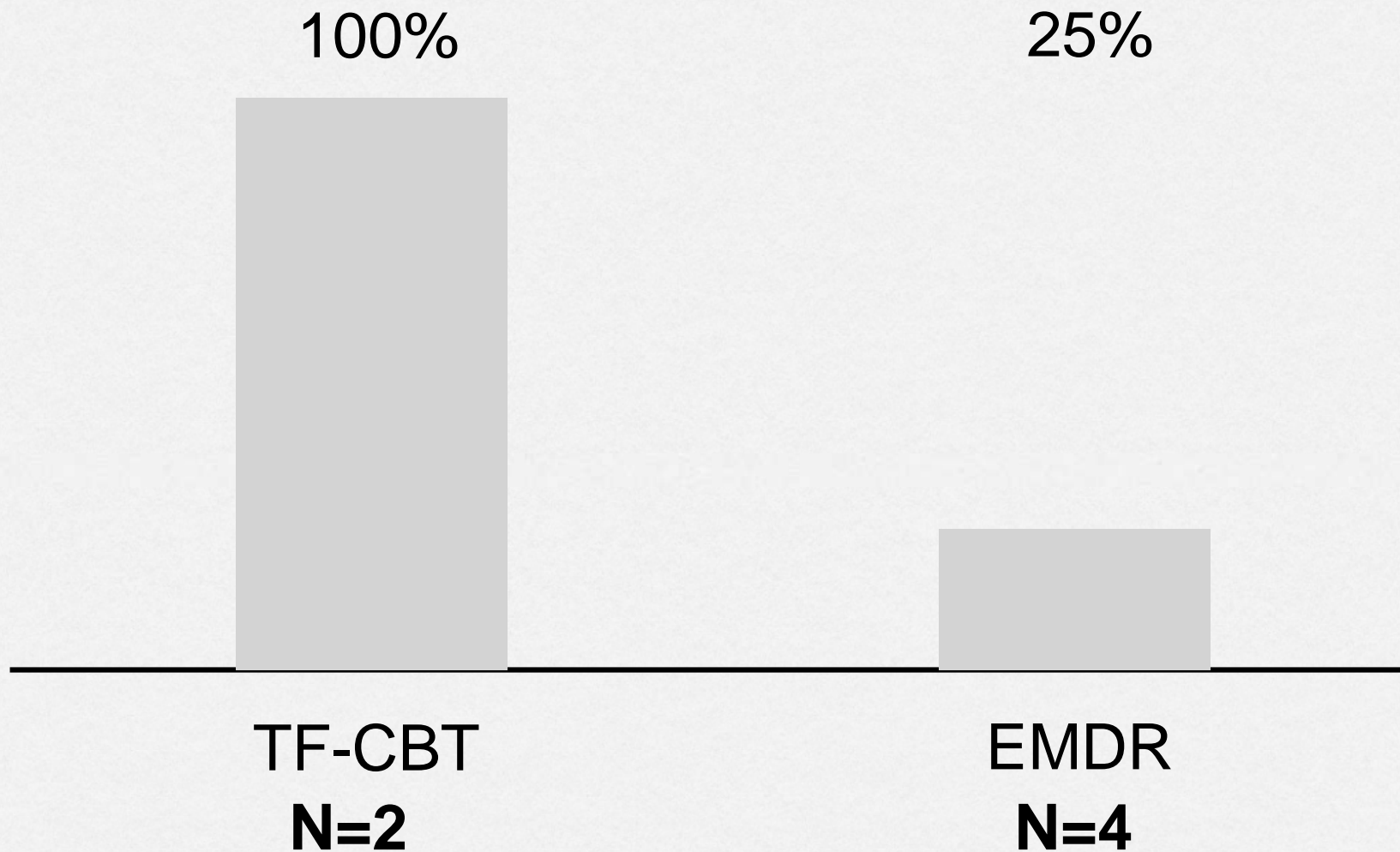
Preliminary results



Preliminary results



Preliminary results: Relapse



EMDR MAIN EFFECT

— io zomo cambalo moeljo

**I'm really changed
(I'm not the same person anymore)**

**Ik ben echt veranderd
(Ik ben niet meer zoals ik vroeger was)**



acknowledgement

- Department of Molecular and Translational Medicine, University of Brescia. Prof. Massimo Gennarelli & collaborators
- Psychiatric hospital “Villa Santa Chiara”, Verona. Dott. Marco Bortolomasi & staff
- EMDR Europe Research Grants



Contact for questions and collaborations

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