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**Trauma resurgence and impact on a dementia process.
Detection and treatment.**

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PTSD in the elderly

- ✓ Post Traumatic Stress Disorder (PTSD) is an anxiety disorder.
- ✓ It can remain silent for years and can be reactivated after years as **delayed PTSD**.
Dallam, D. L., *et al.* (2011).
- ✓ Delayed PTSD would be the most common and characteristic in the elderly.
Charles, E., *et al.* (2005).
- ✓ 20 % of those who experienced wars might have a PTSD.
Walser, R., *et al.* (2012).
- ✓ Significant life changes, such as entry in a nursing home, could result in a delayed PTSD.
Schnurr, P. P., *et al.* (2005).

Links between PTSD and dementia

- ✓ Relationships seem to exist between PTSD and dementia.

Dallam, D. L., *et al.* (2011).

=> PTSD could constitute a risk factor for developing dementia.

For example : veterans with PTSD are twice as likely to develop dementia.

Yaffe, K. (2010).

- ✓ PTSD and Alzheimer's Disease (AD) are associated with cognitive disorders : attention and memory systems.

Roncone, R., *et al.* (2013).

- ✓ There is an implication of identical brain structures such as the **hippocampus**.

Samuelson, K. W. (2011).

Links between PTSD and episodic memory

- ✓ The episodic memory is linked to hippocampal structures.
- ✓ The episodic memory is the first memory system affected AD.
- ✓ The episodic memory is also affected by PTSD.



Stress treatment can improve memory.

Spedding, M., & Lestage, P. (2005).

Objectives

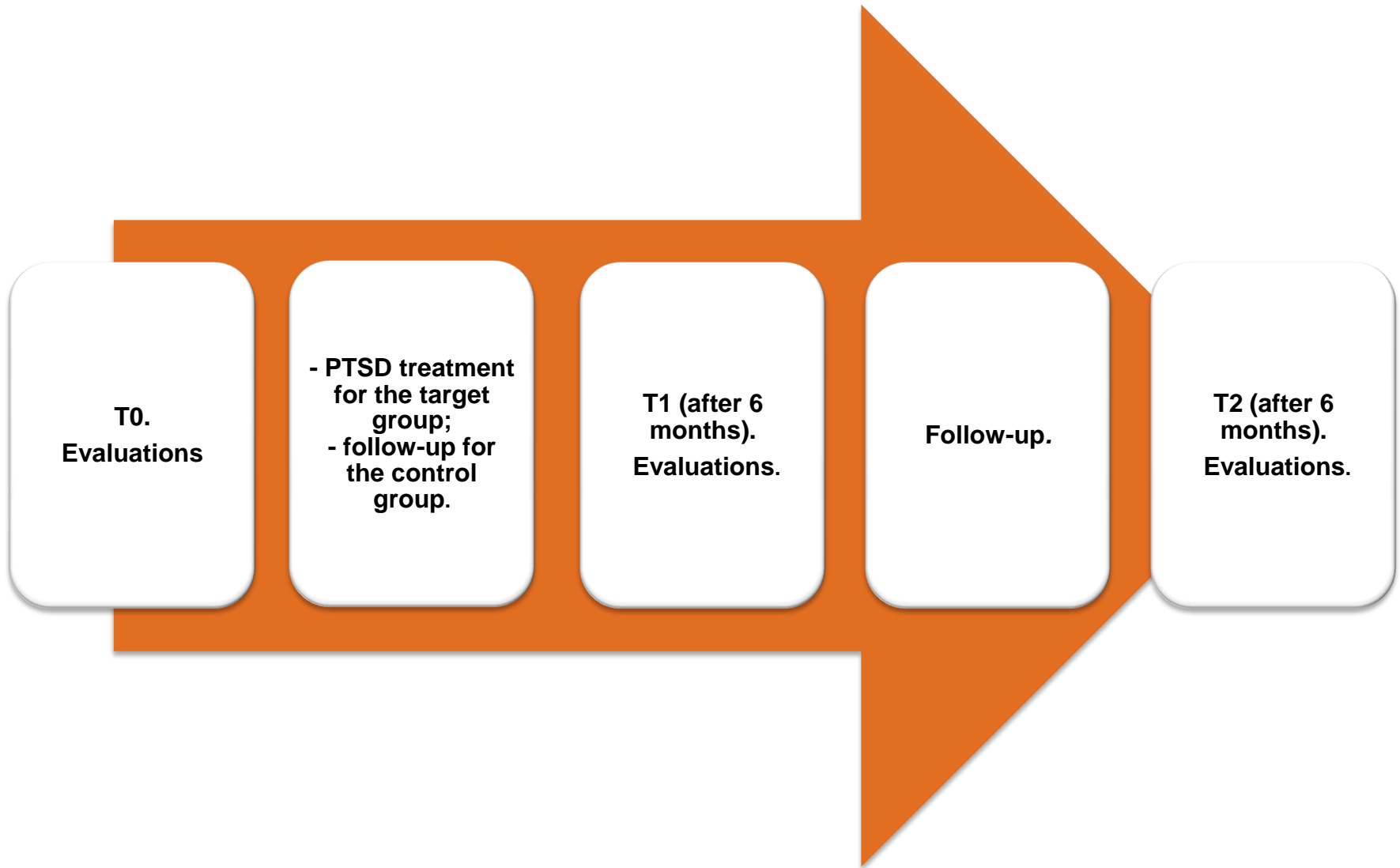
No longitudinal study seems to exist about the impact of delayed PTSD on the evolution of Alzheimer's disease (AD).



Our objective is to check if a specific treatment of a resurgent PTSD can improve the evolution of AD.

- ✓ A longitudinal study (3 years).
- ✓ 3 nursing homes.
- ✓ A target population (n=20) with AD and PTSD
A control population (n=20) with AD but no PTSD.
- ✓ Repeated quantitative and qualitative measures for the two populations (MMSE, ADAS-Cog, MIS-D, TEMPau, ADRQL).
- ✓ The measures target the episodic memory as an indicator of the AD's seriousness.

Process



PTSD treatment

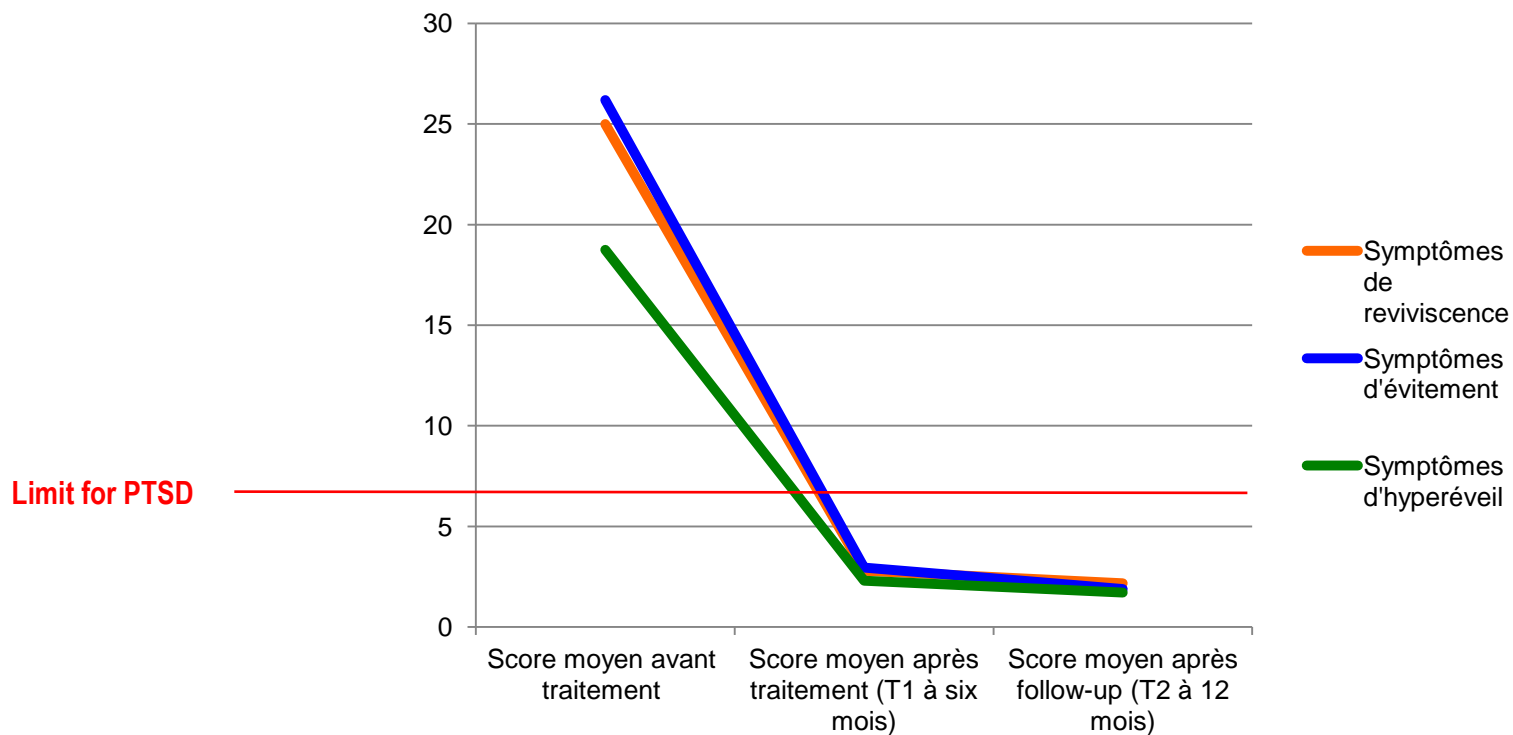
PTSD treatment with Cognitive behavioral therapy (CBT) for subjects with PTSD :

- ✓ **20 therapy sessions**
- ✓ **written guide for therapy.**

Session	Objectives
1	Therapeutic alliance
2 à 4	Relaxation learning
5 à 8	Life review
9	Hierarchical list
10 à 15	Exposition
16	Evaluation
17 à 19	Cognitive restructuring
20	Evaluation.

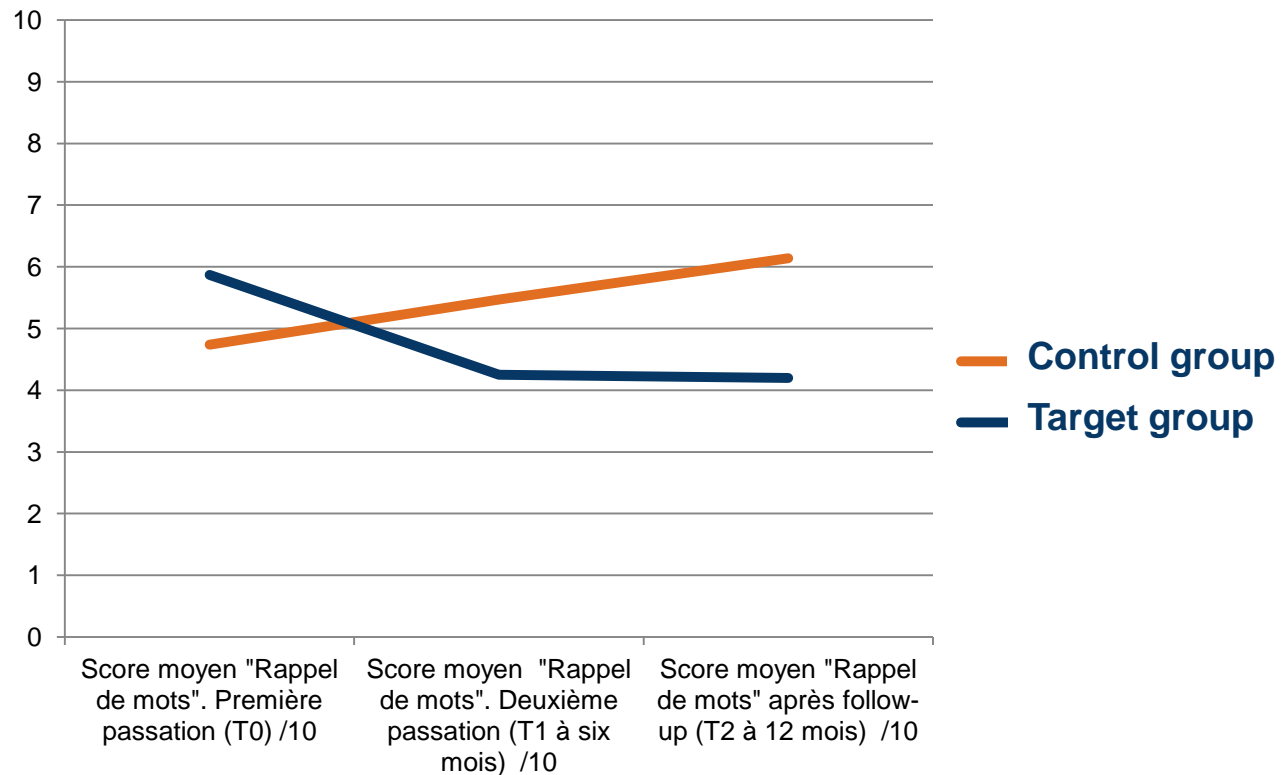
First results for PTSD treatment

- ✓ The main cause of delayed PTSD is war (X8), then death (of spouse X6), disease/medical error (X3) and natural disaster (X2) .
- ✓ After treatment (20 therapy sessions with CBT), disappearance of PTSD symptoms ($p < 0.01$).



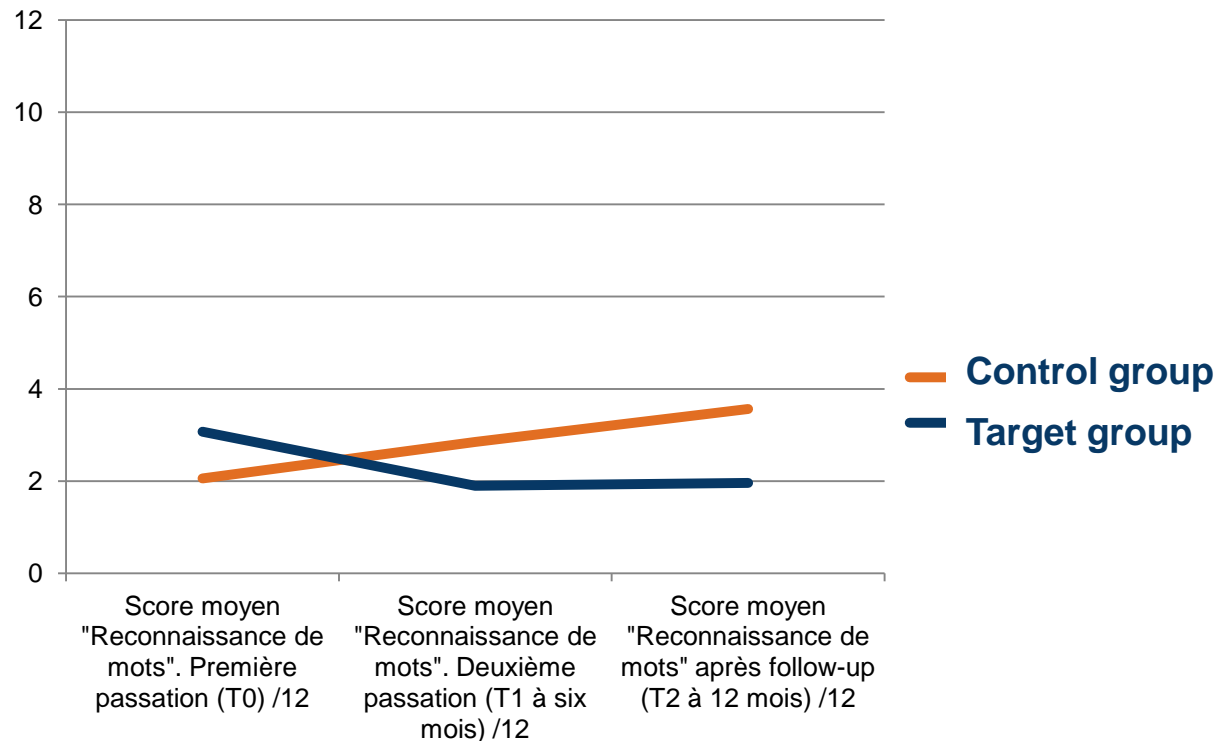
Results for verbal episodic memory (1/4)

- ✓ For the target group, the average number of **errors in words recall** decreases by 1.67 ($p<0.01$).
- ✓ For the control group, the average number of **errors in words recall** increases by 1.40 ($p=0.05$).



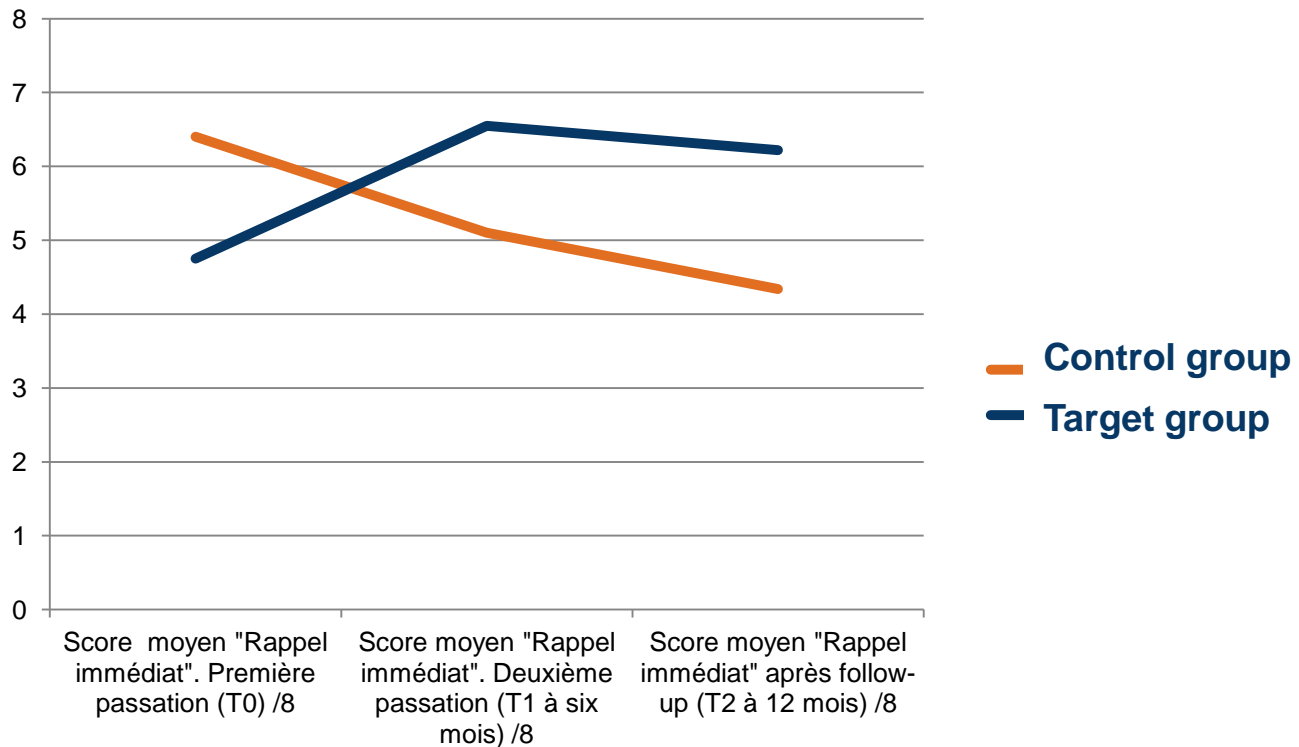
Results for verbal episodic memory (2/4)

- ✓ For the target group, the average number of **false recognitions** decreases by 1.17 ($p < 0.01$).
- ✓ For the control group, the average number of **false recognitions** increases by 1.50 ($p < 0.01$).



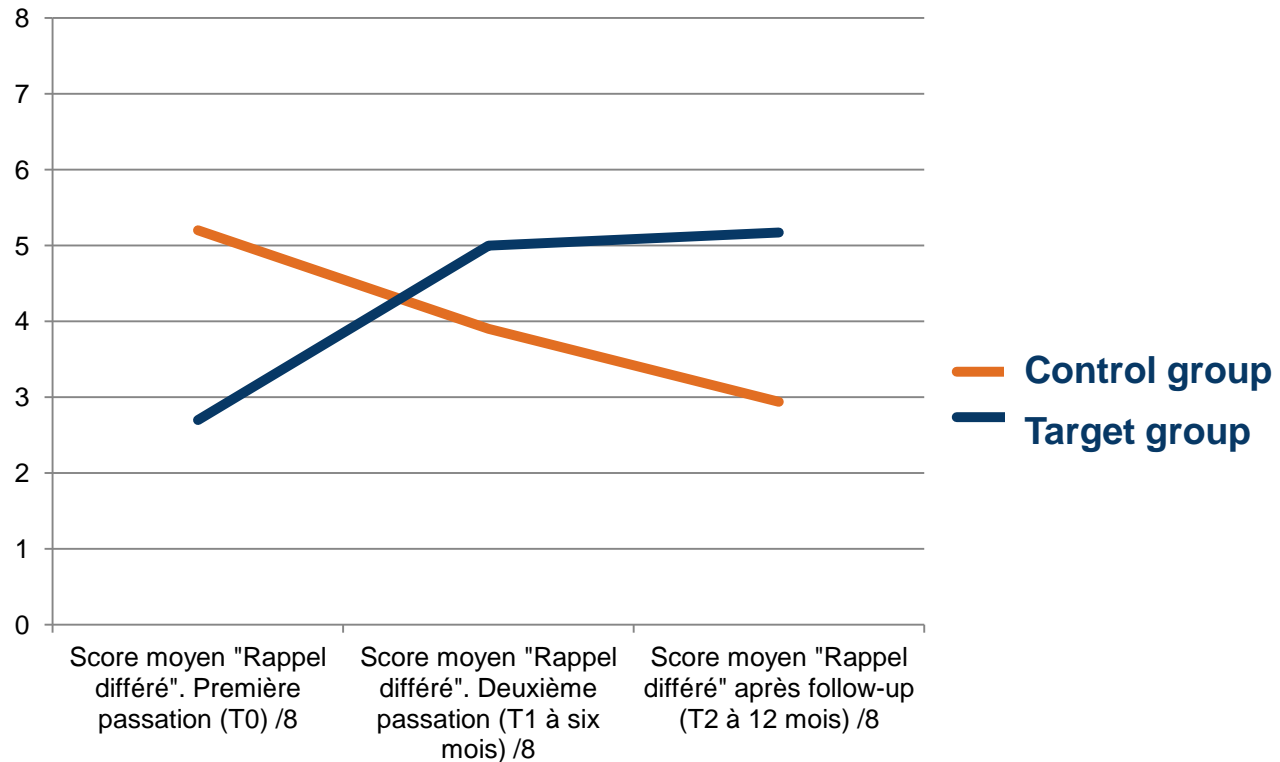
Results for verbal episodic memory (3/4)

- ✓ For the target group, the average score in **immediate recall** increases by 1.47 ($p < 0.01$).
- ✓ For the control group, the average score in **immediate recall** decreases by 2.07 ($p < 0.01$).



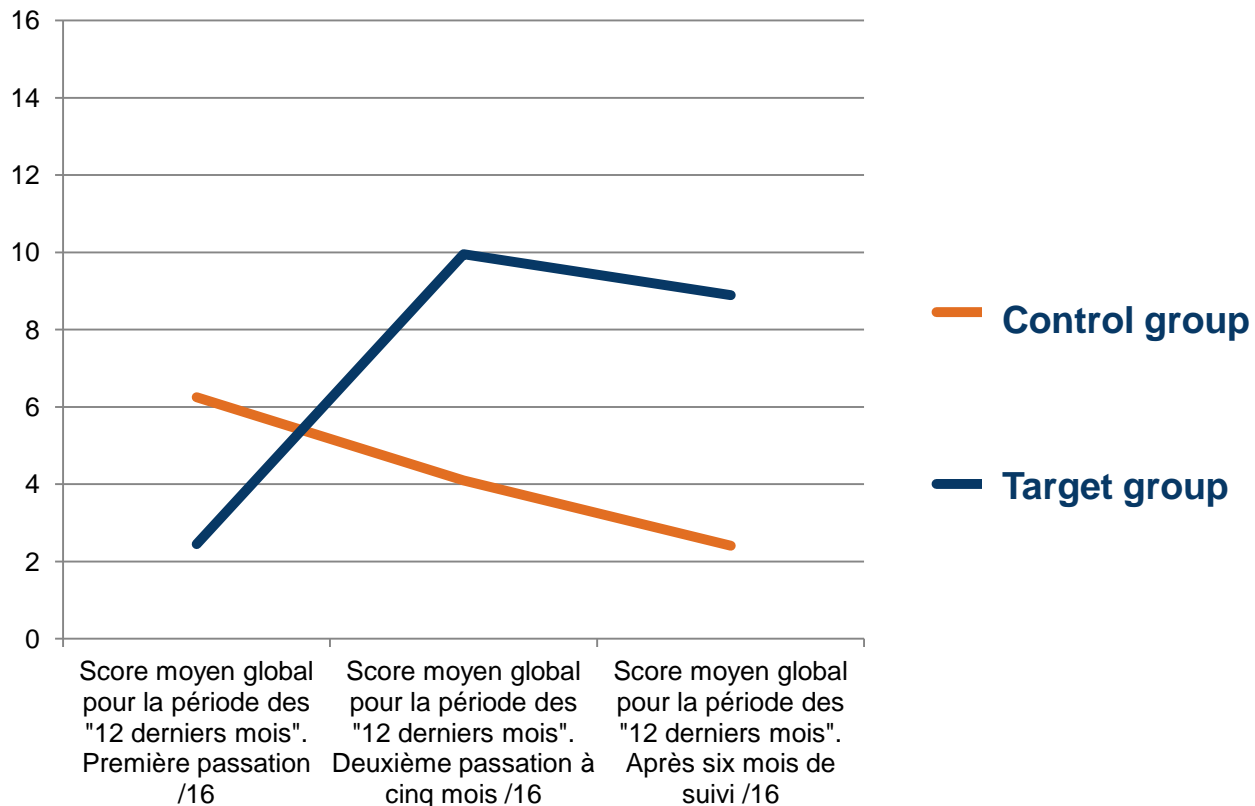
Results for verbal episodic memory (4/4)

- ✓ For the target group, the average score in **delayed recall** increases by 2.47 ($p < 0.01$).
- ✓ For the control group, the average score in **delayed recall** decreases by 2.26 ($p < 0.01$).



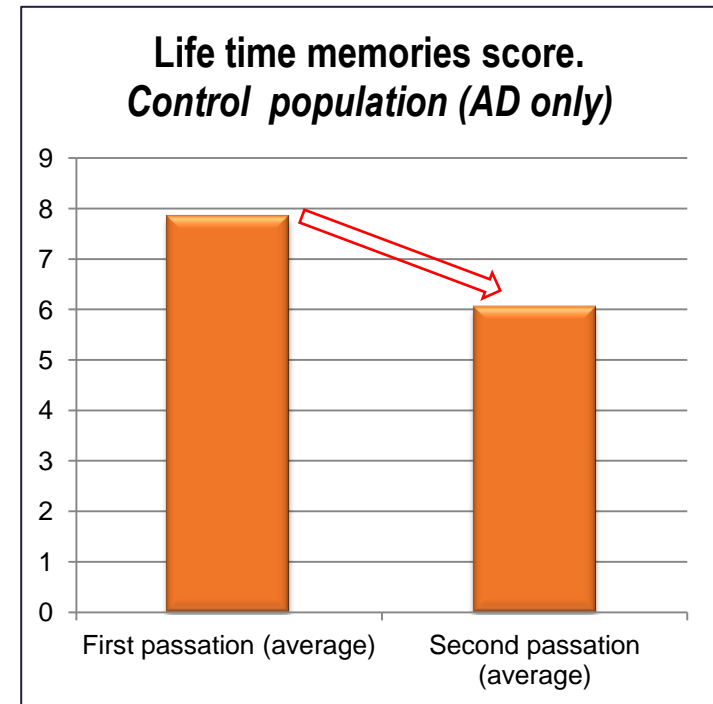
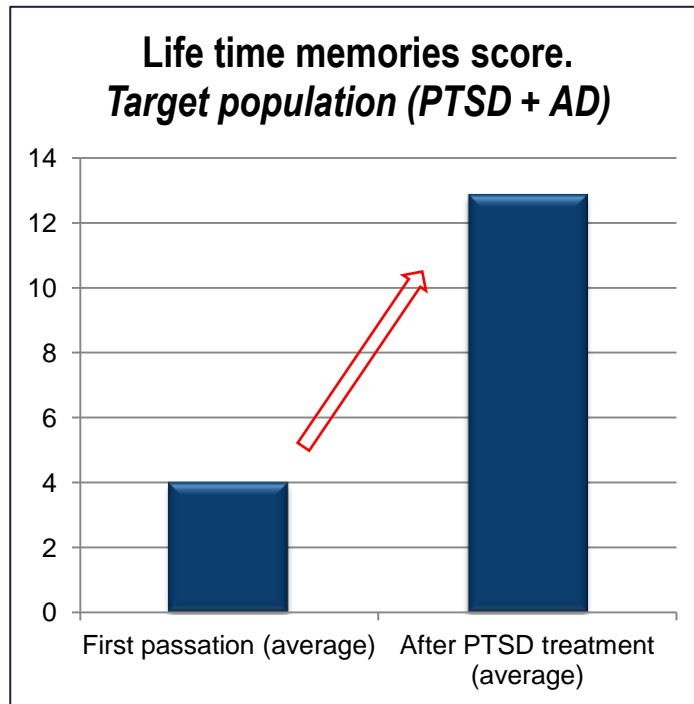
Results for autobiographical episodic memory (1/2)

- ✓ For the target group, the average number of **recent memories** increases by 6.44 ($p < 0.01$).
- ✓ For the control group, the average number of **recent memories** decreases by 3.84 ($p < 0.01$).



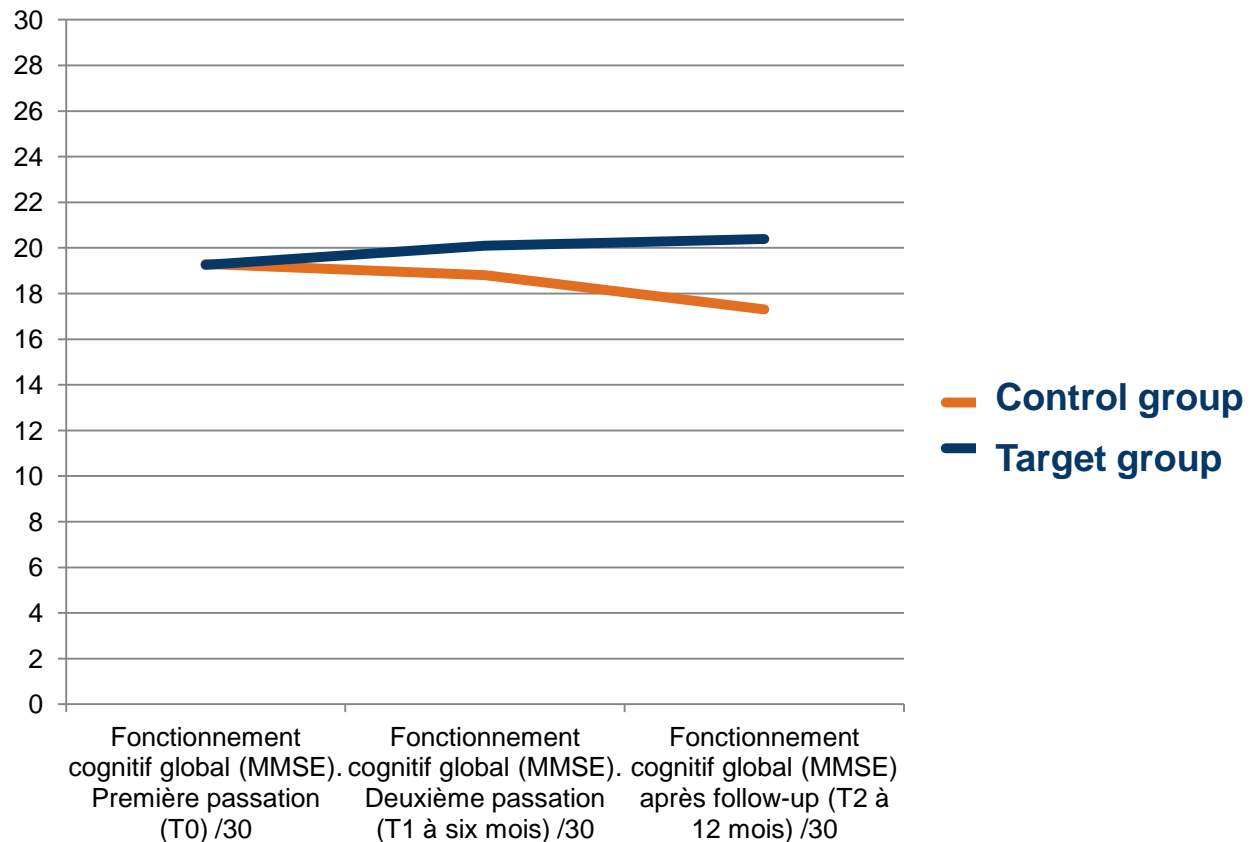
Results for autobiographical episodic memory (2/2)

- ✓ For the target group, the average number of **life time memories** increases by 8.84 ($p < 0.01$).
- ✓ For the control group, the average number of **life time memories** decreases by 1.8 ($p < 0.01$).



Results for dementia (stage)

- ✓ For the target group, the average MMSE score increases by 1.14 ($p<0.01$).
- ✓ For the control group, the average MMSE score decreases by 2.0 ($p<0.01$).



Conclusion

- ✓ For verbal episodic and autobiographical memory, the target population (AD + PTSD diagnosed and treated) shows a positive evolution in comparison to the control population (AD only).

- ✓ These results show that with a PTSD treatment, there may be an improvement of :
 - traumatic symptoms,
 - **but also memory disorders**
 - **and dementia evolution.**



These results show that it is relevant to detect and treat PTSD in the elderly with AD to limit cognitive decline.

No conflict of interest.

Thank you for your attention...