



EFPT Psychotherapy journal Club



1st session



WHODUNNIT?

20:00 Warm-up (round of introductions)

20:10 Presentation by Thomas Gargot

20:30 Discussion

Le 12/10/2017

OPEN

Molecular Psychiatry (2017) 00, 1–9

www.nature.com/mp

ORIGINAL ARTICLE

Preventing intrusive memories after trauma via a brief intervention involving Tetris computer game play in the emergency department: a proof-of-concept randomized controlled trial

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Former EFPT IT and Psychotherapy wg chair

https://commons.wikimedia.org/wiki/Car_accident#/media/File:Verkehrsunfall_L261_04.JPG



Post Traumatic Stress Disorder

- **A** : The person was exposed to: death injury, sexual violence,
- **B** : The traumatic event is persistently re-experienced, in the following way(s):
 - Unwanted upsetting memories, Nightmares, Flashbacks, Emotional distress after exposure to traumatic reminders, Physical reactivity after exposure to traumatic reminders
- **C** : Avoidance of trauma-related stimuli after the trauma
- **D** : Negative thoughts or feelings that began or worsened after the trauma
 - Inability to recall key features of the trauma, Overly negative thoughts and assumptions about oneself or the world, Exaggerated blame of self or others for causing the trauma, Negative affect, Decreased interest in activities, Feeling isolated, Difficulty experiencing positive affect
- **E** : Trauma-related arousal and reactivity that began or worsened after the trauma
- **F** : Symptoms last for more than 1 month.
- **G** : Symptoms create distress or functional impairment (e.g., social, occupational).
- **H** : Symptoms are not due to medication, substance use, or other illness.

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Treatment

- Poor efficacy of preventive treatments
- Or inaccessible
- Sometimes highly controversial and not recommended (debriefing BZD)



- After onset :
- Efficacy of CBT (exposure)
- And EMDR (but unknown mechanism with difficult evaluation specific from exposure)

Memory consolidation disruption

- **Anisomycin** (protein synthesis inhibitor)
effective in animals but toxic for humans
- **β-blocker propranolol** : evaluation in progress
- **ECT** : non accessible, non ethical

Target intrusive memory

- More flashes there are, more important is the risk of PTSD
- Plastic memory during few hours
- Competition/saturation of visuo-spatial system during memorisation phase
- No efficacy of harmful effect of verbal task

- 71 patients (37 women), m = 40 years
 - Presenting in emergency department in Oxford, UK
 - March 2014 and January 2015.
-
- **Inclusion criteria:**
 - Age \geq 18 y.o,
 - Witnessed or experienced a motor vehicle accident
 - **6h** post accident
 - Remember the accident
 - Speak English
 - Alert and oriented
 - Physically able to play Tetris

- **Exclusion criteria**
 - Loss of consciousness during ≥ 45 min
 - History of severe mental illness, current intoxication, substance abuse or neurological condition or currently suicidal

Baseline

- Traumatic event
- Severity of physical injury
- Perceived life threat during accident
- Received treatment
- Personal, Familial History and History of visits in emergency department
- Peritraumatic Distress Inventory (PDI)
- Peritraumatic Dissociative Experience (PDE)

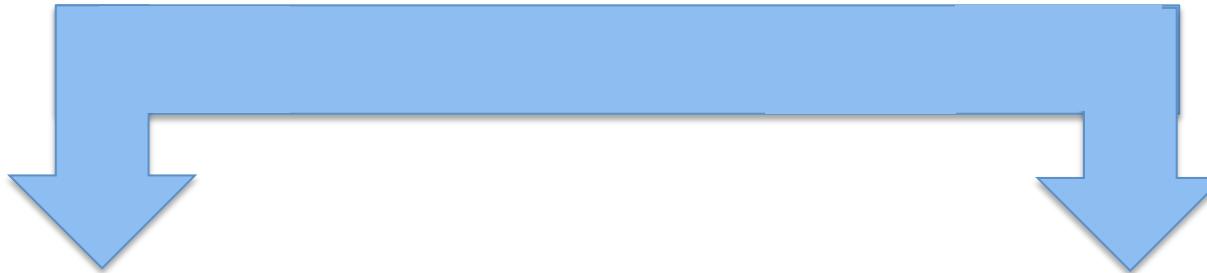
	<i>Mean</i>	<i>S.d.</i>	<i>Mean</i>	<i>S.d.</i>	
<i>Traumatic event</i>					
DSM-IV PTSD criterion A1	37	100	34	100	
Experienced event	37	100	34	100	
Witnessed event	0	0	0	0	
Brought in by ambulance	29	78.4	25	73.5	
Type of motor vehicle accident					
Car/van/bus driver	19	51.4	13	38.2	
Car/van passenger	0	0	4	11.8	
Motorcyclist	6	16.2	5	14.7	
Cyclist	12	32.4	8	23.5	
Pedestrian	0	0	4	11.8	
Perceived life threat to self (score > 0)	31	83.8	31	91.2	
Perceived life threat to other (score > 0)	16	43.2	19	55.9	

	<i>Mean</i>	<i>S.d.</i>	<i>Mean</i>	<i>S.d.</i>
	n	%	n	%
Perceived life threat to self	5.19	3.20	5.56	3.23
Perceived life threat to someone else	2.22	3.25	3.56	3.99
Time since traumatic event (min)	192	69	211	67
Injury Severity Score	1.46	2.34	1.97	2.10
PDEQ score	19.86	8.02	19.18	8.40
PDI score	18.70	10.36	16.59	10.34
<i>Treatment in emergency department</i>				
Location in emergency department				
Resuscitation	8	21.6	6	17.6
Majors	11	27.9	15	44.1
Minors/other	18	48.6	13	38.2
Admitted as in-patient	10	27.0	10	29.4
Received opiate medication	8	21.6	9	26.5

<i>Sample characteristics</i>	<i>Intervention</i> (n = 37)		<i>Control</i> (n = 34)	
	<i>Mean</i>	<i>S.d.</i>	<i>Mean</i>	<i>S.d.</i>
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
<i>History of trauma and mental illness</i>				
Prior psychological trauma	28	77.8	24	70.6
Current/past mental illness	6	16.2	6	17.6
Family history of mental illness	10	27.8	7	20.6
Number of previous emergency department attendances in last year				
0	31	83.8	26	76.5
1–4	6	16.2	8	23.5

Abbreviations: DSM-IV, Diagnostic and Statistical Manual of Mental Disorders, 4th Edition; PDEQ, Peritraumatic Dissociative Experiences Questionnaire; PDI, Peritraumatic Distress Inventory; PTSD, post-traumatic stress disorder.

Car accident



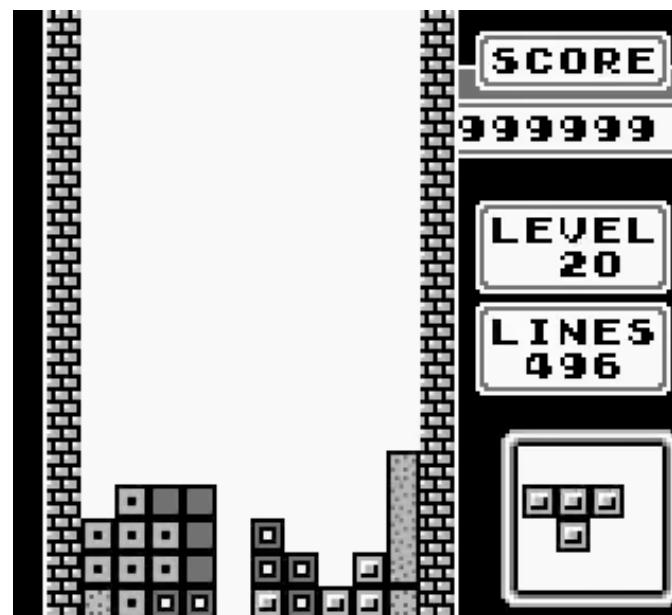
~3h

What is the worse moment
that come back in your mind ?



Activity

agenda : What
did you do in 20 min
the emergency
department ?



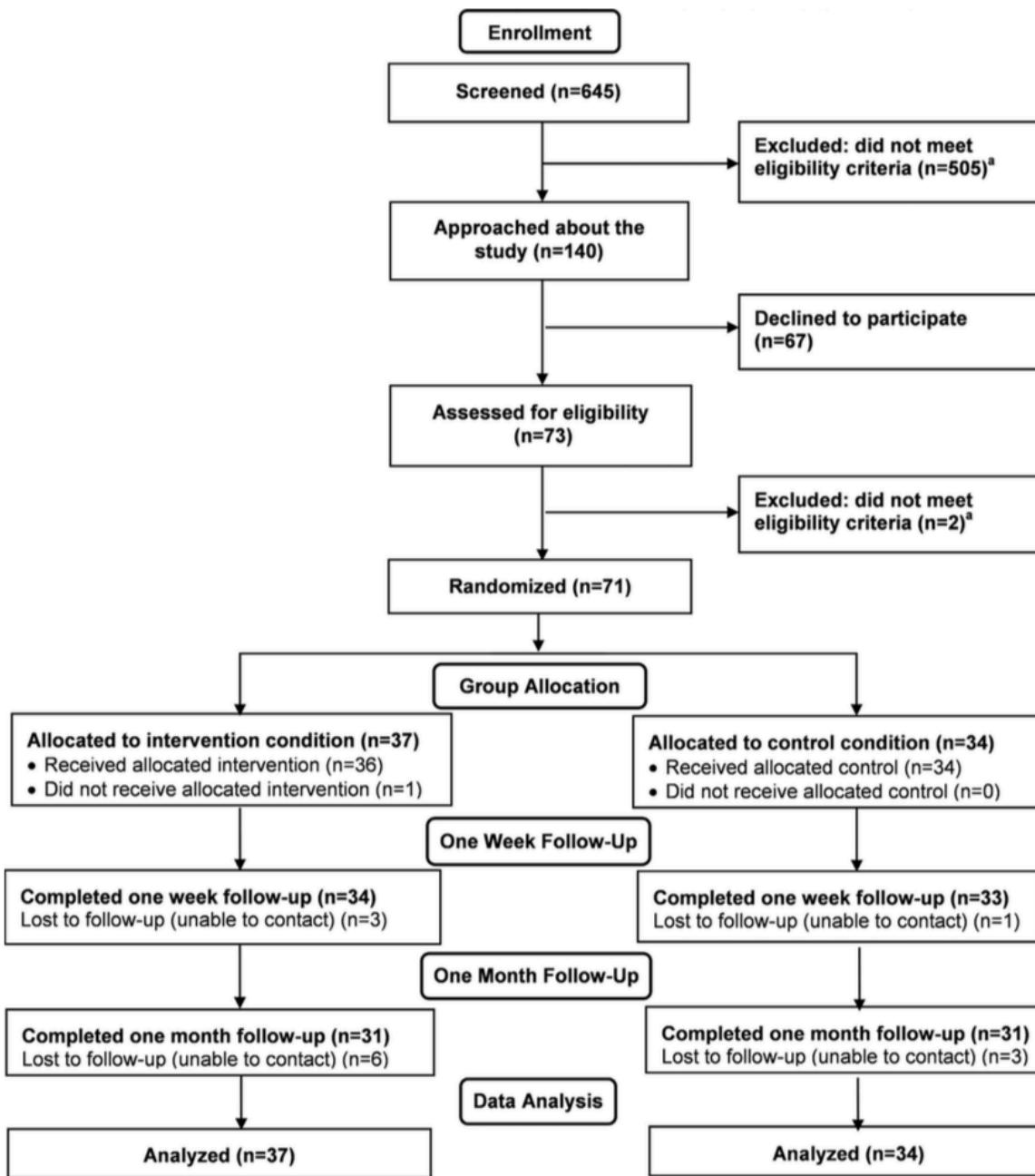
20 min
With 10 min
uninterrupted

Primary outcome

- Number of intrusive memories in the week after the trauma (agenda)
- « image-based memories of the accident that pop-up into your mind's eye, for example, like a snapshot image or a film clip»
- J0 à J7. Daily reminders via SMS

Methodology

- Power of 80 % with a sample of 66 subjects
- Intent to Treat Analysis
- Open access code and data : osf.io



CONSORT participant flow diagram for the trial.

Accessibility of the treatment

- Accessible
- Accepted by the staff : 1 interruption
- No side effects recorded
- Women 60 years, « really fun »
- Helps to think to something else instead of ruminations
- 50 % of approached patients accepted to participate

- After one week
 - Fewer intrusive memories (8,73) than in the control group (23,26) $p=0.005$, medium effect size
 - Less distress from intrusion
- PDS symptoms consistent with PTSD: 4 vs 3 PTSD

*Continuous outcome**Intervention*
(n = 37)*Control*
(n = 34)*Mean**S.d.**Mean**S.d.**Primary outcome, 1 week*

Number of intrusive memories of traumatic event

8.73

11.55

23.26

32.99

Secondary outcomes, 1 week

Impact of Event Scale—Revised

Intrusion subscale

7.27

5.27

10.70

7.29

Avoidance subscale

7.69

8.11

8.07

7.90

Hyperarousal subscale

5.26

5.79

6.98

7.42

Total

20.85

19.92

25.73

21.21

Post-traumatic Diagnostic Scale

11.38

8.55

14.28

11.94

Hospital Anxiety and Depression Scale

7.96

6.27

9.83

8.43

Secondary outcomes, 1 month

Impact of Event Scale—Revised

Intrusion subscale

5.21

5.09

7.01

6.90

Avoidance subscale

4.80

6.21

4.87

6.64

Hyperarousal subscale

4.29

6.47

5.28

6.45

Total

14.47

15.09

17.32

20.39

PDS

9.54

9.20

10.21

11.26

Hospital Anxiety and Depression Scale

7.44

7.20

8.12

8.20

*Categorical outcome, 1 month**n**%**n**%*

PDS symptoms consistent with PTSD criteria

4

12.9

3

9.7

Abbreviations: CI, confidence interval; OR, odds ratio; PDS, Post-traumatic Diagnostic Scale; PTSD, post-traumatic stress disorder.

^bLogistic regression, d.f. = 1.

Continuous outcome	Intervention (n = 37)		Control (n = 34)		Analysis		
	Mean	S.d.	Mean	S.d.	t ^a	d	95% CI for d
<i>Primary outcome, 1 week</i>							
Number of intrusive memories of traumatic event	8.73	11.55	23.26	32.99	2.80**	0.67	0.18, 1.14
<i>Secondary outcomes, 1 week</i>							
Impact of Event Scale—Revised							
Intrusion subscale	7.27	5.27	10.70	7.29	2.25*	0.54	0.06, 1.01
Avoidance subscale	7.69	8.11	8.07	7.90	0.26	0.06	-0.41, 0.53
Hyperarousal subscale	5.26	5.79	6.98	7.42	0.96	0.23	-0.24, 0.70
Total	20.85	19.92	25.73	21.21	1.11	0.26	-0.21, 0.73
Post-traumatic Diagnostic Scale	11.38	8.55	14.28	11.94	0.83	0.20	-0.27, 0.67
Hospital Anxiety and Depression Scale	7.96	6.27	9.83	8.43	0.61	0.15	-0.32, 0.61
<i>Secondary outcomes, 1 month</i>							
Impact of Event Scale—Revised							
Intrusion subscale	5.21	5.09	7.01	6.90	0.93	0.22	-0.25, 0.69
Avoidance subscale	4.80	6.21	4.87	6.64	0.01	0.00	-0.47, 0.47
Hyperarousal subscale	4.29	6.47	5.28	6.45	0.59	0.14	-0.33, 0.61
Total	14.47	15.09	17.32	20.39	0.46	0.11	-0.36, 0.58
PDS	9.54	9.20	10.21	11.26	0.29	0.07	-0.40, 0.54
Hospital Anxiety and Depression Scale	7.44	7.20	8.12	8.20	0.18	0.04	-0.42, 0.51
<i>Categorical outcome, 1 month</i>							
PDS symptoms consistent with PTSD criteria	n	%	n	%	β ^b	OR	95% CI for OR
PDS symptoms consistent with PTSD criteria	4	12.9	3	9.7	0.34	1.4	0.28, 7.09

Abbreviations: CI, confidence interval; OR, odds ratio; PDS, Post-traumatic Diagnostic Scale; PTSD, post-traumatic stress disorder. *P < 0.05; **P < 0.01. ^ad.f. = 69.

^bLogistic regression, d.f. = 1.

- Visuo spatial : Candy Crush, drawing
- Not verbal : reading, crosswords
- Association of reminder and visuo-spatial demanding task
- Integrate research from cognitive science, neurobiology to developp new concepts in psychotherapy

Discussion

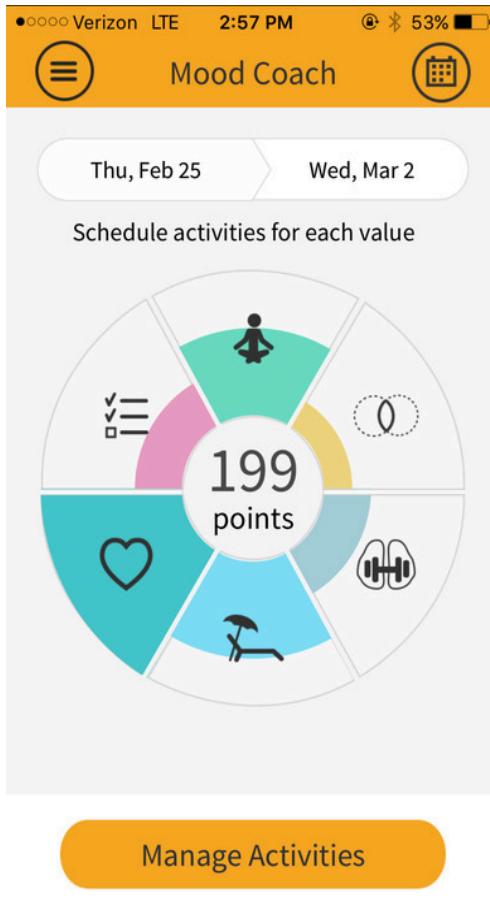
- Larger sample size to see efficacy to prevent PTSD
- Control association of both reminder and Tetris
- Place of associated pharmacotherapy, SSRI, Corticoïds, MDMA
- Difficult inclusion 50 %
- Repeated trauma : childhood (Liliana)
- After the research has already been done, would you change something in the design? (Irina)
- Do you think mobile application (easy to download worldwide) with Tetris game and each 10 minutes pop up instruction to go back to traumatic event intrusive memory could be of help in a situation of mass disasters? (Irina)
- Resilience (Liliana) ?
- Remider vs exposure ?
- Why this journal ?

SimSensei

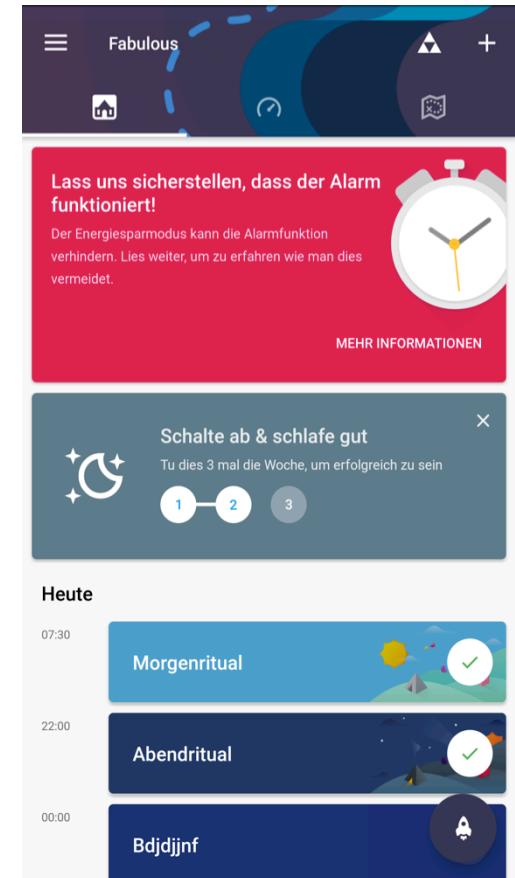


<https://www.youtube.com/watch?v=I2aBJ6LjzMw>

SmartPhone Assisted Behavioral Activation



Mood Coach



The Fabulous