

VIRTUAL REALITY EXPOSURE IN THE TREATMENT OF PANIC DISORDER AND AGORAPHOBIA: ONE-YEAR FOLLOW-UP

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PANIC DISORDER AND AGORAPHOBIA (DSM-IV, APA, 1994)

PANIC ATTACKS

A discrete period of intense fear of discomfort, in which four (or more) of several symptoms developed abruptly and reached a peak within 10 minutes.

AGORAPHOBIA

Anxiety about being in places or situations from which escape might be difficult or in which help may not be available in the event of having a panic attack or panic-like symptoms

PANIC DISORDER
WITHOUT
AGORAPHOBIA

PANIC DISORDER
WITH
AGORAPHOBIA

AGORAPHOBIA
WITHOUT HISTORY OF
PANIC DISORDER

TREATMENT FOR PANIC DISORDER AND AGORAPHOBIA

**American National Institute of Health recommendation
(1991)**

COGNITIVE-BEHAVIORAL PROGRAMS:

EDUCATIONAL COMPONENT

COGNITIVE THERAPY

EXPOSURE: SITUATIONAL AND INTEROCEPTIVE

RELAXATION TECHNIQUES

RELAPSE PREVENTION

TREATMENT FOR PANIC DISORDER AND AGORAPHOBIA

**American National Institute of Health (1991) also
recommends that researchers develop:**

“treatments whose mode of delivery increases the
availability of these programs”

**TREATMENT OF PANIC
DISORDER AND AGORAPHOBIA
EMPIRICALLY VALID TREATMENTS**

*APA Task Force on Psychological Interventions
Guidelines, 1995*

AXIS I

Efficacy axis

internal validity

Barlow's PROGRAM

Barlow & Cerny, 1988;
Barlow & Craske, 1989, 1994

Clark's PROGRAM

Clark, 1989;
Salkovskis & Clark, 1991

AXIS II

Effectiveness axis

Clinical utility

Feasibility

Generalizability

Cost and benefit

**TREATMENT OF PANIC
DISORDER AND AGORAPHOBIA**

VIRTUAL REALITY

AXIS I: Efficacy

AXIS II: Effectiveness. Clinical utility

**Comparing
efficacy of VR exposure
with
in vivo exposure**

FEASIBILITY:

Acceptance
Less aversive

COSTS AND BENEFITS:

Control of the feared situations
Overlearning
Confidentiality
Exposure of many situations
at the consultation room
Situational + interoceptive exposure

TREATMENT OF PANIC DISORDER AND AGORAPHOBIA

VIRTUAL REALITY

AXIS I: Efficacy

WELL-ESTABLISHED SHORT-TERM EFFICACY IN SPECIFIC PHOBIAS

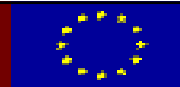
ESTABLISHED LONG-TERM EFFICACY IN SPECIFIC PHOBIAS

NEED OF CONTROLLED STUDIES:

SHORT TERM EFFICACY IN OTHER ANXIETY DISORDERS: PDA, PTSD

LONG-TERM EFFICACY

V FRAMEWORK PROGRAMME



VEPSY
UPDATED

EFFICACY AND EFFECTIVENESS
OF VRE FOR PDA

ONE YEAR FOLLOW-UP

DESIGN

- BETWEEN-SUBJECTS CLINICAL TRIAL
- 3 EXPERIMENTAL CONDITIONS
 - IN VIVO EXPOSURE
 - VIRTUAL EXPOSURE
 - WAITING LIST
- RANDOMLY ASSIGNED
- REPEATED MEASURES
 - PRE-TREATMENT ASSESSMENT (PRE)
 - POST-TREATMENT ASSESSMENT (POST)
 - ONE-YEAR FOLLOW-UP

PARTICIPANTS

N = 37

AGE	34.7 (12.31)
WOMEN	70,3%
EDUCATION	26,5% elementary 47% high school 26,5% university
PDA PD	82,9% 17,1%

ASSESSMENT: DIAGNOSIS

- SCREENING INTERVIEW
- ADIS-IV (PANIC/AGORAPHOBIA)
- INDEPENDENT ASSESSOR
- EXCLUSION CRITERIA
 - ALCOHOL/DRUG ABUSE
 - PSYCHOSIS
 - SEVERE PHYSICAL ILLNESS

ASSESSMENT: SELF-REPORT MEASURES

- FEAR AND AVOIDANCE SCALES (Marks & Mathews, 1979).
- PANIC DISORDER SEVERITY SCALE (PDSS, *Shear et al., 1992*)
- ANXIETY SENSITIVITY INDEX (ASI, *Reiss et al., 1986*)
- FEAR QUESTIONNAIRE: AGORAPHOBIA (Marks & Mathews, 1979).
- CLINICIAN GLOBAL IMPRESSION (Guy, 1976).

ASSESSMENT: SELF-REPORT MEASURES

- SATISFACTION WITH EXPOSURE (AXIS II):
 - Logic
 - Satisfaction
 - Recommendation to a friend
 - Useful for your problem
 - Aversiveness
 - Useful for other problems

TREATMENT

1st SESSION	EDUCATIONAL COMPONENT AND COGNITIVE RESTRUCTURING
2nd SESSION	COGNITIVE RESTRUCTURING AND SLOW BREATHING TRAINING
3rd-8th SESSION	IN VIVO EXPOSURE OR VIRTUAL EXPOSURE
9th SESSION	RELAPSE PREVENTION

VR ENVIRONMENTS



The room
The elevator



The bus
The train
The mall
The tunnel



INTEROCEPTIVE EXPOSURE

Palpitations

Shortness of breath

Tunnel vision

Blurred vision

Double vision



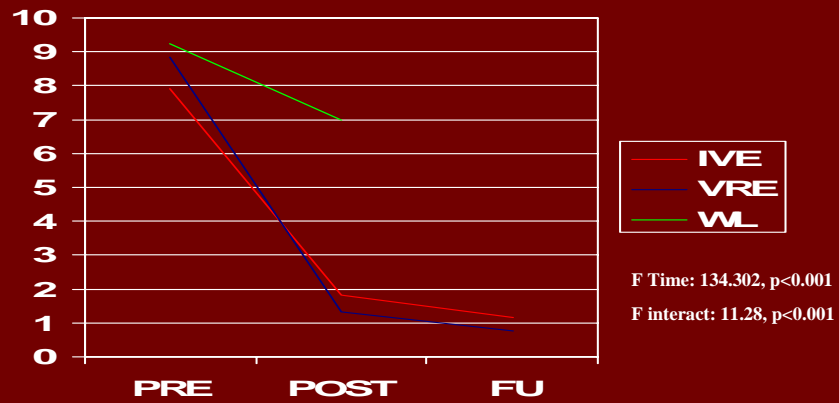
VR SCENARIOS

PRE-TREATMENT COMPARISONS

NO DIFFERENCES BETWEEN THE THREE
CONDITIONS IN ANY OF THE
DEMOGRAPHIC AND CLINICAL VARIABLES

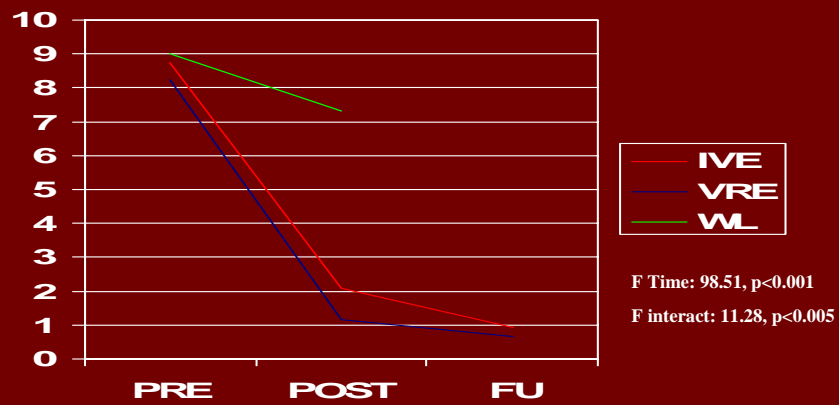
PRE-POST-FOLLOW-UP

TARGET BEHAVIOR: FEAR



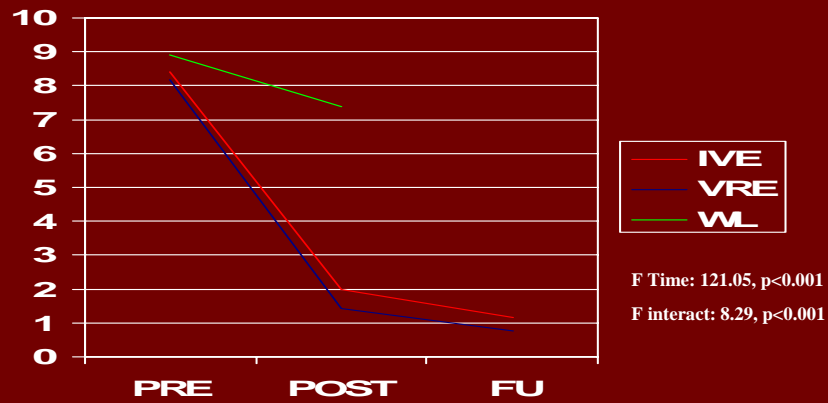
PRE-POST-FOLLOW-UP

TARGET BEHAVIOR: AVOIDANCE



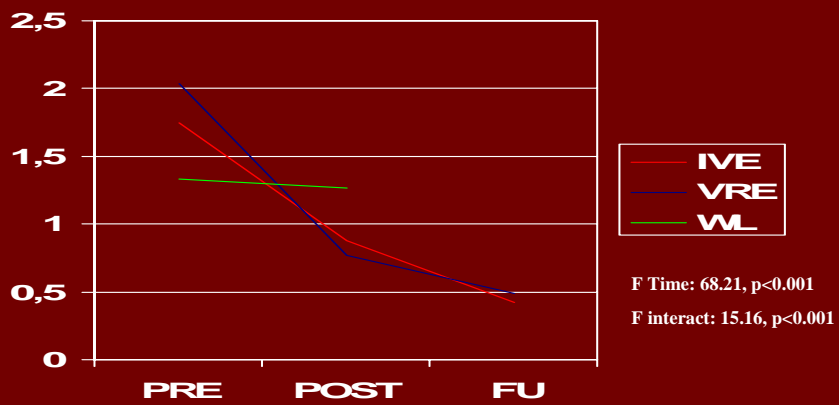
PRE-POST-FOLLOW-UP

TARGET BEHAVIOR: BELIEF CATASTROPHIC THOUGHTS



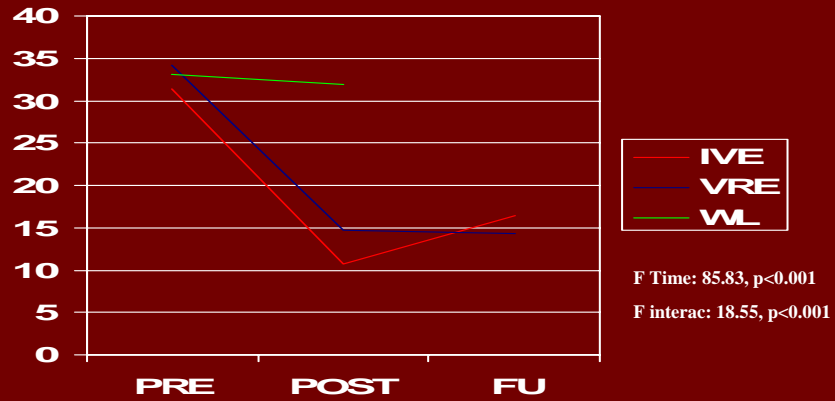
PRE-POST-FOLLOW-UP

SELF-REPORT: PDSS



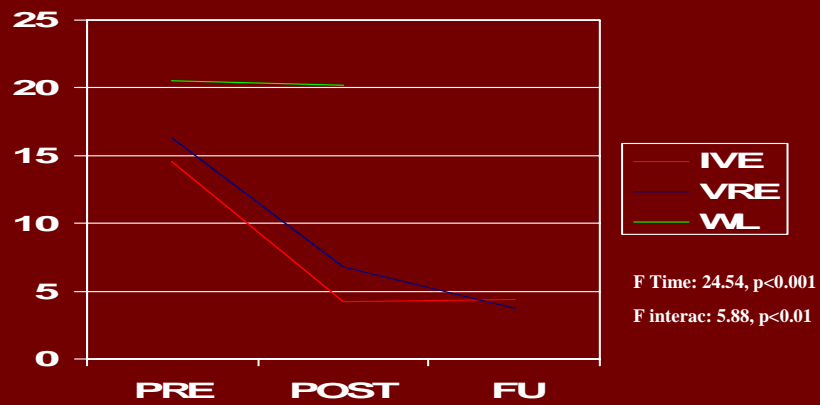
PRE-POST-FOLLOW-UP

SELF-REPORT:ASI



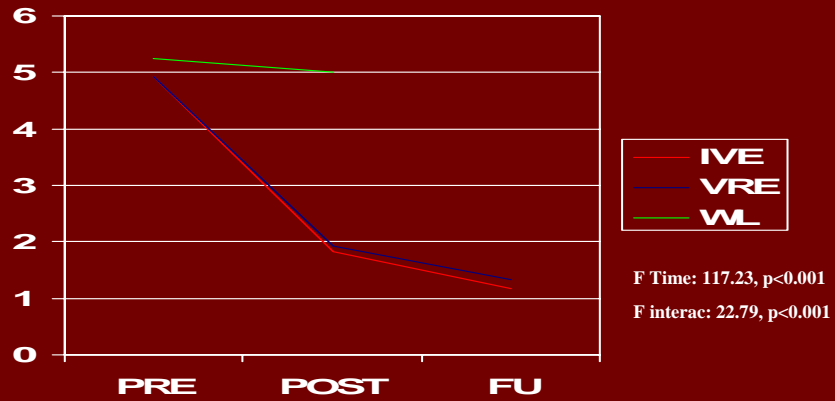
PRE-POST-FOLLOW-UP

SELF-REPORT: FQ-AGORAPHOBIA



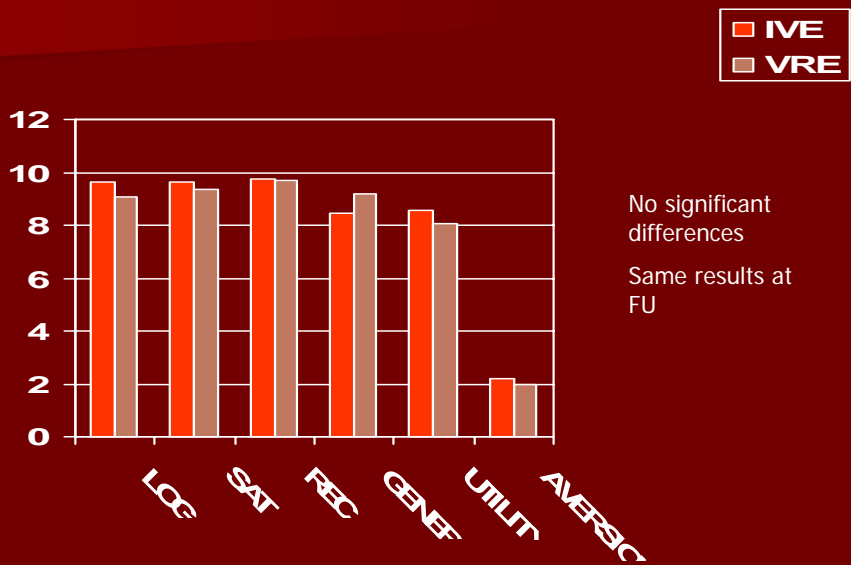
PRE-POST-FOLLOW-UP

CLINICIAN GLOBAL IMPRESSION



POSTTREATMENT

TREATMENT SATISFACTION



CONCLUSIONS

- **AXIS I:**
 - VR USEFUL FOR THE TREATMENT OF PANIC DISORDER AND AGORAPHOBIA.
 - VRE WAS EQUALLY EFFECTIVE THAN IVE.
 - TREATMENT OUTCOMES WERE MAINTAINED AT LONG-TERM (ONE-YEAR FU).
- **AXIS II:**
 - POSITIVE ACCEPTANCE OF VR.
 - VR DID NOT PRODUCE NEGATIVE SIDE EFFECTS.
 - NO DIFFERENCES BETWEEN IVE AND VRE RELATED WITH TREATMENT SATISFACTION.

CONCLUSIONS

- To study the differential efficacy of delivering situational and interoceptive exposure separately or delivering them simultaneously with our VR program.
- To study the utility of using a telepsychology system for conducting VR exposure tasks already practiced in the consultation room as homework.

CONCLUSIONS

**VR EXPOSURE IS EFFECTIVE IN THE
TREATMENT OF PANIC DISORDER
WITH AND WITHOUT
AGORAPHOBIA AT SHORT AND
LONG-TERM**

Thanks for your attention

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Gatineau, Canada, June

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