



# Cognitive VR Stimulation





## Perception and Performance on a Virtual Reality Cognitive Stimulation for Use in the Intensive Care Unit: A Non-randomized Trial in Critically Ill Patients

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# Journal Specifications

- **Frontiers in Medicine**
- **Indexing:** PubMed, PubMed Central, Scopus, Google Scholar, DOAJ, Science Citation Index Expanded, CLOCKSS
- **2018 Impact Factor:** 3.113
- **Categories:**
  - Health Informatics: Q1
  - Information Systems: Q1
  - Health Information Management: Q1

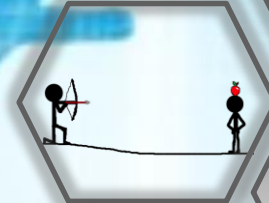


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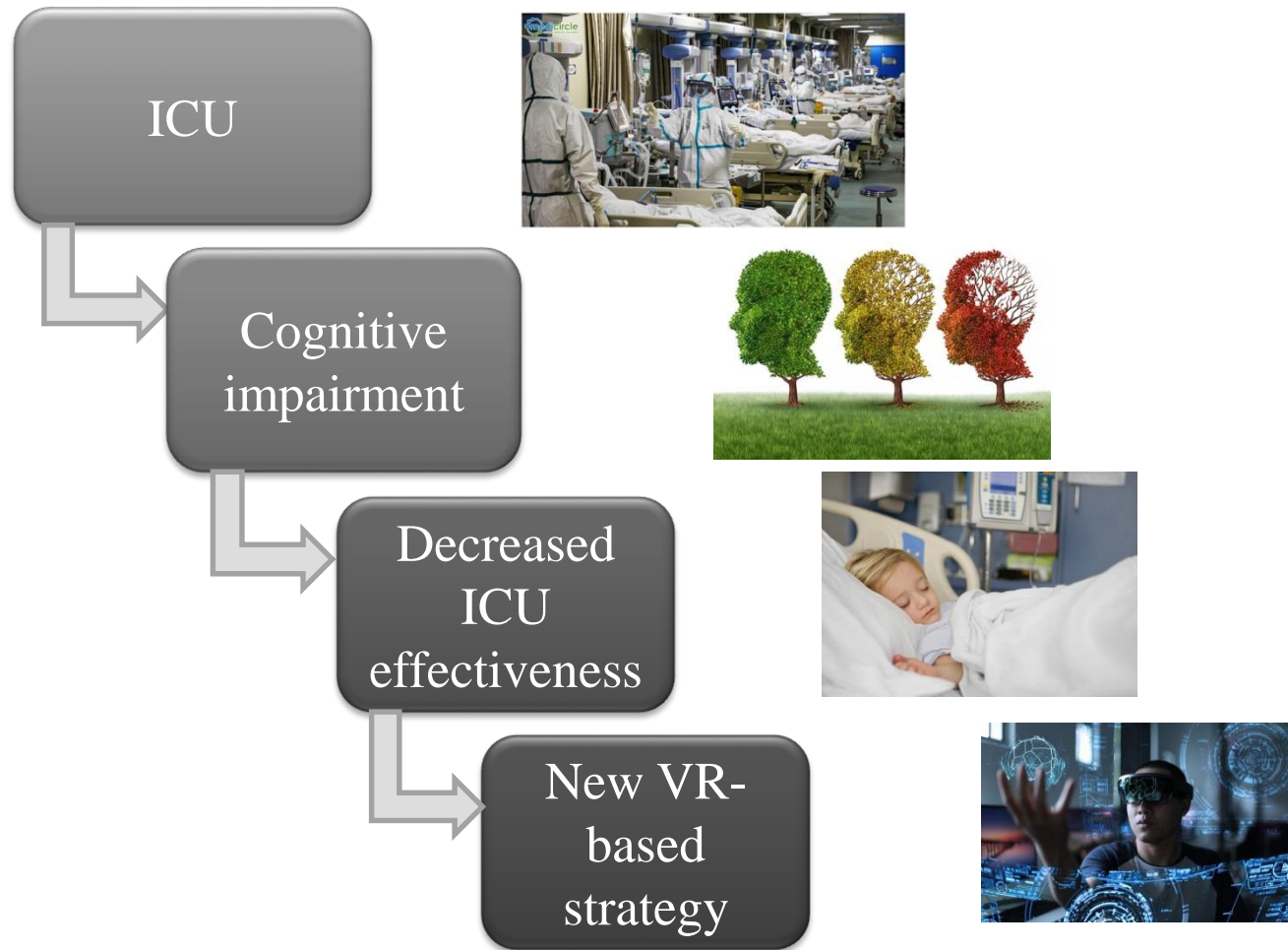


Discussion

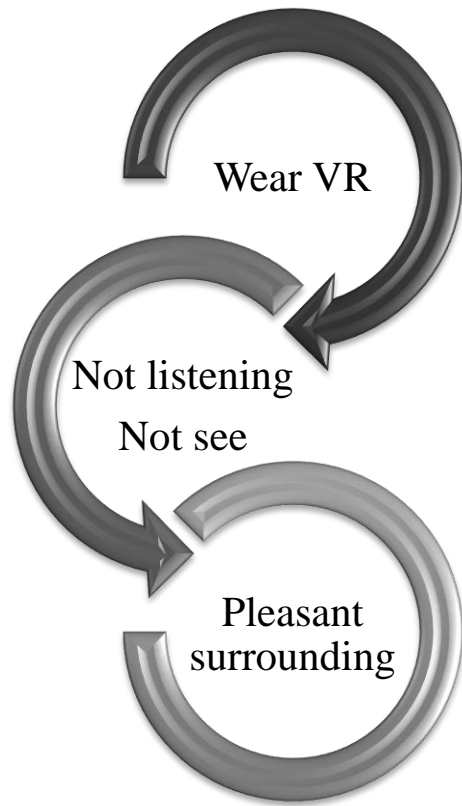




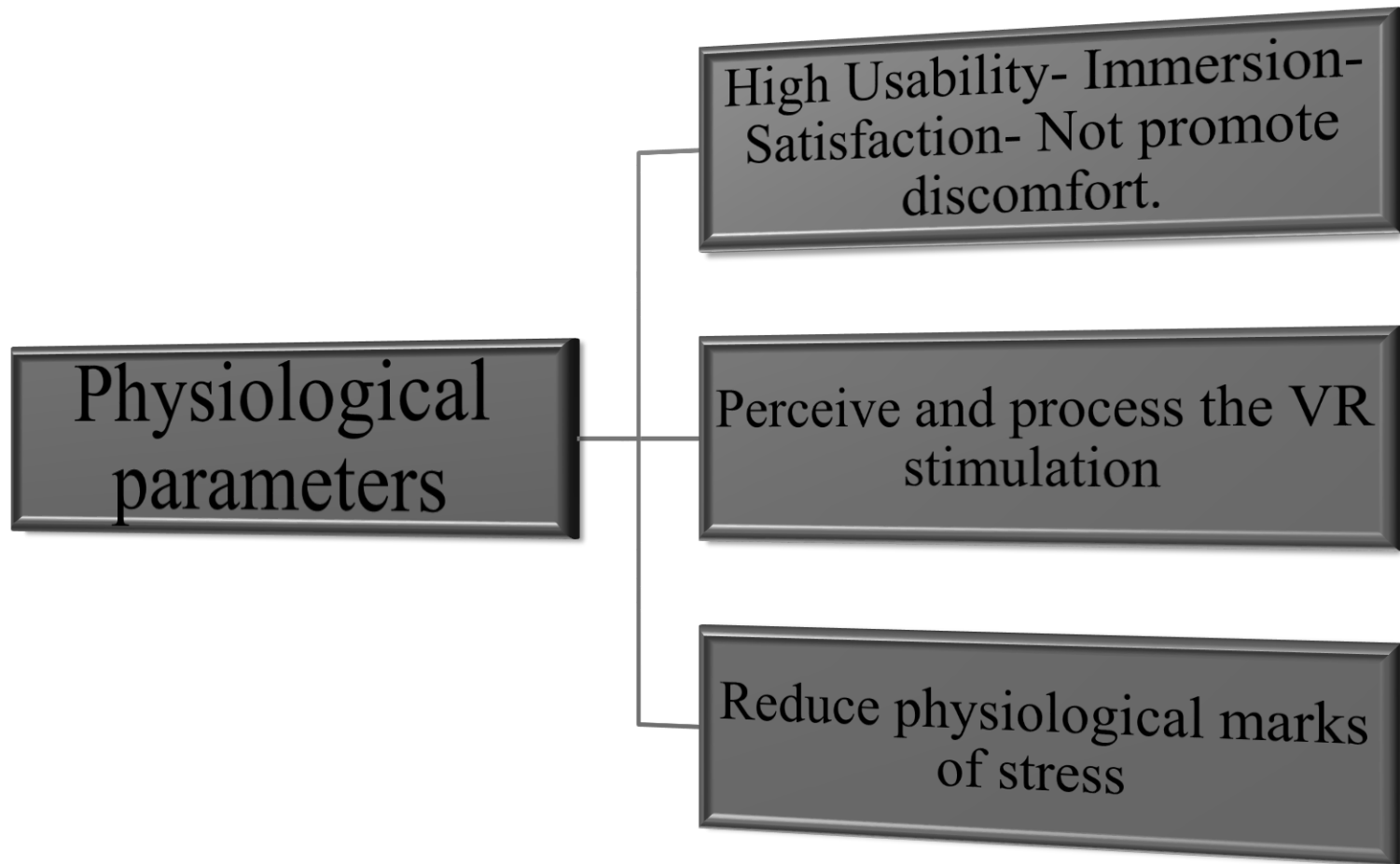
# Introduction



# Introduction (continues)



# Introduction (continues)



# Objective

Investigate the acceptance, comfort, recollection, visual perception and processing of immersive nature-related VR stimulation, and how VR affects physiological parameters





# Methods

Type of study



A non-randomized trial in critically ill patients.

Place of study

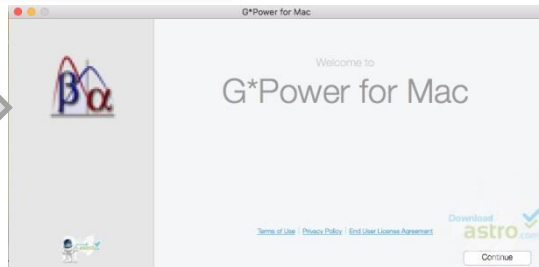


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# Methods (continues)

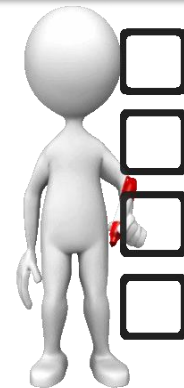
Sample size



Inclusion  
criteria

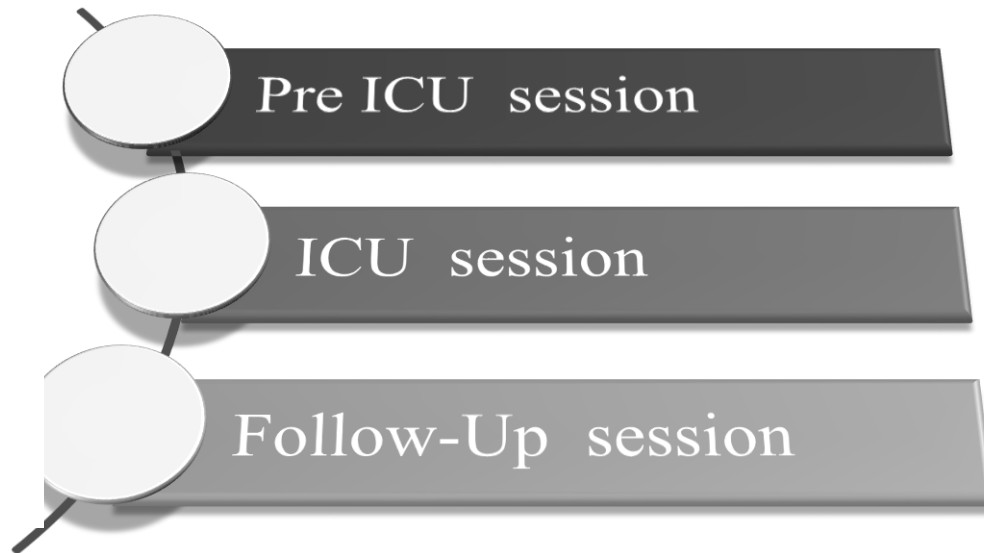


- Age > 18
- No neurological disorder



# Methods (continues)

## Study Procedure





# Methods (continues)

## Cognitive VR Stimulation



- 1 Computer and Eye-Monitor
- 2 Noise monitor
- 3 Head Mounted Display and Noise cancelling headphones
- 4 Physiological monitoring system

Computer  
And Eye-  
Monitor

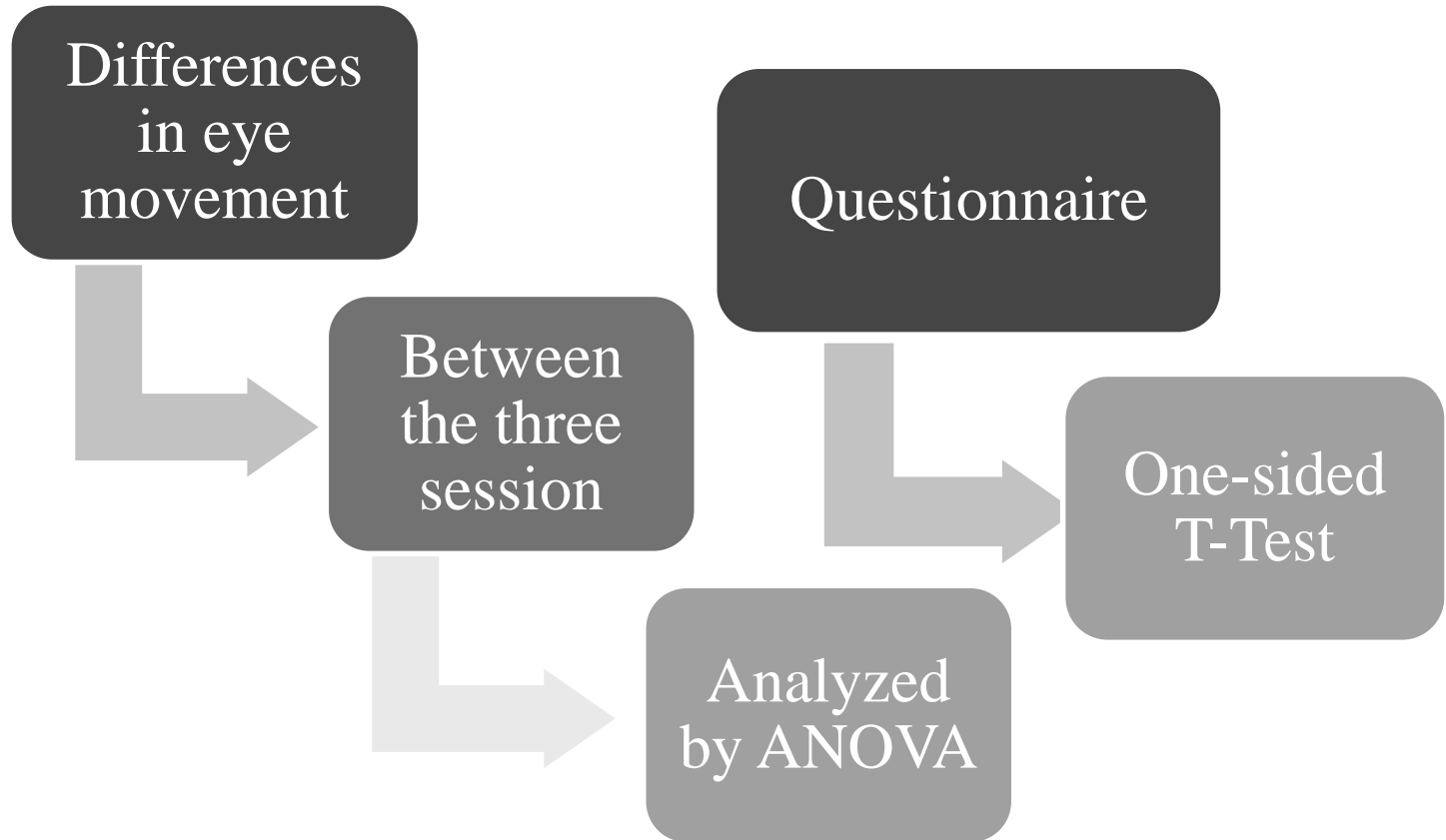
Noise  
Monitor

Head  
Monitor  
Display

Physiological  
Monitoring

# Methods (continues)

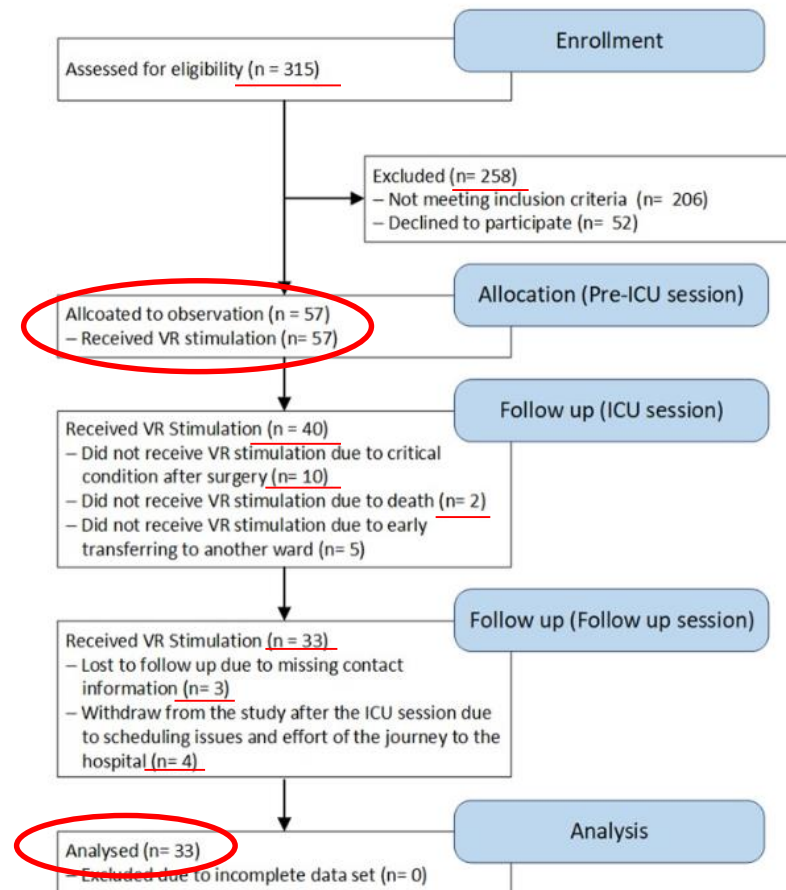
## Statistical analysis



# Results

## Demographics

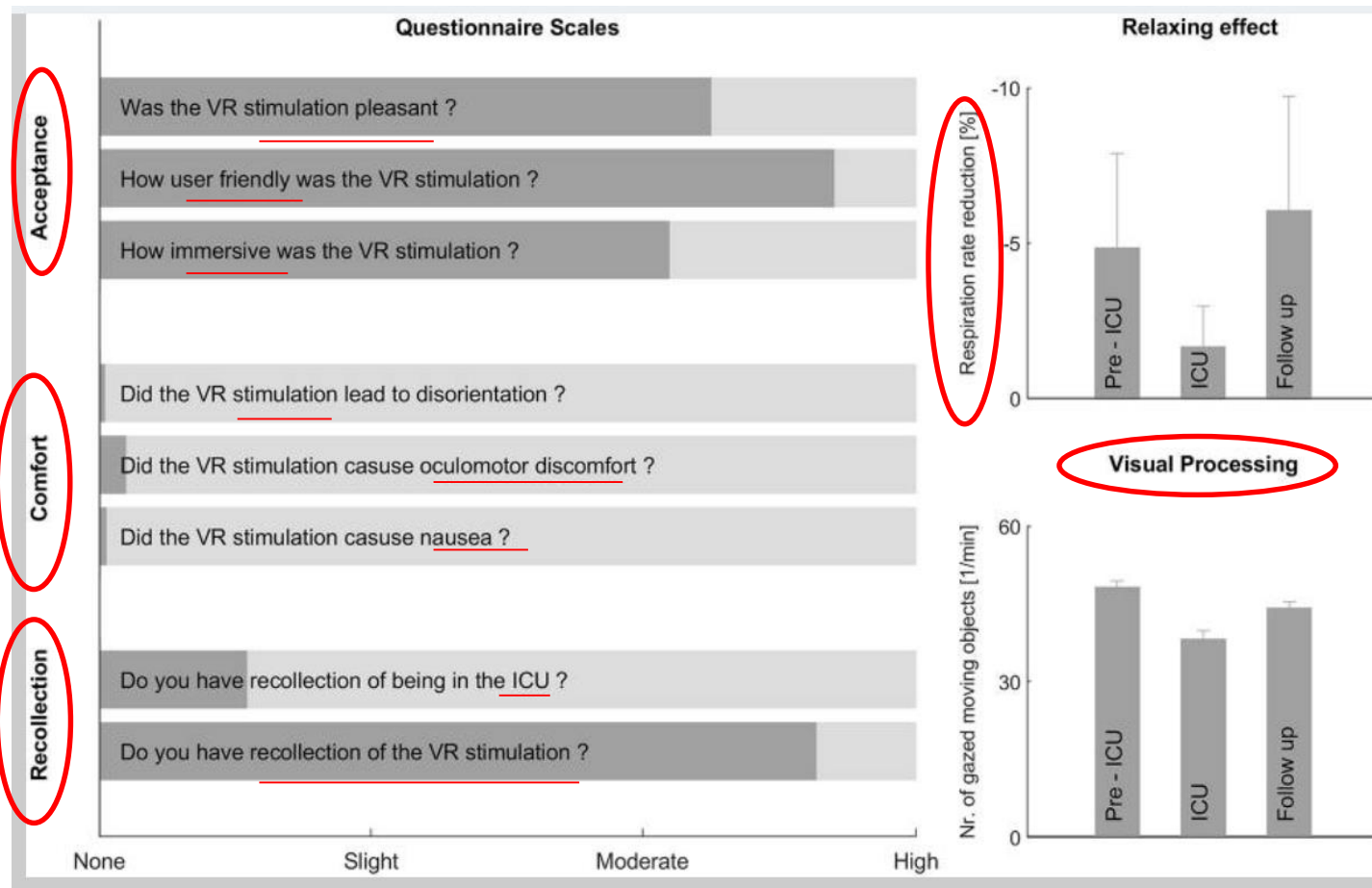
Follow of the patients  
through the trial





# Results (Continues)

## Acceptance Discomfort Recollection



# Results (Continues)

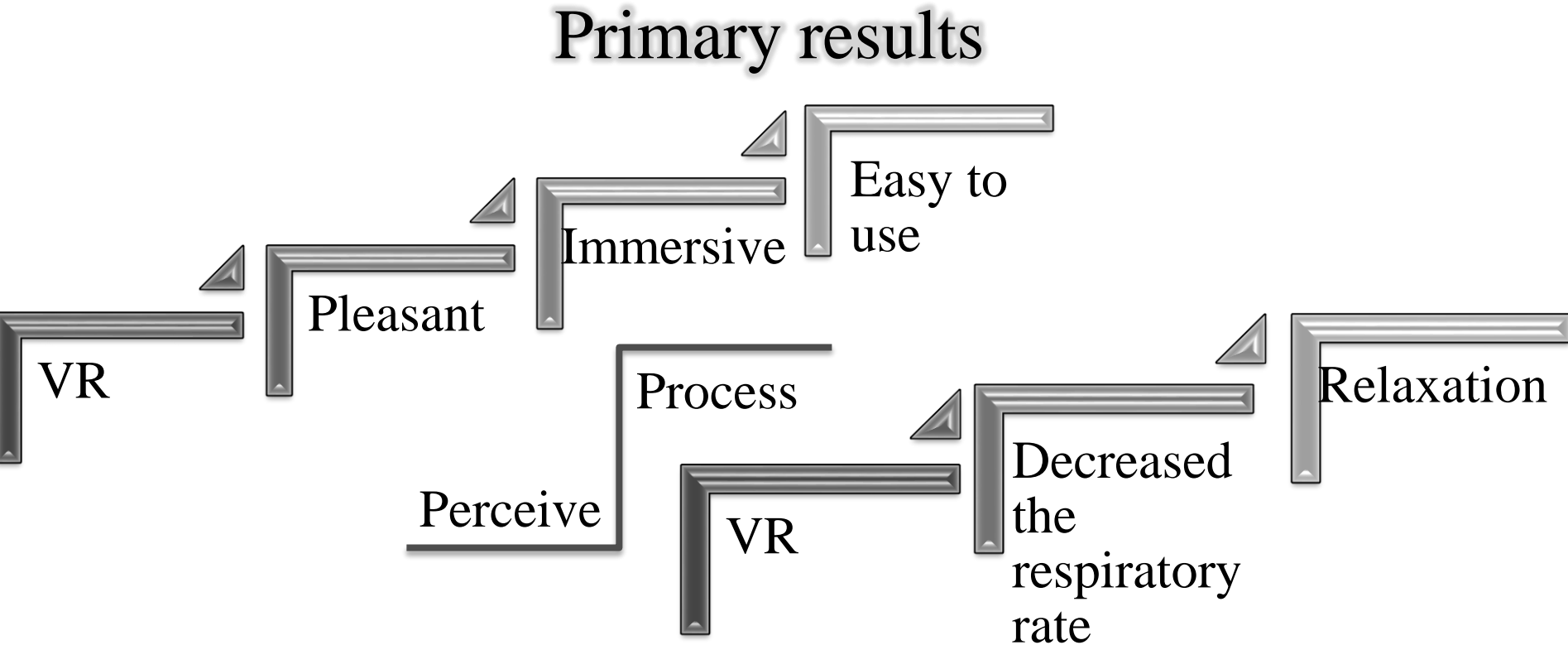
## Eye movement during the three session

**Table 3**

Eye movements during the three sessions.

Variables	Session	Fixation duration (ms)	Number of fixations (no./min)	Nb. of gazed meaningful moving objects (no. obj./min)	Time fixating an object (s)
Mean (SD)	Pre-ICU	364 (67)	595 (95)	48.1 (8.2)	0.92 (0.2)
Mean (SD)	ICU	434 (119)	351 (130)	38.1 (10.5)	0.88 (0.3)
Mean (SD)	Follow-up	372 (68)	573 (109)	44.0 (8.0)	0.97 (0.2)
ANOVA		$F(2, 92) = 6.21$ $p = 0.003$	$F(2, 95) = 46.68$ $p < 0.001$	$F(2, 94) = 10.12$ $p < 0.001$	$F(2, 94) = 1.01$ $p = 0.369$
Adj. $p$ -val.*	Pre—Fol.	1.00	1.00	0.214	
Adj. $p$ -val.*	Pre—ICU	<0.001	<0.001	<0.001	
Adj. $p$ -val.*	ICU—Fol.	<0.001	<0.001	0.026	

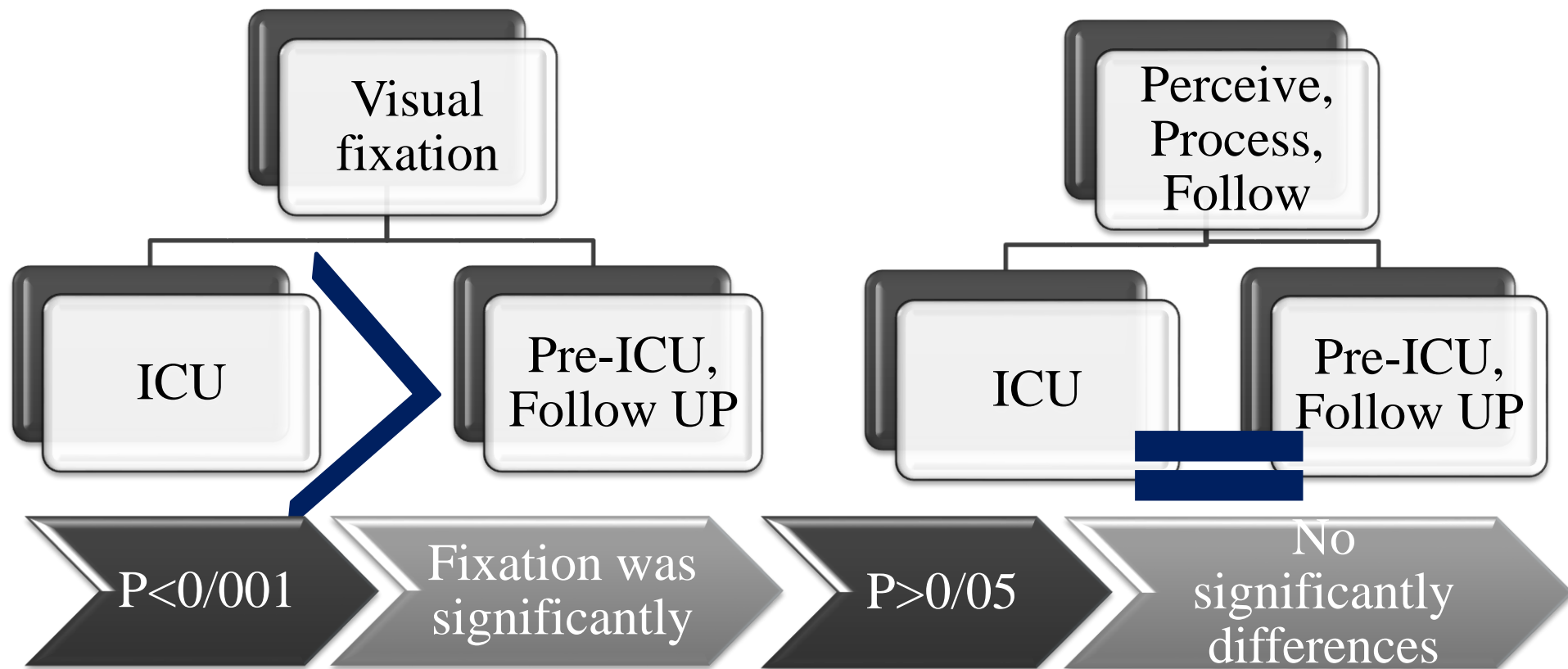
# Discussion





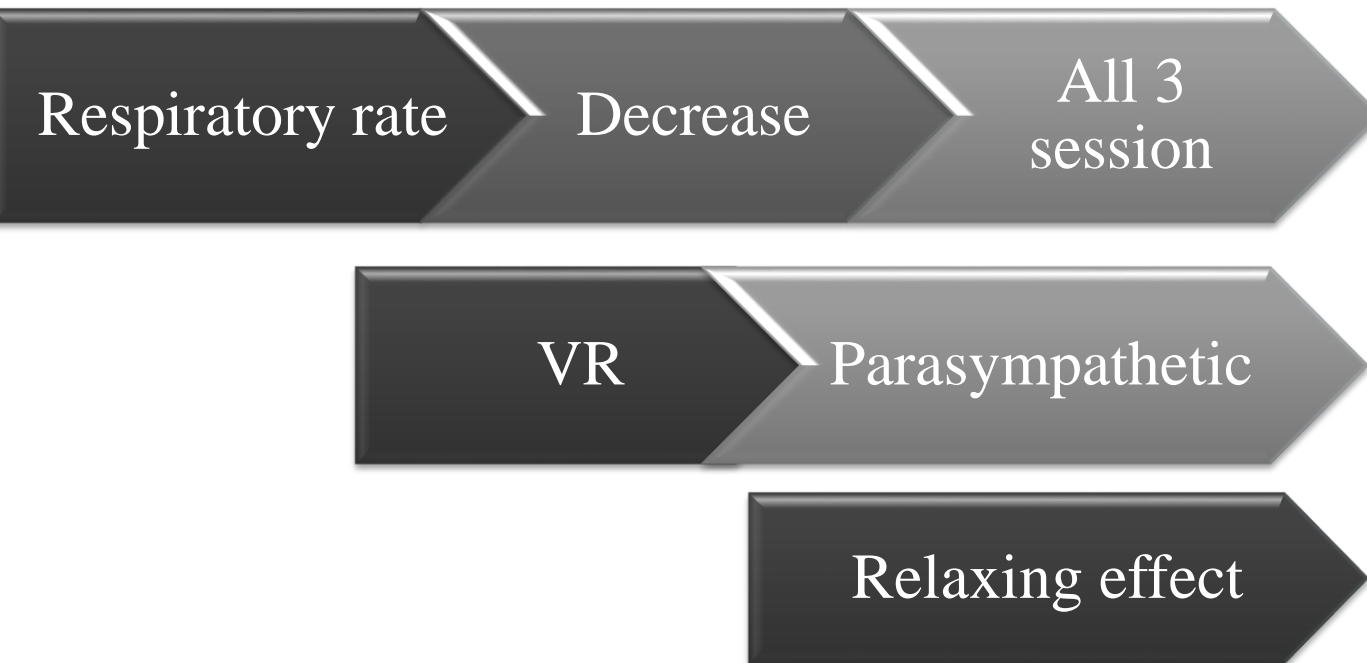
# Discussion (Continues)

## Second results



# Discussion (Continues)

## Third results



# Conclusion

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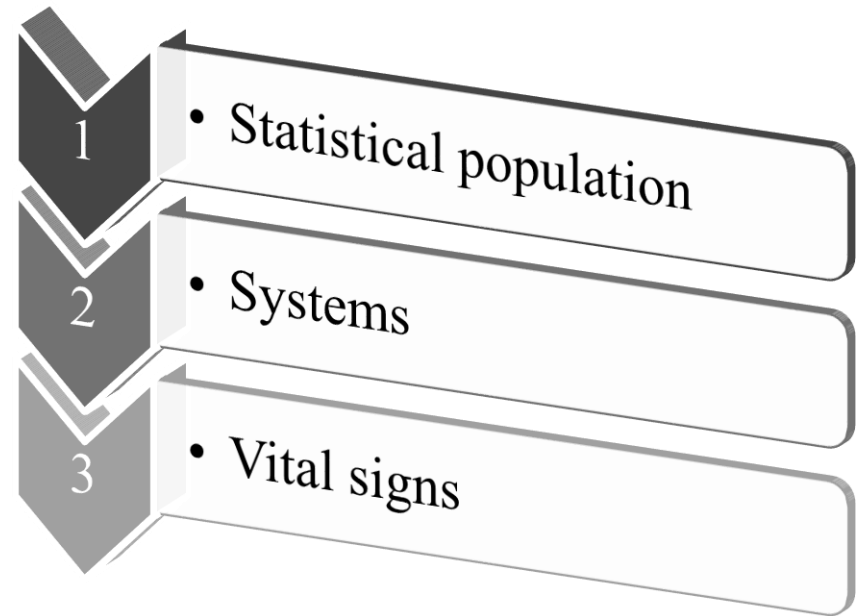
Well accept by ill patients

Easy to use

Has the potential of becoming a new method

# Study Strengths

From my point of view



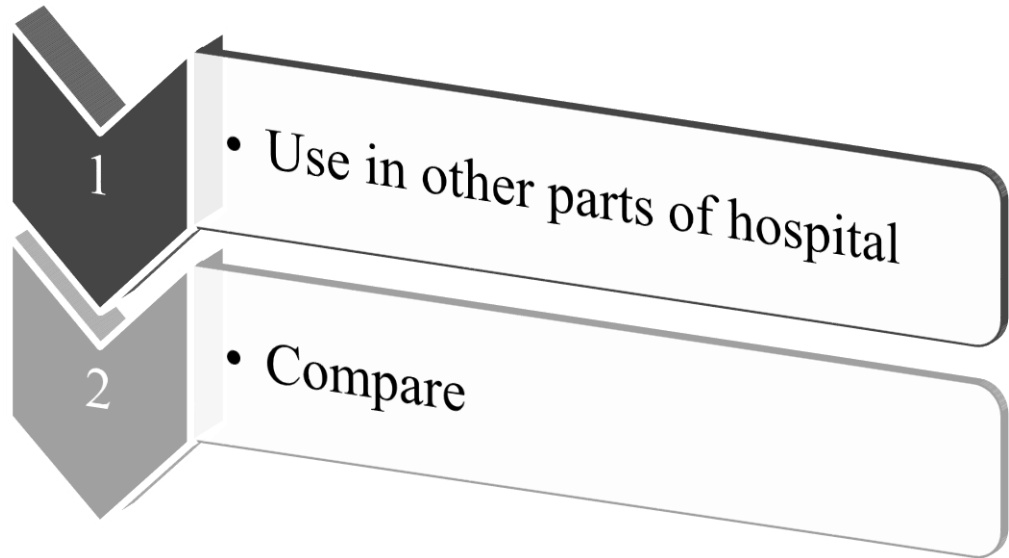
# Study Limitation

- 1 • Generalizability to all
- 2 • No control group
- 3 • How many times a day to use?





# Suggestions



THANKS  
for  
WATCHING