

# The outcomes of delirium prevention nursing intervention in surgical intensive care unit.



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# Background

- Delirium is difficult to treatment it impossible to cooperate with the medical staff.
- Delirium is associated with longer hospital length of stay, increased ventilator days, higher costs and development of cognitive impairment and dementia.
- The most effective for the prevention of delirium that early detect delirium risk factor.
- Hospital environments prevention is very important : loud noises, poor lighting and lack of natural light, Sleep disorder.



# Purpose

The purpose of this study was to evaluate the efficacy of the delirium prevention intervention admitted to the SICU.

- **Primary outcomes**
  - Delirium incidence
  - Onset delirium
  - Delirium duration
- **Secondary outcomes**
  - Ventilator day
  - SICU length of stay
  - Hospital length of stay
  - Mortality



# Methods

- **A prospective study.**  
**(pre-or post-intervention cohort study)**



**Pre intervention**

**VS**




**Post intervention**

# Subjects

## Inclusion criteria

1. Admitted patients in surgical ICU.
2. RASS less than 3 point.
3. Verbal or non-verbal communication is possible.

## Exclusion criteria

1. Within 24 hours patients was discharged from surgical ICU.
  2. Less than 18 years old.
  3. Re-admitted patients in surgical ICU.
  4. Who have been diagnosed with dementia or psychiatric.
  5. RASS more than 3 point.
  6. Immunocompromised and transplant patients that used essential the isolated room.
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# The prevention intervention content

1. Formal orientation
2. Friendly environment
3. Nonpharmacologic sleep enhancement.



# The prevention intervention content

AM

0 1 2 3 4 5 6 7 8 9 10 11 12



Ensuring the hours of sleep, wearing an eye patch and earplugs.

Increasing the communication and orientation.

Systemic early rehabilitation

- routine X-ray and check body weight: before MN
- Don't collect blood unnecessary.
- Only the necessary nursing care.

PM

12 13 14 15 16 17 18 19 20 21 22 23 24



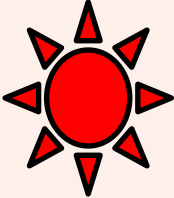

Watching the TV

Call bell

Listen the music

Friendly pictures and encouraging message

# Delirium prevention intervention checklist

Date:			Delirium prevention intervention checklist	
Duty		Intervention	Do list	check
Day	Evening	<b>1. Increasing a communication and orientation</b>		
		① Calendar		
		② Friendly pictures		
		<b>2. Early rehabilitation</b>		
		① Level I: passive ROM		
		② Level II: Active Resistance PT & Sitting position		
		③ Level III: Sitting position for 20min & Dangling		
		④ Level IV: Active transfer to wheel chair & walker		
		<b>3. Making the stable surrounding</b>		
		① Call bell		
		② Eyeglasses, hear aids		
	③ Watching the TV			
	Night	<b>4. Ensuring the sleep</b>		
		① EMR record about a quality, type of sleep		
		② Turn off lights		
		③ an eye patch and earplugs.		
		④ sleep sticker		



# Result

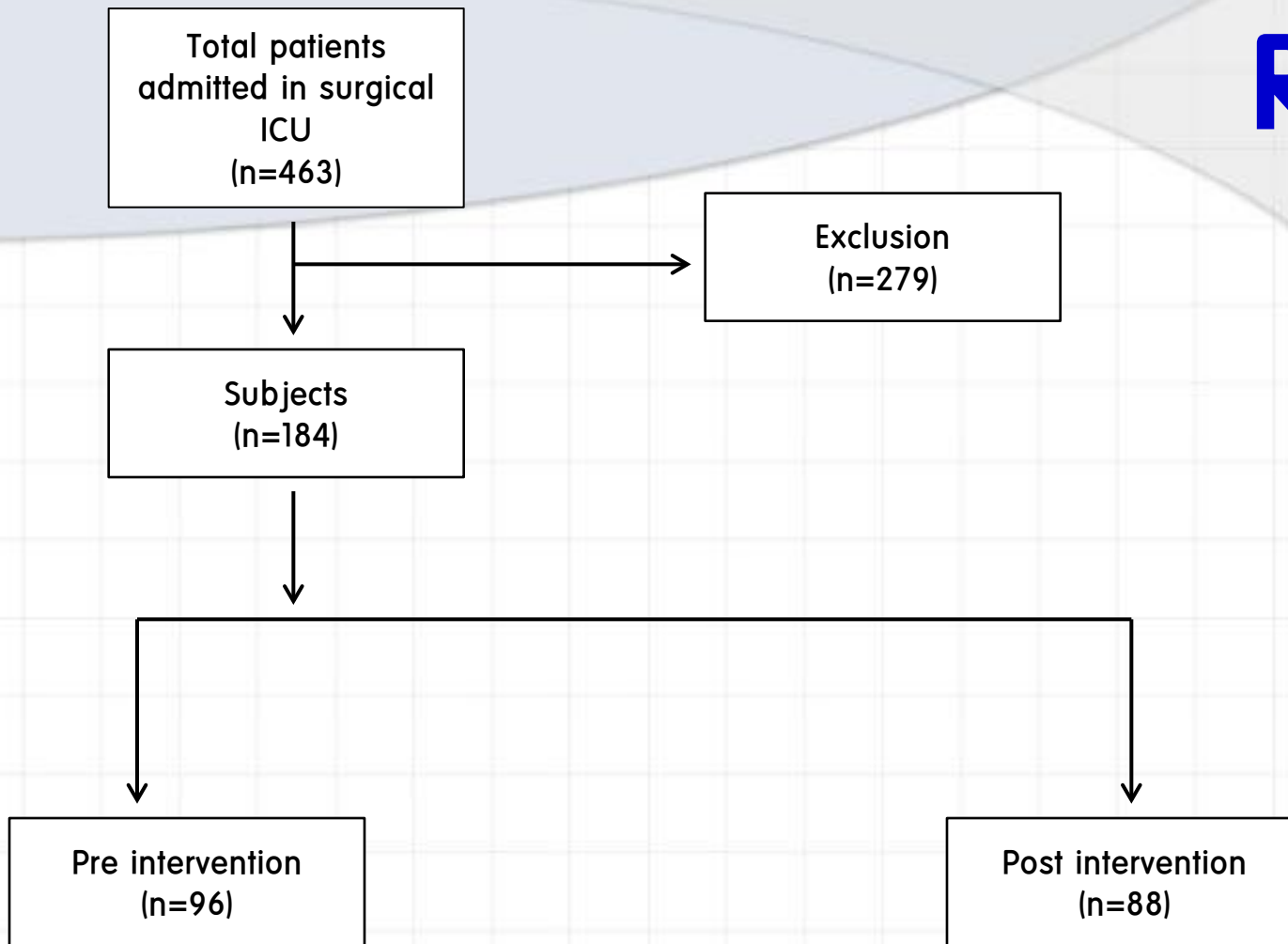


Figure 1. Number of research subjects



# Result

## Comparison to general characteristics pre intervention and Post intervention

Characteristics	Category	Pre Intervention (n=51) (%)	Post Intervention (n=49) (%)	x <sup>2</sup> or t	<i>p</i>
Gender	Male	44 (86.3%)	35 (71.4%)	2.909	.088
	Female	7 (13.7%)	14 (28.6%)		
Age(Mean ± SD)		69.2 ± 10.4	67.6 ± 14.5		.849
Sleep disorder		3 (3.1%)	3 (6.1%)	.003	.960
Vision disturbance		13 (25.5%)	15 (30.6%)	2.161	.339
Hearing disturbance		3 (5.9%)	4 (9.3%)	4.080	.130
Benzodiazepam		22 (43.1%)	14 (28.6%)	1.101	.294

# Result

## Continued

Characteristics	Category	Pre Intervention (n=51) (%)	Post Intervention (n=49) (%)	x <sup>2</sup> or t	p
Admission pathway	OR	24 (47.1%)	16 (32.7%)	5.293	.152
	GW	20 (39.2%)	17 (34.7%)		
	ER	7 (13.7%)	16 (32.6%)		
Admission reason	Close observation of post OP	27 (52.9%)	24 (49.0%)	2.396	.663
	Respiratory problem	10 (19.6%)	7 (14.3%)		
	Bleeding	1 (2.0%)	4 (8.1%)		
	Sepsis	12 (23.5%)	14 (28.6%)		
	Others	1 (2.0%)	0 (0.0%)		
Ventilator care		50 (98.0%)	48 (98.0%)	.015	.903
Use of sedative drug		49 (96.1%)	40 (93.0%)	.432	.511
Use of Restraints		49 (96.1%)	47 (95.9%)	.030	.861
Hemodialysis		11 (21.6%)	4 (7.4%)	2.617	.106
Shock		26 (51.0%)	29 (59.2%)	.849	.357
APACHE II		16.3 ± 6.1	16.9 ± 5.2		.334

# Primary outcome

## 1. Incidence of Delirium

Characteristics	Category	Pre Intervention (n=96) (%)	Post Intervention (n=88) (%)	x <sup>2</sup> or t	<i>p</i>
Incidence of Delirium(%)	Yes	51 (53.1%)	49 (55.7%)	.660	.445
	No	45 (47.9%)	39 (44.3%)		

## 2. Onset of Delirium

Characteristics	Pre Intervention (n=51) (Mean ± SD)	Post Intervention (n=49) (Mean ± SD)	<i>p</i>
Onset of Delirium	2.6 ± 2.4	2.1 ± 1.8	.242

# Primary outcome

## 3. Duration of Delirium

Characteristics	Pre Intervention (n=51) (Mean ± SD)	Post Intervention (n=49) (Mean ± SD)	<i>p</i>
Duration of Delirium	18.4 ± 19.1	7.6 ± 7.3	.000

# Secondary outcome

## Comparison to clinical outcomes

Characteristics	Pre Intervention (n=51)	Post Intervention (n=43)	<i>p</i>
Using of ventilator (hours) (Mean ± SD)	373.8 ± 536.1	230.8 ± 214.6	.081
SICU length of stay	20.0 ± 22.9	12.6 ± 8.7	<b>.020*</b>
Hospital length of stay	65.4 ± 44.9	60.4 ± 45.9	.876
Mortality	6(8.7%)	2(3.3%)	.283

# Suggestion

These nonpharmacologic interventions can be a low-risk, low-cost strategy that has shown a benefit.

Continued delirium prevention intervention is demonstrate that the effect of delirium prevention.

