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Outcomes of urinary incontinence in stroke patients of Al Muthanna province

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Abstract

Strokes, also known as cerebrovascular accidents, are a leading cause of morbidity and death in the US. One common morbidity that post-stroke patients face, urinary incontinence, is linked to long-term disability and the impact of institutionalization on these individuals. Half of people hospitalized after a stroke have urinary incontinence (UI), which is frequently mismanaged. The aim of this study is to determine the outcomes of urinary incontinence post-stroke for one to two weeks. A descriptive study (follow-up) is used to conduct these study assess for urinary incontinence, then monitoring for the second days of admission, after one week of contact with each patient either by telephone or visiting patients at the house, these processes recurrent after two weeks for some patients. The study shows that the mean age was 63.12, also without intervention most study samples need one to two weeks to return bladder function and treat urinary incontinence with approximately (60%) after two weeks post-stroke, and all participants had one of the most significant risk factors such as diabetes, hypertension, and smoking. In conclusion, urinary incontinence is common after a stroke for all age groups and does not require significant drug or surgical interventions. It relies on common treatment programs in hospitals, including physical therapy, for a period ranging from one to two weeks for most cases.

Keywords: Post-stroke, Urinary incontinence, Ischemic stroke, Hemorrhagic stroke, Risk factors

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Introduction

Cerebrovascular accidents, or strokes, are a common cause of morbidity and mortality in the United States. Urinary incontinence is a prevalent morbidity experienced by post-stroke patients that is associated with long term disability and institutionalization effects on these patients [1].

Urinary incontinence (UI) is one of the most common and disruptive complications after a stroke. About 40–60% of patients admitted to hospitals after stroke encounter problems with UI [2]. Post-stroke urinary incontinence is a common problem, with a prevalence ranging from 32% to 79%. Urinary incontinence after stroke has negative physiological, psychological, and economic effects, which lead to lifestyle changes for both patients and caregivers [3].

Numerous research has revealed that poor functional result and fatality are strongly predicted with user interface (UI) [4]. Additionally, it significantly affects quality of life, everyday activities, and sleep [5]. IN rehabilitation programs, UI has a major impact on the patient's participation, focus, and therapy duration. Despite the fact that managing UI is a team effort, many medical personnel still fail to recognize it following a stroke and to assess it [6,7].

Lower urinary tract symptoms (LUTS) or UI can develop after a stroke, or they can worsen if a person already has LUTS. An increased risk of UI is associated with stroke severity, advanced age, female sex, and impairments in speech, motor, visual fields, or cognition.

After a stroke [8], UI has a significant impact. It has an impact on many aspects of quality of life, such as emotions, self-esteem, confidence, and capacity for rehabilitation as well as social interactions.Worse outcomes, such as higher mortality, morbidity, and the possibility of being admitted to an institution for treatment, are linked to it, along with higher healthcare costs. Moreover, UI following a stroke significantly affects the difficulty of caregiving [7, 9].

Studies by (14) reveal that a follow-up study would have provided better information about the long-term effects of stroke on the bladder and about the reversibility of bladder complaints, mortality, and disability due to persistent urinary incontinence. There are few studies conducted as follow-up without intervention to improve urinary incontinence as hospital management as well.

Method

Study design

The current study employed a descriptive design to evaluate the course of urine incontinence among stroke patients at Al-Hussain Teaching Hospitals between Dec 15, 2023, to May 5, 2024.

Study setting

This study was carried out at AL-Hussain Teaching Hospital in Al-Muthana City. 100 patients were selected as a purposive sample. Patients in the intensive care and the medical unit were included in the study

Sampling and Population

A simple follow-up sampling method was used to choose the study sample, and participant chosen according to inclusive criteria as (a first-time stroke, a patient who agreed to contact him after discharge, patient over 18 years old). For the addition of patients from the previous year, the population size was roughly 290, and each new patient admitted throughout the six-month research period was included in the analysis. Using the population formula and keeping the following premise in mind: = 100 for the entire population, 95% confidence, and 5% error E=error, n=N\[1+(N) (E)2; 5\100=0.05

Data collection

At first interview with every patient at admission was performed to assess for urinary incontinence, then monitoring for the second days of admission, after one week of contact with each patient either by telephone or visiting patients at house, these processes recurrent after two weeks for some patients.

Ethical consideration

The Institutional Review Board (IRB) of the University of AL-Muthanna's College of Medicine accepted the study protocol (No. 165 on December 20, 2023). Additionally, Al-Hussain Teaching Hospital granted permission for the study's conduct and data collection, and it was carried out in accordance with the Helsinki Declaration.

Results

Table 1.

Distribution of study sample regarding socio-demographic information

variable	categories	f	%
Age	M= 63.12 SD= 15.78		
sex	female	37	37
	male	63	63
stroke type	cortical ischemic stroke	40	40
	Subcortical ischemic stroke	26	26
	cortical hemorrhagic stroke	12	12
	Subcortical hemorrhagic stroke	22	22
	Total	100	100
fate of urinary incontinence	no urinary incontinence	35	35
	Improved urinary incontinence after day 1	3	3
	Improved urinary incontinence at 1 week	2	2
	Improved urinary incontinence at 2 weeks	60	60
	Total	100	100

F= frequency, %= percentage

Table 1 shows that most of the study sample was male with a mean age of 63.12, also, cortical ischemic stroke was the most common type of stroke, after follow-up with 2 weeks most of the study sample improved urinary incontinence.

Table 2.

Correlation between risk factors as medical history with incontinence

variable			incontinence		total	sig
			Negative	Positive		
hypertension	negative	Count	8	12	20	p-value(0.6) not significant
		% within incontinence	22.90%	18.50%	20.00%	
	positive	Count	27	53	80	
		% within incontinence	77.10%	81.50%	80.00%	
	total	Count	35	65	100	
		% within incontinence	100.00%	100.00%	100.00%	
smoking	negative	Count	28	55	83	p-value (0.5) is not significant
		% within incontinence	80.00%	84.60%	83.00%	
	positive	Count	7	10	17	
		% within incontinence	20.00%	15.40%	17.00%	
	total	Count	35	65	100	
		% within incontinence	100.00%	100.00%	100.00%	
Diabetes Mellitus	negative	Count	27	36	63	p-value(0.03) is significant
		% within incontinence	77.10%	55.40%	63.00%	
	positive	Count	8	29	37	
		% within incontinence	22.90%	44.60%	37.00%	
	total	Count	35	65	100	
		% within incontinence	100.00%	100.00%	100.00%	

Table 2 shows that most of the study sample had hypertension, diabetes, and smoking as risk factors for stroke, with a significant correlation between diabetes and urinary incontinence

Table 3.

Fate of urinary incontinence and its correlation with medical history

variable			fate of urinary incontinence					Sig
			no urinary incontinence	Improved urinary incontinence after day 1	Improved urinary incontinence at 1 week	Improved urinary incontinence at 2 weeks	total	
smoking	Negative	Count	28	3	1	51	83	p-value *(0.4) is not significant
		% within the fate of urinary incontinence	80.00%	100.00%	50.00%	85.00%	83.00%	
	positive	Count	7	0	1	9	17	
		% within the fate of urinary incontinence	20.00%	0.00%	50.00%	15.00%	17.00%	
	total	Count	35	3	2	60	100	
		% within the fate of urinary incontinence	100.00%	100.00%	100.00%	100.00%	100.00%	
Hypertension	negative	Count	8	1	0	11	20	p-value *(0.6) is not significant
		% within the fate of urinary incontinence	22.90%	33.30%	0.00%	18.30%	20.00%	
	positive	Count	27	2	2	49	80	
		% within the fate of urinary incontinence	77.10%	66.70%	100.00%	81.70%	80.00%	
	total	Count	35	3	2	60	100	
		% within the fate of urinary incontinence	100.00%	100.00%	100.00%	100.00%	100.00%	
D.M	negative	Count	27	2	1	33	63	p-value *(0.1) is not significant
		% within the fate of urinary incontinence	77.10%	66.70%	50.00%	55.00%	63.00%	
	positive	Count	8	1	1	27	37	
		% within the fate of urinary incontinence	22.90%	33.30%	50.00%	45.00%	37.00%	
	total	Count	35	3	2	60	100	
		% within the fate of	100.00%	100.00%	100.00%	100.00%	100.00%	

		urinary incontinence						
stroke type	cortical ischemic stroke	Count	11	1	1	27	40	p-value (0.5)* is not significant
		% within fate of urinary incontinence	31.40%	33.30%	50.00%	45.00%	40.00%	
	Subcortical ischemic stroke	Count	6	1	0	19	26	p-value (0.5)* is not
		% within fate of urinary incontinence	17.10%	33.30%	0.00%	31.70%	26.00%	
	cortical hemorrhagic stroke	Count	8	0	0	4	12	p-value(0.02)* is significant
		% within fate of urinary incontinence	22.90%	0.00%	0.00%	6.70%	12.00%	
	Subcortical hemorrhagic stroke	Count	10	1	1	10	22	p-value (0.4)* is not significant
		% within fate of urinary incontinence	28.60%	33.30%	50.00%	16.70%	22.00%	
	total	Count	35	3	2	60	100	p-value (0.2)*is not significant
		% within fate of urinary incontinence	100.00%	100.00%	100.00%	100.00%	100.00%	

Table 3 reveal the fate of urinary incontinence for three period (1 days, 1 week, and 2 weeks). which show that there is no relationship between all medical history variable and time of fate for urinary incontinence

Discussion

these studies reveal that most of the study sample was male (63%), with a mean age of 63.12, also, cortical ischemic stroke was the most common type of stroke, after follow-up with 2 weeks most of the study sample improved urinary incontinence.

A study about after a new-onset stroke, urinary incontinence, and indwelling urinary catheters are predictive factors for death. Conducted by [10] found that the most of study sample was male (55.3%) with a mean age of 69.4, also, a study about Encouraging bowel habits in stroke victims: The efficacy of a multifaceted approach—An investigation conducted by [11] which show which 35 (14 women and 21 men) were in the control group and the mean age was 73.7 years. most of the study sample with approximately (55%) with ischemic stroke (cortical ischemic stroke) [12].

Also, this study shows that most of the study sample had hypertension, diabetes, and smoking as risk factors for stroke, with a significant correlation between diabetes and urinary incontinence, a study conducted by [13] about Anger, Emotional Incontinence, and Post-Stroke Depression: Long-Term Changes reveal that most had the previous disease as medical histories such as hypertension, diabetes and smoking behaviors).

Stroke is an extremely common clinical entity, and post stroke incontinence is a major cause of morbidity for stroke survivors. Although patients can experience a wide variety of lower urinary tract

[15]. Even after being discharged from the hospital, post-stroke UI patients continue to experience persistent symptoms [16].

Damage to particular regions may interfere with the brain's ability to communicate with the muscles that keep oneself clean. This interference can cause some problems, including weakening pelvic muscles, faulty nerve signals, or changed reflexes [17].

Urinary incontinence following a stroke can be managed with behavioral interventions (e.g., pelvic floor muscle training [18], sensory-motor biofeedback [19], [20], Rehabilitation wards based on Functional Independence Measure assessment [30], complementary therapy (e.g., eye and scalp acupuncture [21], and medication (e.g., meclofenoxate [22]).

After the first week, the results appeared for patients within the usual care in the hospital, and without the intervention of researchers, a noticeable improvement of 70%. Either the patient is able to control the urination process or is dependent on a urinary catheter [23].

The study showed the researchers that urinary incontinence in most patients with stroke can be treated through physical therapy and bladder training programs and does not require drug interactions. Also, some young patients may not need rehabilitation programs and bladder activity can return after a period of two weeks or less.

Conclusion

Urinary incontinence is common after a stroke for all age groups and does not require significant drug or surgical interventions. It relies on common treatment programs in hospitals, including physical therapy, for a period ranging from one to two weeks for most cases.

Recommendation

There are several ways to treat urinary incontinence, including programs and physical therapy, so a comparative study between these methods to determine the most effective among them is needed

Conflict of Interest

No conflicts of interest were declared by the authors.

Financial Disclosure

The authors declared that this study has received no financial support.

Ethics Statement

Approved by local committee.

Authors' contributions

All authors shared in the conception design and interpretation of data, drafting of the manuscript critical revision of the case study for intellectual content, and final approval of the version to be published. All authors read and approved the final manuscript.

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