



A STUDY TO ASSESS THE EFFECTIVENESS OF DISTILLED VINEGAR WASH OF URINARY DRAINAGE BAG ON THE LEVEL OF BACTERIURIA AMONG URINARY CATHETERIZED PATIENTS AT SHRI VINOBA BHAVE CIVIL HOSPITAL, SILVASSA. DNH.

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ABSTRACT

Introduction: The majority of UTI is currently the most common healthcare associated infection. CAUTI accounts for more than 30% of all healthcare associated infection. Catheter associated UTI case an increased length of stay, morbidity and mortality of patients, in addition to increased bacterial resistance to antibiotic, leading to an increase in hospital and healthcare cost. Basic and specific practices to prevent bacteriuria and reducing rates of CAUTIs and Foleys catheter days. distilled vinegar wash its helpful to implement prevention methods for urinary catheterized patients.

Aim: The aim of the study was evaluating the effectiveness of distilled vinegar wash of urinary drainage bag on the level of bacteriuria among urinary catheterized patients.

Materials & Methods: A Quasi Experimental Pre-test and Post-test only Design. Purposive convenient sample technique 60 sample. 30 experimental, 30 control group.

Result: The analysis revealed that when comparing pretest and post test value of bacteuria, the calculated t value (10.81) was more than the table value (2.05) at the 0.05 level of significance. There will be a significant mean difference in the experimental pre-test and post-test level of bacteriuria among experimental group is accepted and the level of bacteriuria was increased in control group. While assessing the effectiveness of distilled vinegar wash for reduction of bacteuria, the calculated t-value (14) is more than the table value (2) at the 0.05 level of significance hence there will be a significant mean difference in the post-test level of bacteriuria among experimental group and control group is accepted. So distilled vinegar treatment is effective and there is no association between the level of bacteriuria among urinary catheterized patients and demographic variables such as age (1.7673), gender (0.0339), marital status (1.5584), educational status (3.7763), occupation (3.8996) at the 0.05 level of significance.

Conclusion: The result highlighted distilled vinegar wash to be an effective method to decrease the bacteriuria level among the urinary catheterized patients.

KEYWORDS : Urinary catheterized patient. Distilled Vinegar Wash.

INTRODUCTION:

UTIs are caused by pathogenic microorganisms in the urinary tract. The urinary tract is the most common site of nosocomial infection accounting for greater than 40% of the total number reported by hospitals and affecting 6,00,000 patients each year.¹⁵ Catheter-associated urinary tract infection (CAUTI) has become a fourth important cause of healthcare-associated infection. Catheterization beyond 5 days increased the risk of CAUTI by 6 times. Many antiseptic solutions can be used to prevent catheter associated urinary tract infection like chlorhexidine, hydrogen peroxide and distilled vinegar but properties of distilled vinegar are actively microbicidal, not highly irritating, toxic or malodorous, readily available solution and relatively inexpensive, and presence of organic matters.¹⁸ Distilled vinegar is less cost comparable to other antiseptic solution and thus it reduces the financial burden and can also be used in the home setting chronic catheterized patients.¹⁹

METHODOLOGY

The research approach adopted in this study Quantitative (Quasi experimental two group pre-test and post-test only design) and Quasi experimental design (control group pre-test, post-test design) and dependent variables wer bacteriuria level of patient who have urinary catheter and independent variables was distilled vinegar wash method and demographic variables are age, gender, occupation, educational status, marital status. Clinical variables are diagnosis, history of disease, administer any antibiotics. In the present study sample of urinary catheterized patients at the Shri Vinoba Civil Hospital, Silvassa, DNH. The sample consists of 60 catheterized patient (30 control + 30 experimental group) admitted in SVBCH, Silvassa, DNH. Convenient sampling method was used to recruit samples and Demographic data and Clinical data was collected through structured interview schedule questions and

observation checklist was used to assess the clinical signs and symptoms of bacteriuria and urine analysis and culture. A pilot study was conducted among 8 patients including 4 in the control group and 4 in experimental and result found that the study was feasible. **Descriptive statistics such as** frequency and percentage, mean and standard deviation. **Inferential statistics such as** Paired t test & Chi-square test used to determine the bacteriuria level in the control group and the experimental group

RESULT:

Section 1: Description Of Frequency And Percentage Distribution Based On The Demographic Variables Of Urinary Catheterized Patient. N=60

Sr. No	Demographic Data	Control group		Experimental group	
		f	%	f	%
1	Age				
	21-35	7	23.33	11	36.67
	36-50	5	16.67	7	23.33
	51-65	6	20.00	6	20.00
	66-80	12	40.00	6	20.00
2	Gender				
	Male	23	76.67	23	76.67
	Female	7	23.33	7	23.33
3	Marital Status				
	Married	30	100.00	26	86.67
	Unmarried	0	0.00	4	13.33
4	Educational Status				
	Diploma/Intermediate	0	0.00	1	3.33
	High School	0	0.00	6	20.00
	Middle School	4	13.33	8	26.67
	Primary School	18	60.00	7	23.33
	Illiterate	8	26.67	8	26.67

5	Occupation				
	Semi Professional	0	0.00	1	3.33
	Skilled Worker	1	3.33	7	23.33
	Semiskilled Worker	5	16.67	6	20.00
	Unskilled Worker	15	50.00	5	16.67
Unemployed	9	30.00	11	36.67	

section 1 is indicating that the most of subjects 11 (36.67%) were age between 21to 35 years in experimental group while 12 (40.00%) in control group aged between 66 to 80 years. The majority of subjects 23 (76.67%) were male in the experimental group and the control group. The majority of the subjects were married 26 (86.67%) in the experimental group and were 30 (100%) in the control group. Most of the subjects 8 (26.67%) were middle school and illiterate in the experimental group and in the 18 (60.00%) were primary school in the control group. The majority of subjects were unemployed 11(36.67%) in the experimental group and 15(50.00%) were unskilled worker in the control group.

Section 2: Comparison Of Pre-test And Post-test Level Of Bacteriuria Of Control Group Of Urinary Catheterized Patient. N=30

Variables	Group	Pre-test		Post-test		t value	LOS
		Mean	sd	Mean	sd		
Bacteriuria assessment score	Control Group	4.6	2.22	8.00	2.47	8.96	S
	Experimental group	3.10	0.712	1.43	0.679	10.81	S

P=0.05 level of significance.

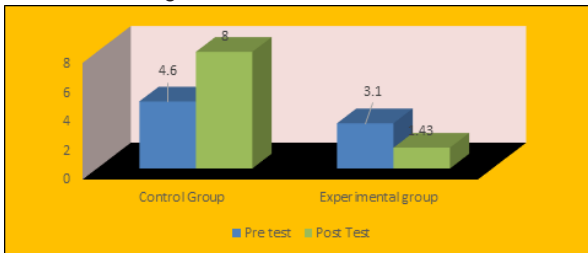


Fig-1 Comparison Of Pretest And Post Test Level Of Bacteria Between Control Group And Experimental Group

The above table and figures indicating that the control group pre-test mean and sd was 4.6 & 2.22 and control group post-test mean and sd was 8.00 & 2.47. Calculated t value (8.96) is more than the table value (2.05) at the 0.05 level of significance. The stated hypothesis that there will be a significant mean difference in the pre-test and post-test level of bacteriuria among control group is accepted.

In experimental group pre-test mean and sd was 3.10 & 0.712 and experimental group post-test mean and sd was 1.43 & 0.679. Calculated t value (10.81) is more than the table value (2.05) at the 0.05 level of significance. The stated hypothesis that there will be a significant mean difference in the experimental pre-test and post-test level of bacteriuria among experimental group is accepted.

Section 3: Effectiveness Of Distilled Vinegar Used To Disinfect Urinary Drainage Bag On Level Of Bacteriuria Among Urinary Catheterized Patient. N=60

Variables	Max. Score	Control group		Experimental group		t-value	LOS
		Mean	Sd	Mean	Sd		
Bacteriuria assessment score	20	8.00	2.47	1.47	0.679	14	S

P=0.05 level of significance.

The above table indicating that the Control group mean and sd was 8.00 & 2.47. Experimental group mean and sd was 1.47 & 0.679. Calculated t-value (14) is more than the table value (2) at the 0.05 level of significance. The stated hypothesis that there will be a significant mean difference in the post-test level of bacteriuria among experimental group and control group is accepted. So distilled vinegar treatment is effective.

Section 4: Association Between The Level Of Bacteriuria Among Urinary Catheterized Patient And Selected Demographic Variables.

Sr. No	Demographic Data	Chi square value	df	LOS
1	Age	1.7672	3	NS
2	Gender	0.0339	1	NS
3	Marital Status	1.5584	1	NS
4	Educational Status	3.7763	4	NS
5	Occupation	3.8996	4	NS

*0.05 level of significance

The table 10 indicating that the calculated value of demographic variables such as age (1.7673), gender (0.0339), marital status(1.5584), educational status (3.7763), occupation (3.8996) are less than the critical value of p<0.05 level of significance. The stated hypothesis There is a significant association between the level of bacteriuria among urinary catheterized patients and selected demographic variables is rejected at the 0.05 level of significance. Hence, there is no significant association between the level of bacteriuria among urinary catheterized patients and demographic variables.

CONCLUSION OF THE STUDY:

A urinary catheter is virtually always associated with bacteriuria within a few days after it is inserted as a means to ensure adequate urine drainage and preservation of renal function when normal voiding mechanisms can no longer function as a result of injury or disease. Bladder irrigation as a routine method for treating asymptomatic bacteriuria in catheterized person. Therefore, this study was selected because the combination of vinegar wash + pharmacotherapy can provide better results than individual interventions. On the basis of the present study, it can be concluded that bacteriuria among patients with urinary catheterized was reduced due to distilled vinegar wash techniques which was evidenced by the mean value of the bacteriuria score between control group and experimental group. Hence, distilled vinegar wash is safe, better and inexpensive measure which brings about a higher level reduced the bacteriuria.

REFERENCES:

1. Biologydictionary.net Editors. "excretory system." *biology dictionary*, biologydictionary.net, 19 Mar. 2017. Available website: <https://biologydictionary.net/excretory-system/>.
2. Brunner& suddarth's " text book of medical- surgical nursing" 12th edition. volume-2. published by wolters Kluwer (India) pvt ltd. page no-1293.
3. Talha H. Imam.in introduction to urinary tract infections (UTIs). MD. university of riverside school of medicin. last full review/revision Feb 2020.content last modified feb 2020.
4. National kidney and urology disease information clearinghouse." national kidney and urologic diseases information" NIH Publication No. 12-3895 June 2012.2005-2019.
5. Dawn M Dalen. Rosemary K Zvonar. Peter G Jessamine. Can J infect dis med microbiol. 2005May-jue;16(3):166-170 10.1155/2005/868179.PMCID: .PMC2095023
6. Deborah Weartherspoon. catheter associated UTI(CAUTI).rachel nall. MSN. CRNA on august 7. 2012.