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EFFECTIVENESS OF CRANBERRY JUICE ON URINARY TRACT INFECTION AMONG CATHETERIZED PATIENTS AT DHANVANTRI CRITICAL CARE CENTRE, ERODE

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ABSTRACT

Urinary tract infection are the most common bacterial infection across all age groups, and affects around 20% of women at sometime during their life time. It is also the most common hospital acquired infection and majority of cases of nosocomial urinary tract infection are associated with an indwelling urinary catheter. Cranberry juice is used to treat bladder infections as it helps kill the harmful bacteria and helps keep and acidic, hostile environment in the bladder so the bacteria won't thrive. The present study aimed to assess the effectiveness of cranberry juice urinary tract infection among catheterised patients. Quasi experimental design where post test only control group design was used. 30 catheterized patients were included in the study. Purposive sampling technique was used in the study. Experimental group cranberry juice was given twice a day for 10 days. The data was obtained by using demographic pro forma and urinary tract infection assessment scale for catheterised patients. Results shows that in post-test 73% of catheterised had moderate level of urinary tract infection and 27% catheterised patients had absence of urinary tract infection in experimental group and in control group 53% of catheterized patients moderate level of urinary tract infection and 47% catheterized patients have presence of urinary tract infection. The calculated unpaired "t" test value showed that there is significant relationship between cranberry juice (t=17.944, tv=2.05) and urinary tract infection among catheterised patients. Conclusion: cranberry juice is an effective intervention reduce urinary tract infection among catheterized patients.

Keywords: catheterised patients, urinary tract infection, cranberry juice.

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INTRODUCTION

(Mahesh E, 2010) Urinary tract infection is the one of the most common bacterial infection in humans and a major cause of morbidity. It is also a common reason for outpatients consults. Urinary tract infections account for about 8.3 million doctor visits each year. One in five develops a urinary tract infection and and it estimated that nearly 10% of the human population will experience a urinary tract infection during her lifetime.

It is also the most common hospital acquired infection in UK, accounting for 23% of all infections. The overall incidence of urinary tract infection of patients had an indwelling foleys catheter.

(Akhtar 2000) Gram negative enteric constitutes a serious problem in urinary tract infection in many parts of the world. Th has been estimated that symptomatic urinary tract infection occurs in as many as 7 million visits to emergency units and 100,000 hospitalisations annually. Urinary tract infection has become the most common hospital acquired infection, accounting for as many as 35% of nosocomial infections, and it is the second most common cause of bacteraemia in hospitalised patients.

Urinary tract infection is a major cause of morbidity. Unexplained fever and failure to thrive are common presenting signs in infants, besides nausea, vomiting and diarrhoea. The most common associated conditions were respiratory infection (31.8%), diarrhoea (27.2%) and anaemia (25%).

(Amy Howell, 2011) Cranberries once referred to as bounce berries are super nutritious and provide lots of Vit C as well as polyphenols. Cranberries contain substance that can prevent bacteria from sticking on the walls of the bladder. This may help prevent bladder and other urinary tract infections. This identified 10 studies comparing cranberry products with placebo, juice or water.

RESEARCH PROBLEM

Effectiveness of cranberry juice on urinary tract infection among catheterized patients at dhanvantri critical care centre, erode.

OBJECTIVES

- To assess the urinary tract infection among catheterized patients in control and experimental group after cranberry juice.
- To determine the effectiveness of cranberry juice on urinary tract infection among catheterized patients in control and experimental group.
- To find out the association between the post test scores of urinary tract infection among control and experimental group of catheterized patients with their demographic variables.

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MATERIAL AND METHOD

A quantitative research approach and Quasi experimental where post test only control group design is used in the study. In the present study population refers to Catheterized patient. In the present study the target population refers to all the Catheterized patient. The accessible population is the 30 Catheterized patient admitted in Dhanvantri Critical Care Centre. The sample of the study are Catheterised patients. The represented sample was selected by using purposive sampling technique for selecting 30 catheterized patients.

Researchers explained the main aim of the study.

Specification of the instrument and related measurement.

Part A: Demographic Profile consists of 2 items.

Part B: Urinary Tract Infection Assessment scale. This section consists of 5 areas where each having value from range from 1- 4.

RESULTS

Table no 1. Distribution of control and experimental group according to their age group depicts that, highest percentage (33% and 27%) of catheterized patients were in the age group of 40 -49 years in both the groups. However more or less similar percentage (27% and 33%) of them were in the age group of above 50 years in control group and experimental group respectively and similar percentage (27%) of them were in the age group of 30 - 39 years, only 13% of them were in the age group of 20 - 29 years. Distribution of control and experimental group samples according to their gender depicts that, highest percentage (73% and 53%) of catheterized patients were male in control group and female in experimental group. Only 27% of them were females in control group and 47% of them were male in experimental group.

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Table 1: It reveals the frequency and percentage distribution of control and experimental group of catheterized patient according to their demographic variables. (N_1 =15, N_2 = 15)

Demographic Variables	Control group		Experimental group	
	Frequency (N_1)	Percentage (%)	Frequency (N_2)	Percentage (%)
AGE 1.20-29 YEARS 2.30-30 YEARS 3.40-49 YEARS 4.ABOVE 50 YEARS	 2 4 5 4	 13 27 33 27	 2 4 4 5	 13 27 27 33
GENDER 1.MALE 2.FEMALE	 11 4	 73 27	 7 8	 47 53

Table 2: Frequency and percentage distribution of post test scores of urinary tract infection among catheterised patient in control group and experimental group. (N_1 =15, N_2 = 15)

URINARY TRACT INFECTION	POST TEST			
	CONTROL GROUP		EXPERIMENTAL GROUP	
	Frequency (N1)	Percentage (%)	Frequency (N2)	Percentage (%)
ABSENT	0	0	4	27
MODERATE	8	53	11	73
PRESENT	7	47	0	0

Table 2: Shows overall analysis of post test scores of urinary tract infection among catheterised patient in control group and experimental group as per criteria by frequency and percentage distribution.

In control group most (53%) of patients were had moderate urinary tract infection and 47% of patient were had presence of urinary tract infection symptoms, whereas in experimental group most (73%) of patients were had moderate urinary tract infection and 47% patients were had absence of urinary tract infection symptoms. It seems that cranberry juice on urinary tract infection among catheterized patient was effective.

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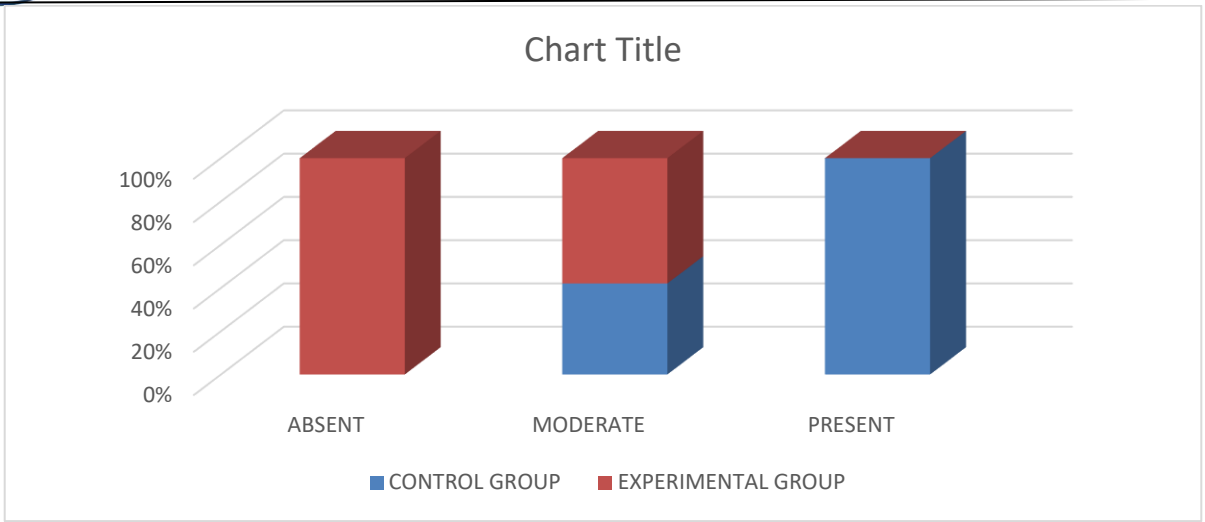

Table 2: Bar diagram shows the percentage distribution of post test scores of urinary tract infection among catheterized patients in control group and experimental group.

Table 3: Unpaired 't' test value of control group and experimental group post test scores of urinary tract infection.

Urinary tract infection	Unpaired 't' test	Table value	Level of significant (p)
Oliguria	7.906	2.05	P<0.05 significant
Fever	8.801	2.05	P<0.05 significant
R.B.Cs /Pus cells	8.808	2.05	P<0.05 significant
Casts /Albumin	6.879	2.05	P<0.05 significant
Colour	10.416	2.05	P<0.05 significant
Overall symptoms	17.944	2.05	P<0.05 significant

The unpaired 't' value for overall urinary tract symptoms was 17.944, when compared to table value (2.05), it is high it seems that there was significant relationship between cranberry juice and urinary tract infection among catheterized patients in the symptoms of oliguria, fever,R.B.Cs/Pus cell, Casts/ Albumin, Colour.

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Table 4: Mean, standard deviation and mean percentage of control group and experimental group post test scores.

Sl no	Urinary tract infection	Maximum Score	Post test						Mean difference
			Experimental group			Control group			
			Mean	SD	Mean %	Mean	SD	Mean %	
1	OLIGURIA	4	1.33	0.49	33.25	3	0.66	75	41.75
2	FEVER	4	1.20	0.42	30	3.13	0.75	78.25	48.25
3	R. B. Cs /Pus cells	4	1.47	0.52	36.75	3.20	0.56	80	43.25
4	Casts /Albumin	4	1.20	0.42	30	2.93	0.89	73.25	43.25
5	Colour	4	1.27	0.46	31.75	3.33	0.62	83.25	51.50
	TOTAL	20	6.4	1.12	32	15.6	1.64	78	46

Mean, standard deviation and mean percentage of control and experimental groups post test scores depicts that , in experimental group, mean and standard deviation for Oliguria during post test was 1.33 ± 0.49 and the mean percentage was 33.25%. In control group, mean and standard deviation for oliguria during post test was 3 ± 0.66 and mean percentage was 75% whereas the mean difference was 41.75%. In experimental group, mean and standard deviation for fever during post test was 1.20 ± 0.42 and the mean percentage was 30%. In control group, mean and standard deviation for fever during post test was 3.13 ± 0.75 and mean percentage was 78.25% whereas the mean difference was 48.25%. In experimental group, mean and standard deviation for R.B.Cs/ Pus cells during post test was 1.47 ± 0.52 and the mean percentage was 36.75%. In control group, mean and standard deviation for R.B.Cs/ Pus cells during post test was 3.20 ± 0.56 and mean percentage was 80% whereas the mean difference was 43.25%. In experimental group, mean and standard deviation for Casts\ Albumin during post test was 1.20 ± 0.42 and the mean percentage was 30%. In control group, mean and standard deviation for Casts\ Albumin during post test was 2.93 ± 0.89 and mean percentage was 73.25% whereas the mean difference was 43.25%. In experimental group, mean and standard deviation for Colour during post test was 1.27 ± 0.46 and the mean percentage was 31.75%. In control group, mean and standard deviation for Colour during post test was 3.33 ± 0.62 and mean percentage was 83.25% whereas the mean difference was 51.50%. Similarly the overall experimental group, mean and standard deviation post test were 6.4 ± 1.12 and the mean percentage was 32%. In control group, mean and standard deviation post test was 15.6 ± 1.64 and mean percentage was 78% whereas the mean difference was 46%. It shows that cranberry juice is found to be effective among catheterized patients.

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Table 5: Chi-square value of association between control group post test scores with their demographic variables and experimental group post test scores with their demographic variables.

	Demographic Variables	Df	Chi square	Table value	Level of significance
CONTROL GROUP	AGE	3	4.83	7.84	P>0.05 NOT SIGNIFICANT
	GENDER	1	1.36	3.84	P>0.05 NOT SIGNIFICANT
EXPERIMENTAL GROUP	AGE	3	5.91	7.84	P>0.05 NOT SIGNIFICANT
	GENEDER	1	1.36	3.84	P>0.05 NOT SIGNIFICANT

DISCUSSION

This chapter presents the analysis and interpretation of data collected to analyse the effectiveness of cranberry juice on urinary tract infection among catheterized patient. Descriptive and inferential statistics were used for data analysis. The finding of the analysis indicates the effectiveness of cranberry juice on urinary tract infection among catheterized patient.

CONCLUSION

On the basis of the findings of the present study, the following conclusion was drawn.

H1: there is a sigificant level of urinary tract infection among catheterized patients in control and experimental group after cranberry juice. in control group post test majority (53%) of catheterized patients had moderate urinary tract infection and (47%) of catheterized patients had urinary tract infection present. in experimental group post test majority (73%) of catheterized patients had moderate urinary tract infection and (27%) of catheterized patients had no urinary tract infection.

H2: there is a significant effective of cranberry juice on urinary tract infection among catheterized patients in experimental group than control group. the control group overall mean , standard deviation was 15.6 ± 1.64 and mean percentage was 78%. the experimental group overall mean , standard deviation was 6.4 ± 1.12 and mean percentage was 32%. and both mean difference in control and experimental post test score was 46%.

H3: there is a significant association between the post test scores of urinary tract infection among contol and experimental group of catheterized patients with demographical variables. control group chi square value of age 4.83 (p.0.05) and gender 1.36 (p.0.05) were in experimental group chi square value of age

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5.91 (p.0.05) and gender 1.36 (p.0.05). so the hypothesis is rejected.

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