Original Research Article

A study to assess the effectiveness of cranberry juice on urinary tract infection among post natal mothers in selected hospitals

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Abstract

Background: Urinary tract infections are the second commonest infections in community practice. UTI's are the foremost common microorganism infections throughout physiological condition. Therefore, Cranberries have been used to prevent urinary tract infections (UTIs). Cranberries contain a substance that can prevent bacteria from sticking on the walls of the bladder. **Aims and Objectives:** To assess the signs and symptoms of urinary tract infection among post natalmothers. To assess the effectiveness of cranberry juice on urinary tract infection among post-natal mothers. **Materials and Methods:** A quantitative research approach and a descriptive research design was used. Quasi experimental research study was conducted on 80 postnatal mothers during august and September 2017. Non probability purposive sampling technique was adopted. **Results and Conclusion:** Cranberries contain 2 compounds with antiadherence properties that prevent fimbriated Escherichia coli from adhering to uroepithelial cells in the urinary tract. The findings of present study have been discussed as per the objectives of the study. Cranberry juice was significantly effective on urinary tract infection among post natal mothers. Hence it is concluded that there is significant effect of Cranberry juice on urinary tract infection among post natal mothers.
Key Words: Urinary Tract Infection and Cranberry Juice.

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INTRODUCTION

Urinary tract infections (UTI) are among the foremost common microorganism infections in women, and it's been calculable that as many as 60% of women several can suffer with UTI at some point in their life. Though the incidence rate is analogous among males and females throughout infancy, adult women are fifty times as possible as adult men to develop a UTI. A minimum of 1/3 of patients suffer recurrences within the first year following an infection, and the risk increases with the time. Escherichia coli is that the commonest cause, accounting for roughly eighty percent of infections, whereas another ten percent are caused by staphylococci saprophyticus. The rest is created up by a mess of pathogenic microorganism together with enteric bacteria, Enterobacter, Serratia, and staphylococci aureus. It's long been illustrious that the key supply of pathogenic microorganism is fecal in origin.[1] The standard of treatment for urinary tract infections is antibiotic medical care targeted at the pathogenic microorganism. To boot, patients are also suggested to consume giant amounts of water to primarily dilute the water and flush out the infection. Most UTI's respond well to treatment at intervals 3-7 days. Given the high rate of repetition, particularly among women older than fifty five years, prophylactic antibiotic medical care is typically suggested

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in unsound patients. The standard program is low dose oral antibiotic medical care employing a sort of medicine, together with antibiotic drug, ofloxacin, trimethoprim, and bactericide. Though this treatment nearly eliminates repetition of UTI, it is not fascinating in most patients attributable to potential aspect effects, cost, and therefore the development of antibiotic resistance. Another that several practitioners intercommunicate is cranberry juice.[2]. The cranberry is a native North American fruit of the Vaccinium genus. It's always been used as a food, however its potential medical advantages is copied back to the Penobscot Tribe of Maine State, who introduced the fruit to the European settlers as a treatment for kidney stones and different urinary issues. Cranberries have additionally been used traditionally as a remedy for liver ailments, gall bladder illness, vomiting, and scurvy. The juice of the ripe fruit is acidic and astringent, creating it terribly troublesome to eat or drink alone. For years, people have used cranberry juice to stop and facilitate cure of urinary tract infections (UTls).There is restricted proof that this is often price attempting. Pure cranberry juice, cranberry extract, or cranberry supplements might facilitate stop perennial UTIs in womens, however the profit is tiny. It helps concerning the maximum amount as taking antibiotics to stop another UTI.[3]

MATERIALS AND METHODS

Research Approach: Quantitative approach.

Research Design: Quasi-experimental research design.Two group pre-test, post-test experimental design.

Variable Under Study:

Independent Variable: Cranberry Juice

Dependant Variable: Urinary tract infection.

Research Setting: The study was conducted in selected hospitals of sangli-miraj-kupwad corporation area.

Popullation: The population consist of post natal mothers.

Sample: Post natal mothers having urinary tract infection.

Sample Selection Criteria:

Inclusion Criteria: Post natal mothers having urinary tract infection, Post natal mothers who are admitted in the hospital.

Exclusion Criteria: Women's who are at high risk disease, Heart diseases, Diabetis mellitus, Pregnancy induced hypertension, Post natal mothers allergic to cranberry juice.

Sample Size: 80.

Sampling Method: Non probability sampling method(purposive sampling technique).

Research Tool:

SECTION I: Consist of demographic profile. Age, Occupation, Education, Mode of delivery, Previous history of UTI,

Information regarding prevention of UTI.

SECTION II: ObservationalCchecklist.

OBSERVATIONS AND RESULTS

Table 1: Frequency distribution based on the demographic variables n = 80

Demographic variables	Groups	Experimental group		Control group	
		Frequency	%	Frequency	%
Age in years	<=20	8	20	6	15
	21-25	22	55	20	50
	26-30	10	25	14	35
Dietary Pattern	Mixed	32	80	36	90
	Veg	8	20	4	10
Gravida	Primigravida	12	83	18	45
	Multigravida	28	70	22	55
Occupation	Housewife	36	90	34	85
	Tailor	3	7.5	4	10
	Teacher	1	2.5	2	5
Type of work	Sedentary work	40	100	40	100
Education	Undergraduate	39	97.5	37	92.5
	Graduates	1	2.5	2	5
	Post graduates	1	2.5	1	2.5
Mode of delivery	Normal	25	62.5	10	25
	LSCS	15	37.5	30	75
Previous history of UTI	Yes	6	15	6	15
	No	34	85	34	85
Information regarding UTI	Present	5	12.5	4	10
	Absent	35	87.5	36	90

Table 2: Comparison of the post test assessment of signs and symptoms in experimental and control group n =80

Signs And Symptoms	Experimental group	Control group	Total	TEST		
Frequent urge to urinate	14 31.80%	30 68.20%	44 100.00%	McNemar Test	12.929	0.000
Pain during micturation	19 38.80%	30 61.20%	49 Groups	McNemar Test	6.373	0.012
Abdominal pain	12 30.80%	27 69.20%	39 100.00%	McNemar Test	11.257	0.001
Back pain	12 34.30%	23 65.70%	35 100.00%	McNemar Test	6.146	0.013
Burning sensation	11 28.20%	28 71.80%	39 100.00%	McNemar Test	14.459	0.000
Weak stream of Urine	1 12.50%	7 87.50%	8 100.00%	McNemar Test	5.000	0.025
Cloudy urine	0 0.00%	6 100.00%	6 100.00%	McNemar Test	6.486	0.011
Hematuria	0 0.00%	2 100.00%	2 100.00%	McNemar Test	2.051	0.152
General Malaise	7 30.40%	16 69.60%	23 100.00%	McNemar Test	4.943	0.026
Fever	0 0.00%	17 100.00%	17 100.00%	McNemar Test	21.587	0.000
Nausea	0 0.00%	8 100.00%	8 100.00%	McNemarTest	8.889	0.003
Incomplete emptying of the bladder	5 25.00%	15 75.00%	20 100.00%	McNemar Test	6.667	0.010
Nocturia	0 0.00%	5 100.00%	5 100.00%	McNemar Test	5.333	0.021

n = 80

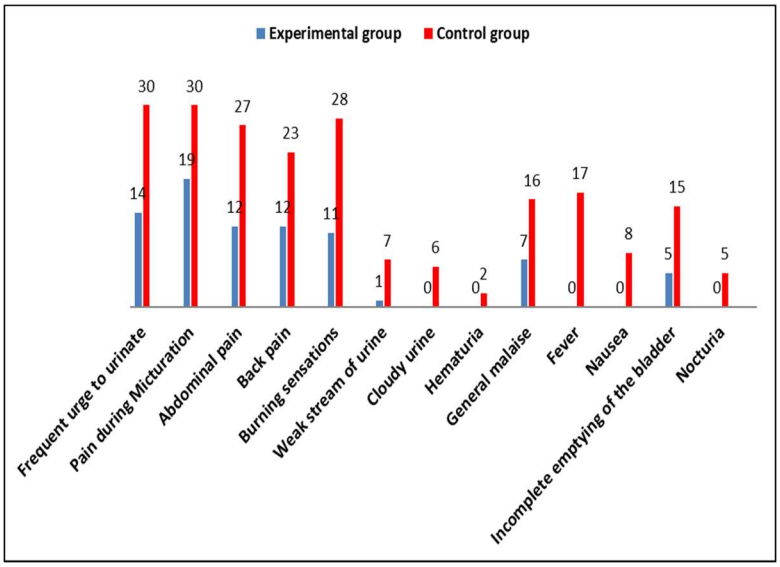

Figure 1: Comparison of the post-test assessment of signs and symptoms in experimental and control group

Key note: In the above figure there were no samples present for signs and symptoms of cloudy urine, hematuria, fever, nausea, and nocturia in experimental group.

Table 3: Comparison of urine culture specimen reports in experimental and control group on day-1 and day -7. n =80

Signs and Symptoms	Groups Experimental Group	Control Group	Total	'Z' -Value	P- Value

Urine culture Specimen Day -1	40 50.00%	40 50.00%	80 100.00%	-	-
Urine culture Specimen Day -7	7 20.00%	28 80.00%	35 100.00%	22.400	0.000

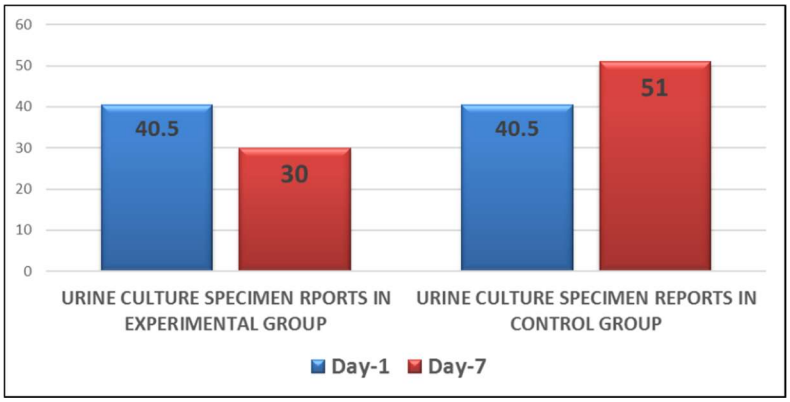

Figure 2: Comparison between experimental and control group of urine culture specimen reports on Day-1 and Day -7 n=80

DISCUSSION

The findings of present study have been discussed as per the objectives of the study. A finding of the study shows that the intervention of administering of cranberry juice was significantly effective on urinary tract infection among post natal mothers. And when compared together it was statistically found that there is highly significant difference among the experimental group and in control group.

CONCLUSION

Cranberries contain >80% water and 10% carbohydrates. Among other constituents are flavonoids, anthocyanins, catechin, triterpenoids, organic acids, and a small amount of ascorbic acid. The major organic acids are citric, malic, and quinic acids, with small amounts of benzoic and glucuronic acids.The antiadhesive property of cranberries probably helps to prevent UTI in 2 ways: first, it directly prevents E. coli from adhering to uroepithelial cells; and second, it selects for less adherent bacterial strains in the stool. Drinking cranberry juice can give you relief from urinary tract infection. Statistically findings showed that Cranberry juice is effective on the urinary tract infection and there is statistical significant difference in the experimental and control group. Hence it is concluded that there is significant effect of Cranberry juice on urinary tract infection among post natal mothers.

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